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# Understanding the impact of stress, irrational health beliefs, and health behaviors among adults 18-45

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# Walden University

College of Social and Behavioral Sciences

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2015

Abstract

Understanding the Relationship of Stress, Irrational Health Beliefs, and Health Behaviors

Among Adults 18-45 Years of Age

by

Toni Loe Rabalais

MSW, Stephen F. Austin State University, 2008

BS, East Texas Baptist University, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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## Abstract

This study examined the role of stress on irrational health beliefs and health behaviors among individuals 18-45 years old. Previous research has shown that this age group reported higher stress levels, more physical symptoms of stress, and the highest level of negative health behaviors. The theoretical frameworks were health belief model, the transactional model of stress and coping theory, and Ellis's concept of irrational beliefs. A survey using 3 published instruments measured the perceived stress level, irrational health beliefs, and health behaviors of a sample of 97 individuals aged 18-45. The data were quantitatively assessed using a mediation model to test a significant relationship between the predictor variable, perceived stress, and the criterion variable, health behaviors, using the mediating variable of irrational health beliefs. Findings suggest that higher stress levels are related to health behaviors ( $p < .001$ ), while stress did not make a significant contribution to irrational health beliefs ( $p = .092$ ). Moreover, findings indicated that greater irrational health beliefs are related to more negative health behaviors ( $p = .010$ ). Irrational health beliefs were not found to mediate the relationship between perceived stress and health behaviors. This research supports and extends the current body of research examining the relationship between stress, irrational health beliefs, and health behaviors. The results of this study can provide insight into how stress is related to thoughts and behaviors, specifically focusing on health. This study may aid health psychologists by providing information that can contribute to the development of interventions to reduce stress, reduce irrational health beliefs, and improve health behaviors.

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## Dedication

This dissertation is dedicated to my family. Thank you to my parents, Dr. Lanny and Isabel Loe, for supporting me in every area of my life and always encouraging me. To Frank, Sami, and Eli Edwards for the support and encouragement.

I share this accomplishment with my husband, Derek Rabalais. Thank you for your love and support through this entire process. I am not sure who is more excited for me to complete my PhD. To our five children, Selah, Josiah, Isaiah, Hannah, and Isabella. I love you and I am inspired by you.

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## Chapter 1: Introduction to the Study

Stress is the source of 70-90% of visits to primary care physicians (Clements & Bailey, 2010). While there is a clear connection between the biological response to stress and illness (Cohen et al., 2012), the relationship between stress, irrational health beliefs, and health behaviors is not as clear. Following exposure to stress, health beliefs can influence health behaviors (Christensen, Moran, & Wiebe, 2009).

Stress is prevalent in human nature; but, the impact of stress is not only a biological reaction. Stress can also influence irrational health beliefs, health behaviors, and wellness. Stress influences the perception of health, self-esteem, and health behaviors or habits (Hudd et al., 2000). Stress is associated with higher fat diets, lower exercise, and changes in smoking patterns (Ng & Jeffery, 2003). Perceived stress contributes to the onset of negative health outcomes by engaging in adverse health behaviors (Ng & Jeffery, 2003).

Stress not only influences adverse health behaviors but also has a direct effect on physiological processes that can increase risk for diseases such as cardiovascular disease, human immunodeficiency virus, and acquired immunodeficiency syndrome (Cohen, Janicki-Deverts, & Miller, 2007), wound healing (Cohen & Janicki-Deverts, 2012), upper respiratory infection (Cohen, et al., 2012; Kullowatz et al., 2008), and mortality (Braveman et al., 2010; Cohen & Janicki-Deverts, 2012; Keller et al., 2012; Lantz et al., 2005).

An examination of the relationship between perceived stress and irrational health beliefs may provide useful information that can be used to develop targeted prevention and intervention strategies aimed at decreasing negative health outcomes, and promote more rational health beliefs that will improve wellbeing. Findings will support and extend the existing body of knowledge linking stress and health behaviors. By understanding the relationship between stress and irrational health beliefs, a risk factor of maladaptive health behaviors can be identified. This can improve the quality of life not only on an individual basis, but on a community level through healthier lifestyles.

This study was based on the health belief model (HBM), which purports beliefs about health influence action (Janz & Becker, 1984). This model includes the individual's perception of the severity of a potential illness, susceptibility to illness, benefits of prevention, and barriers to taking action (Janz & Becker, 1984). This chapter will contain a discussion about the background, rationale, and purpose of the study. Research questions and hypotheses will also be presented. The study's theoretical framework, research methods, definitions of key terms, and potential significance to the literature will also be described. Discussions about the study's assumptions, scope, and limitations will also be contained in this chapter.

### **Background**

The concept of stress as it relates to health habits, biological reactions, and cognition has been well researched for over 5 decades (Thoits, 2012). Researchers have examined biological reactions to stress (Kullowatz et al., 2008; Miller et al., 2002; Seyle,

1956), changes in health habits (Al kalaldehy & Shosha, 2012; Golden-Kreutz & Anderson, 2004; Hudd et al., 2000; Polen et al., 2010; Surwit et al., 2002), and how stress affects perceptions of illness (Hudd et al., 2000). Stress as it relates to irrational beliefs has also been studied (Ziegler, & Leslie, 2003).

Ellis (1962, 1994) developed the ABCDEF model to describe the relationship of life events, irrational beliefs, and behaviors. The A in the model represents antecedents or an activating event that may be stressful. Rational or irrational beliefs about the event are the B in the model. The C is the consequences (behavior or feelings) that result from the beliefs. D is the intervention that disputes the irrational belief. The effect of the disputing intervention is the E, which leads to a change of feelings or behaviors, which is the F. This model is supported by findings from an examination of the relationship between irrational thinking and frequency of daily stressors in college students (Ziegler & Leslie, 2003) Results indicated that participants who reported greater irrational thinking had more stressors than those with lower irrational thinking. Participants who magnified unpleasant situations to catastrophic proportions (awfulizing) or who had low frustration tolerance experienced greater intensity of stress.

Although there is research about stress and irrational beliefs, there is little research relating to stress and irrational health beliefs. While Christensen et al. (2009) studied the influences of irrational health beliefs and validated the irrational health beliefs scale, and Fulton et al. (2011) examined both health anxiety and irrational health beliefs,

there is an absence of studies on the relationships between stress, irrational health beliefs, and health behaviors.

Christensen, Moran, and Wiebe (2009) developed the irrational health beliefs scale and tested the scale to support that the irrational health beliefs scale is a valid tool in measuring health-related cognitive dysfunctions. This tool was used in this research study to measure irrational health beliefs. Fulton, Marcus, and Merkey (2011) used this tool in their study regarding irrational health beliefs and anxiety. I found that general anxiety mediated irrational health beliefs and health anxiety. This can be used in this research to better understand irrational health beliefs and expand other mediators to irrational health beliefs.

Yang et al. (2010) provided information regarding motivation to engage in preventative medical exams. This provides a qualitative example of the use of the HBM in order to better understand health behaviors. Yang et al. examined the individual's perception of the motivation to use preventative measures and identified that the risk of obtaining the disease is primary motivation as well as personal and social factors. Yang et al. provided evidence to contribute to the understanding of motivation for adaptive health behaviors, this is useful in understanding health behaviors overall.

Polen, Green, Perrin, Anderson, and Weisner (2010) identified the factors related to alcohol consumption, health behaviors, and attitudes. This is important to understanding how stress is a factor in health behaviors as well as other factors. Hudd et al. (2000) found that the higher the stress levels the less healthy the individual perception.

This research offers further insight into the role of perception on health, stress, and behavior.

### **Problem Statement**

The research problem addressed in this study is the relationship between stress and irrational health beliefs on health behavior. This study is unique because it addresses the relationship stress and irrational health beliefs have on health behavior which is an under researched area. Further research in irrational health beliefs can contribute to the understanding of health behavior and patient compliance (Christensen et al., 2009). The results of this study will provide insight into how stress is related to thoughts and behaviors, specifically focusing on health, which is identified as a gap in research. This study may aid health psychologists and other health care providers by providing information that can contribute to the development of interventions in stress management as it relates specifically to how stress affects irrational health beliefs and health behaviors. The study may contribute to creating stress management programs that could improve psychological and physiological effects in turn improving quality of life for the individual and community, thus creating social change.

There is significant evidence that supports the influence of stress on health behaviors and irrational beliefs. However, the influence stress has specifically on irrational health beliefs is not well researched. It is important to understand the role that stress has on thought processes. Better understanding how stress influences thoughts and behaviors specifically related to health can improve interventions and overall well-being.

If stress can be identified as a cause of irrational beliefs related to health behaviors that are detrimental to health, then professionals can more accurately understand and treat the problem. This research study was designed to contribute to the gap in the literature about the associations between irrational health beliefs, stress, and health behaviors.

### **Purpose of the Study**

The purpose of this study was to develop an understanding of how stress relates to irrational health beliefs, and health behaviors. In this study, a sample of 97 individuals ages 18-45 were surveyed to better understand stress, irrational health beliefs, and health behaviors. Individuals aged 18 to 45 years of age tend to show higher levels of stress, and, thus this is the age group chosen for the sample in the current study (American Psychological Association [APA], 2010). More specifically, the age group 32-45 tended to have the most physical symptoms of stress and the highest level of unhealthy coping behaviors (APA, 2010). Stress and stress management tends to improve with age (APA, 2010). Individuals 18-45 years of age appear to be the most at risk for stress, maladaptive coping, and negative health behaviors based on the APA (2010) study.

The United States was the targeted geographical area. The survey was written in English only. The participants completed the survey online, so they had computer access. The participants were recruited through Walden university system and Facebook. All participants were surveyed to measure their perceived stress level, irrational health beliefs, and health behaviors. The data were quantitatively assessed using linear regression. The research was proposed to use mediation modeling if the results of the first



three analysis were statistically significant; but, the results did not meet the criteria. The predictor variable is perceived stress. Health behaviors and irrational health beliefs are the criterion variables. The implications for social change include providing researchers and clinicians with knowledge to develop interventions to help improve human health.

### **Research Questions**

Research Question 1: Is there a relationship between perceived stress level and health behaviors?

$H_01$ : There is no statistically significant relationship between perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

$H_a 1$ : There is a statistically significant relationship between perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

Research question #2: Is there a relationship between perceived stress level and irrational health beliefs?

$H_02$ : There is no statistically significant relationship between perceived stress level as measured by the PSS and irrational health beliefs as measured by the IHBS.

$H_a2$ : There is a relationship between perceived stress level as measured by the PSS and irrational health beliefs as measured by the IHBS.

Research Question 3: Is there a relationship between irrational health beliefs and health behaviors?

$H_03$ : There is no statistically significant relationship between irrational health beliefs as measured by the IHBS and health behaviors as measured by HBC.

*H<sub>a3</sub>*: There is a statistically significant relationship between irrational health beliefs as measured by the IHBS and health behaviors as measured by HBC.

Research Question 4: Is the relationship between perceived stress level and health behaviors mediated by irrational health beliefs?

*H<sub>o4</sub>*: Irrational health beliefs as measured by the IHBS are not a mediator of perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

*H<sub>a4</sub>*: Irrational health beliefs as measured by the IHBS are a mediator of perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

### **Theoretical Framework**

The HBM, transactional model of stress and coping theory (Lazarus & Folkman, 1984), and Ellis's (1984) concept of irrational beliefs were used to understand irrational health beliefs and health behaviors in this study. The HBM focuses on three areas that influence health behavior, which are attitude about change, social environment and self-efficacy (Noar, Chabot, & Zimmerman, 2008). This theory focuses on the individual's beliefs and behavior related to the belief. The HBM evaluates the individual's perception of severity of the potential illness, susceptibility to illness, benefits to prevention, and barriers to taking action (Janz & Becker, 1984). These perceptions influence the behavior and self-efficacy.

The HBM assists in understanding why individuals engage in activities that are preventative and detrimental to health. This model can help professionals assist in

creating change by understanding the perceptions related to health (Janz & Becker, 1984). The HBM provides an opportunity to discover the relationship between perception and behavior. Once the individual is aware of the perception, this can be challenged, thus prompting change. The HBM includes psychoeducation or health education to promote awareness creating change.

The transactional model of stress and coping (Lazarus & Folkman, 1984) uses the concepts of cognitive appraisal as a way to evaluate the relationship between person and environment. Environmental events and cognitive appraisal are constantly interacting. The primary appraisal of the stressor is assessed by the level of threat, risk of harm, or possible benefits and the secondary appraisal is perception of the ability to cope with the stressor. The appraisal is an ongoing process of evaluation that affects the way an individual responds, feels, and acts in response to the stressor.

The transactional model of stress and coping (Lazarus & Folkman, 1984) focuses on coping with stress as problem-focused or emotion-focused. The transactional model of stress and coping is useful in understanding how individuals respond to stress in a cognitive approach (Lazarus & Folkman, 1984).

If the appraisal of the situation is not accurate, then the emotional and behavioral responses could be affected. Irrational beliefs are faulty attitudes, values, and viewpoints that are maintained despite objective evidence to the contrary (Ellis, 1984). These irrational beliefs impact an accurate assessment of a situation. The irrational belief is inconsistent with reality and places individuals at risk for emotional or behavioral

disturbances. Not only do irrational beliefs have an impact on emotional and behavioral health, but also physical illness and disability (Christensen et al., 2009).

The HBM (Janz & Becker, 1984) is used to study why individuals engage in health behaviors. Lazarus and Folkman's (1984) transactional model of stress and coping, and Ellis's (1984) irrational beliefs, are the cognitive approaches this study will use to examine the relationships between thoughts, behavior, and action. The study was based on the transactional model of stress and coping to identify stress as the interaction between environment, health beliefs as the evaluation of the event, and health behavior as the behavior associated with the event.

### **Nature of the Study**

Linear regressions is a model to measure the relationship between stress and health behaviors, stress and irrational health beliefs, and irrational health beliefs and health behaviors. A mediation modeling procedure as described by Baron and Kenny (1986) was proposed, but not employed since the regression analysis was not statistically significant for the first three research questions. The mediation procedure is discussed in depth in Chapter 3. Mean and standard deviation was calculated for perceived health distress. Percentages were determined for gender, age, race/ethnicity, and educational attainment.

A sample of 97 adults participated in the study. The target sample size was 96 based on a 95% confidence level and 10% margin of error. Participants completed the

survey online. The online option is cost effective, can produce a large amount of participants and more convenient for some participants (Kraut et al., 2004).

### **Definitions**

*Health behaviors:* Actions to maintain, attain, or regain good health or to prevent illness. Health behaviors are defined by a multidimensional approach including wellness, risk taking, accident control, and substance use (Vickers et al., 1990) and are assessed by using the Health Behavior Checklist (HBC; Vickers et al., 1990),

*Irrational health beliefs:* Attitudes, values, and perceptions of health that contradict reality. Irrational health beliefs are measured by the Irrational Health Belief Scale (IHBS; Christensen et al., 1999).

*Negative health behaviors:* Actions that do not support health or to prevent illness, such as eating much sugar and fat, being sedentary, and smoking (U.S. Department of Health and Human Services, 1990).

*Perceived stress:* The degree to which one appraises life as demanding or pressured. Stress is defined by the amount of perceived stress measured by the Perceived Stress Scale (PSS; Cohen et al., 1983).

*Positive health behaviors:* Actions that maintain and support health and prevent illness, such as appropriate nutrition, exercising regularly, and not smoking (U.S. Department of Health and Human Services, 1990).

### **Assumptions**

It is assumed that the participants provided honest and accurate information. The participants had anonymity and data kept confidential. The participants were informed that at any point they may refuse or withdraw from completing with no penalty, which should have promoted the participant to honestly answer.

### **Delimitations**

Individuals without computer access, individuals without English proficiency, children under 18, and adults over 45 were excluded from the study. The study contains a sample of adults 18-45 living in the United States. The age group was selected based on the APA (2010) study which found that 18-45 year olds reported the highest levels of stress, more physical symptoms related to stress and highest level of maladaptive coping. Based on this information, understanding the perceptions, emotions, behaviors, and thinking among this age group could contribute to future interventions to reduce stress.

The study can provide a better understanding of the relationship that perceived stress has on health behaviors and irrational health beliefs. Research findings may add to the growing research of stress and health and provide data that could support intervention.

### **Limitations**

The study was assessed online, which required participants to have access to the internet. This may have unintentionally eliminated some participants. Some of the information may have been delicate and if some were engaging in irrational health

beliefs, then the faulty thinking may have lead the participant to answer health behavior questions in an inaccurate manner as well. While this may be a limitation, it could also provide evidence that if thinking is inaccurate regarding health it may also be erroneous regarding health behaviors.

### **Significance**

Stress and health have been studied for decades. The relationship that stress has on irrational health beliefs and health behaviors can contribute to the growing body of research, while fulfilling a current gap in the literature. Namely, the relationship between stress and irrational health beliefs is not well researched. Understanding how stress influences health-related thinking and behavior may provide further information to develop interventions for managing stress and improving health. The research can promote positive social change in health promotion and improving quality of life on individual and community levels.

### **Summary**

The purpose of this study was to target adults 18-45 year of age and assess their levels of perceived stress, irrational health beliefs, and health behaviors. The ages 18 to 45 years of age were selected because this is the age range that reported the higher levels of stress (APA, 2010). Stress and stress management tends to improve with age (APA, 2010). The age group 32-45 tended to have the most physical symptoms of stress and the highest level of unhealthy coping behaviors (APA, 2010).

Assessing the relationship among stress, irrational health beliefs, and health behaviors may provide a better understanding of the relationship that stress does or does not have on health-related thinking and health-related behaviors. The cognitive approach to understanding stress identifies that the appraisal of the event is key to the way that the individual responds to the stressor. As the individual changes their perception of the event, they change their response to the stressor. A literature review in Chapter 2 has been conducted to further discuss the theoretical framework, stress, health-related cognitive distortions, and health behaviors as it relates to this study. In Chapter 3, I discuss research design, methodology, population, sampling procedures, and validity of the instruments to be used in the study. Chapter 4 is a report of the data and Chapter 5 is a discussion and analysis of those data.



## Chapter 2: Literature Review

### **Introduction**

The purpose of this study was to examine the relationships among stress, irrational health beliefs, and health behaviors. In this chapter, the literature is focused on topics of perceived stress, irrational health beliefs, and health behaviors. The HBM (Rosenstock, 1966), transactional model of stress and coping (Lazarus & Folkman, 1984), and concept of irrational beliefs (Ellis, 1962; 1994) provided the framework for examining the role of stress on irrational health beliefs and health behaviors. Stress is defined by the individual's perception of the event. Irrational health beliefs are defined by the irrational perception of the health event. Health behaviors are examined by a multidimensional aspect that includes substance use, risk, prevention, and wellness.

### **Literature Search Strategy**

An extensive search of peer reviewed literature was conducted of articles from 2002 to 2013 the following databases: PsychInfo, Ebscohost, ERIC, MEDLINE, Academic Primer, and Health and Psychosocial Instruments. A search was also conducted for peer reviewed articles from 1999 to 2013 using Google Scholar.

The following key words were used in the search: *stress, cognitive behavioral model, irrational beliefs, health behaviors, health belief model, irrational health beliefs, perceived stress, perceived stress scale, patterns of health behaviors, health behavior checklist, and irrational health beliefs*. A combination of the key words used as a search.

## **Theoretical Foundation**

### **Health Belief Model**

The theoretical framework used in this study is the HBM (Rosenstock, 1966) and transactional model of stress and coping (Lazarus & Folkman, 1984). The HBM (Rosenstock, 1966) helps to indicate why individuals engage in certain health behaviors as well as predict the individual's acceptance of medical recommendations (Janz & Becker, 1984).

The HBM (Rosenstock, 1966) was established in the 1950s to better understand the reasons why individuals engage in certain health behaviors, specifically why individuals did not engage in preventative screenings (Thoits, 2010). It was later expanded to include the individual's response to symptoms and adherence to medical regimens. The HBM is based on the concept that individuals engage in health related behaviors due to their desire to avoid illness and maintain health. It has four dimensions of perception which are perceived susceptibility, perceived severity, perceived benefits, and perceived behaviors (Janz & Becker, 1984). Perceived susceptibility is the individual perception of the belief in diagnosis or belief of susceptibility to an illness or disease. Perceived susceptibility also includes the belief that one is at risk for a medical illness. Perceived severity is the individual perception of the seriousness of illness or the seriousness of not treating an illness.

Perceived severity also includes perception of pain, social consequence, and overall disability related to the illness. Perceived benefits include accepting the

susceptibility to a condition and the seriousness of susceptibility (Janz & Becker, 1984). Perceived benefits are the beliefs that action would reduce threat of illness or symptoms. The acceptance of medical advice is followed through only when the individual believes it will be practical and effective. Perceived barriers follow perceived benefits. Perceived barriers are when the individual weighs the cost and benefits (Janz & Becker, 1984). This means the individual believes the positive outcomes outweigh the negative. Barriers to treatment could include the medical cost, accessibility to treatment, and consequences to treatment. The levels of susceptibility and severity impact the benefits as assessed by the barriers. The individual engages in health behaviors based on the perception of the event (Jan & Becker, 1984).

The HBM (Rosenstock, 1966) has been a well-researched model for over 50 years. The most recent research has used the HBM to study preventative behavior like breast self-exam (Austin et al., 2002; Yang, et al., 2010), cervical cancer screening (Austin et al., 2002), adherence to CPAP use in sleep apnea (Olsen, Smith, Oei, & Douglas, 2008), and prevention behaviors for coronary heart disease (Nezu et al., 2007). Painter, Borba, Hynes, Mays, and Glanz (2008) conducted a systemic review of theory used in health behavior research, specifically the role of the HBM in research and practice. They found that interventions that were based on theory were more successful compared to those without a theoretical framework, supporting the importance of utilizing theoretical framework in research and practice. The HBM has been successful in developing a better understanding of the health behaviors among people with rational

thinking (Christensen et al., 2009). However, the HBM (Rosenstock, 1966) had mixed reviews in predicating health behaviors (Christensen et al., 2009).

### **Transactional Model of Stress and Coping**

Like the HBM focusing on the perception of the severity, susceptibility, benefits, and barriers (Janz & Becker, 1984), the transactional model of stress and coping focuses on the individual perception. The transactional model of stress and coping is designed at the appraisal of the event and level of threat (Lazarus & Folkman, 1984). Transactional model of stress and coping provides a framework to understand stress and the process of coping. The relationship between the individual and the event is appraised based on psychosocial influences. The primary appraisal is the perception of potential harm or threat, and the secondary appraisal is the perception that one can cope with the situation or change it (Lazarus & Folkman, 1984). Stress and coping are important because the maladaptive coping may lead to negative health behavior.

### **Irrational Beliefs**

Rational emotive behavioral therapy (REBT) is based on Ellis's ABCDEF cognitive model of distress: (a) a rational or irrational belief is activated by an event or situation; (b) the beliefs about the event lead to consequences; and (c) consequences are emotional, behavioral, and cognitive. The next two components are part of REBT therapy: (d) is an intervention to challenge irrational beliefs, and (e) are the effects of the disputing intervention leading to (f) a new feeling or behavior. The rational beliefs lead to adaptive behaviors and irrational beliefs lead to maladaptive behaviors. A goal of REBT

is to challenge the irrational belief in order to engage in adaptive behaviors (Ellis, 1964, 1994). Irrational beliefs are predictors of dysfunctional reactions to stressful events and are also associated with clinical anxiety and depressive disorders (David, Belloiu, & Schnur, 2002; David, Szentagotai, Lupu, & Cosman, 2008).

Ellis (1994) identified four kinds of irrational beliefs, which included demandedness, catastrophizing (sometimes called awfulizing), low frustration tolerance, and self-downing. Each of these irrational beliefs has a rational counterpart, which is often used to oppose irrational beliefs. Demandedness includes absolutist conditions for oneself that include musts, shoulds, and oughts and is challenged by identifying wishes, wants, desires or preferences. Catastrophizing thoughts occur when one perceives a situation to be at its absolute worst and is disputed by viewing the situation as moderately bad rather than the most awful situation. Low frustration tolerance is described by believing that one cannot endure a situation or that happiness exists only when demands are met. This thinking is challenged by being able to tolerate frustration. Self-downing is described by overgeneralization or being overly critical of others, oneself, and the world and is countered by not evaluating single event.

Ellis' (1964, 1994) irrational beliefs are sometimes confused with Beck's cognitive theory. In Ellis's theory, irrational beliefs are illogical ideas about oneself and the greater world that are learned during childhood. People largely create their own irrational thoughts. These ideas are reinforced over and over again through self-repetition and autosuggestion and become hard wired into one's cognition. Some irrational beliefs

that are internalized can lead to self-defeat. For example, I must have approval from everyone, I should perform all tasks competently and perfectly, I cannot stand not getting what I want, and I am unlovable.

Beck's cognitive theory is based on cognitive distortions (Beck, Rush, Shaw, & Emery, 1979). Cognitive distortions are similar to irrational beliefs in that they are faulty thinking; however, they are displayed in automatic thoughts. The automatic thoughts contribute to the underlying cognitive schema, or way that a person perceives oneself, others and the greater world. Some primary cognitive distortions include arbitrary inferences, selective abstraction, personalization, and polarized thinking. Arbitrary thinking is making conclusions without the support and relevant evidence. For example, a person thinks that he will be disliked by his colleagues at his new job. Selective abstraction is forming conclusions based on an isolated detail of an event. For example, an actor may think that his performance was horrible because he forgot one line. Personalization is relating external events to oneself even though there is no basis for making this connection. For example, a girl takes complete blames for her boyfriend's cheating. Polarized thinking is interpreting in an all-or-nothing manner. For example, a college student thinks that he is good if he receives all As and bad if he receives anything but As.

## Key Variables

### Stress

Stress is associated with all facets of life and can be categorized into three areas: positive, tolerable, and toxic (Middlebrooks & Audage, 2008). Positive stress is a normal part of healthy development that is short lived and could be related to an event like going into a new place. The stress can induce heart rate and hormone levels but return to baseline in a short amount of time. Examples of positive stress include being in a new situation, like going to a new place, and experiencing feelings of excitement. Tolerable stress activates the body's stress response system to a greater degree as a result of longer term negative situations, such as the death of a loved one, divorce, or experiencing natural disasters. The stress is intense and can last a little longer than positive stress. If it is short lived and a person has support systems in place, the body can recover without much damage. Toxic stress is intense events that occur over a long period of time. Events like abuse and maltreatment are examples of toxic stress. Toxic stress can make permanent changes in the developing brain and alter hormone levels. If toxic stress occurs in childhood it can be associated with smaller brain size, low stress tolerance, and emotional reactive expression of emotions (Middlebrooks & Audage, 2008).

Seyle (1956) researched the physiological consequences of stress. Seyle identified the three reactions to stressors which are alarm, resistance, and exhaustion. The Hypothalamic-Pituitary-Adrenal (HPA) axis is one biological system responsive to stress, first studied by Seyle. The HPA axis responds to psychosocial, environmental, or

physical sources of stress. Following exposure to stress, the HPA axis is activated and glucocorticoids released. Activation of the axis, in turn, leads to activation of the release of cytokines, catecholamines, and neuropeptides as well as epinephrine into the blood stream. This increases pulse and blood pressure (Kullowatz et al., 2008). The hypothalamus releases corticotrophin releasing hormones (CRH), which acts on the pituitary gland and triggers the release of adrenocorticotropin (ACTH) in the bloodstream. The tropic action of ACTH is the signal to release epinephrine, norepinephrine, and cortisol. Epinephrine is a catecholamine produced in the brain and adrenal gland. It increases heart rate, blood pressure, and glucose level. This will enhance speed by increasing blood flow to large muscle groups. Epinephrine decreases digestion and immune function. Common symptoms related to chronic exposure to epinephrine are anxiety, insomnia, heart disease, decreased immunity, depression, high blood pressure, and muscle pain (Middlebrooks & Audage, 2008). Norepinephrine is produced in the brain and is a catecholamine. It increases blood pressure, enhances brain function, and constricts blood vessels (Juster, McEwen, & Lupien, 2010). Over time this ongoing activation of the HPA may cause cardiovascular problems. Chronic stress can be linked to diseases of adaptation such as hypertension and heart disease (Seyle, 1956).

Sergerstrom and Miller (2004) meta-analyzed 300 articles about psychological stress and immune function. The stress response, including activation of HPA axis, and immune response are all interactive. An individual perceives stress which activates the HPA axis and alters the immune response. Stress can be a protective factor in helping to



overcome events, but chronic stress is a risk for long term damage and disease. Acute stress may enhance immunity, whereas chronic stress suppresses immune function (Segerstrom & Miller, 2004).

A major finding of the research is that chronic stressors have a negative impact on physical and mental health. Miller, Cohen, and Richey (2003) studied the impact of stress among 50 adults, 25 parents of healthy children, and 25 parents of children with cancer. The parents of children with cancer reported higher levels of psychological distress and had a flatter cortisol level, which is consistent with chronic stress and burnout. Results of this study indicates that chronic stress may contribute to the decrease of immune function, which may be partially explained by coping behaviors that have adverse effects on immune function (Miller et al., 2003)

Lazarus and Folkman (1984) defined stress as one's perception of the stressful event and appraisal of the situation. When the perception of the event or situation is appraised to be stressful, the HPA axis response is activated (Lazarus & Folkman, 1984). The perception of stress has been studied in relation to adverse health like respiratory function (Kullowatz et al., 2008) and infectious disease (Miller, Cohen, & Rictcy, 2002). Perceived stress and health habits has been studied among college students (Hudd et al., 2000), women with breast cancer (Golden-Kreutz & Andersen, 2004), people with diabetes (Surwit et al., 2002), stroke survivors and their spouses (Ostwald et al., 2009), people with insomnia (Morin et al., 2003), and people with cardiac disease (Nezu et al.,

2007). A theme among the studies is the impact that stress has on habits, health behaviors, and disease.

Keller et al. (2012) investigated how the perception of stress impacted health. Keller et al. found that almost 186 million adults in the US indicated that stress affected their health to some extent or more. Higher perceived levels stress can lead to worse physical and mental health and increased risk of premature death. Keller et al. used secondary data to analyze stress, health outcomes, and access to health care. Keller et al. measured stress by three questions regarding amount of stress, perception of stress on health, and stress reduction efforts over the last 12 months. The health outcomes were measured by self-rated health status, psychological distress, and mortality. Health behaviors studied included chronic conditions, smoking, physical activity, and body weight. Access to health was measured by access to health insurance and health facilities. Keller et al. found that the individuals who report high amount of stress and believe that stress impacts their health had a higher risk of premature death. Additionally, high stress and high perceptions that stress impacts their health had poor health and mental health. This contributed to a body of evidence related to perception of stress, health, and mortality (Keller et al., 2012).

Identifying chronic conditions like Keller et al. (2012) is interesting and could help to understand how chronic illness may affect perception. Kardemas et al. (2009) found that the individuals with higher levels of stress had the worst perception of illness. The illness perceptions included perceptions of inability to manage illness, negative

consequences related to illness, the length of time the illness will last, lack of personal control over illness, unhelpful, and complicated treatment management, and negative emotional reaction related to illness (Kardemas et al. 2009). Perception of stress could affect the individual's perception of the chronic illness.

Public health initiatives have focused on stress reductions since the 1970s (Keller et al., 2012). Researchers have focused on the relationship between health outcomes, stress, and mortality with the stressors primarily being related to work stress or negative life experiences (Keller et al., 2012). The perception of stress is different from the amount of stress one experiences in that one may report low amounts of stress but perceive it to have a detrimental impact (Keller et al., 2012). Stress perception has a bigger impact on health outcomes than the amount of stress experienced (Keller et al., 2012).

The role of stress and negative life events as it related to health outcomes and socioeconomic status was studied by Lantz et al. (2005). They studied 3617 participants in three waves (Lantz et al., 2005). Lantz et al. examined the role of socioeconomic indicators, stress/negative life events, mortality, functional limitation, and health. Psychosocial determinates of health can be associated with the stress reaction both emotionally and physiologically (Lantz et al., 2005). Lantz et al. built upon the theory that environmental demands can produce the stress response that was discussed by Selye (1956).

Lantz et al. (2005) found that higher stress, health outcomes, and mortality are associated with lower income and education. Over time chronic stress can lead to poorer health and mortality (Braveman et al., 2010; Keller et al., 2012; Lantz et al., 2005). A limit to Lantz's study was that the chronic health or socioeconomic status may have been the primary stressor which in turn would result in less access to educational and financial opportunities.

### **Stress and Health Behaviors**

Health behaviors are affected by stress (Cohen & Janicki-Deverts, 2012). The researchers' findings indicate that higher perceived stress scores are associated with negative health behaviors, such as sleep loss, changes in eating patterns, and increased use of alcohol (Cohen & Janicki-Deverts, 2007). Kaplan, Madden, Mijanovick, and Purcaro (2012) found that behavioral patterns related to high perceived stress also included increases in smoking, violence, and aggression. People with high levels of perceived stress who were current smokers tended to have increased cigarette use and had less confidence that they could quit smoking. Ng and Jeffery (2003) found that people with high levels of perceived stress tended to have high fat diets and less exercise; however, they did not find an association between use of alcohol and levels of perceived stress. A focus group in a low income community attributed behavioral changes related to stress as a way of self-medicating, decrease in willpower, poor perception of the future and having changes in priorities (Kaplan et al., 2012).

Negative behaviors are sometimes used as a way to manage unwanted moods brought on by stress. Stress can promote certain negative behaviors like smoking and eating certain types of food because these behaviors bring pleasure (Hajek et al., 2010; Ng & Jeffery, 2003). People may engage in less physical activity because they look for immediate gratification that is associated with a sedentary activity, although physical activity can be a stress reducer over a period of time (Ng & Jeffery, 2003).

The perception of stress and health behavior has been studied in many aspects. Ng and Jeffery (2003) analyzed the association between stress and health behaviors. Ng and Jeffery found that high stress levels were linked with diet, exercise, alcohol use, and smoking habits. The changes in stress related health behaviors could contribute to disease (Ng & Jeffery, 2003). A linear regression model was used for the analysis. Stress was measured by the 4-item Perceived Stress Scale (PSS, Cohen, & Wilmanson, 1988). Diet, exercise, alcohol use, and smoking which were all measured by validated scales, which is a strength of the study (Ng & Jeffery, 2003). There was a connection between higher stress level and high fat diet, less exercise, and changes in smoking habits (Ng & Jeffery, 2003). Ng and Jeffery did not find a connection between stress and level of alcohol use.

Like Ng and Jeffery (2003), Hajek et al. (2010) found that stress is associated with smoking, changes in smoking, and increase in smoking (Krueger & Chang, 2008). Hajek et al. identified that stopping smoking actually reduces the perceived stress level. The sample used in this study was all in the hospital following coronary artery bypass or myocardial infarction (Hajek et al., 2010). The patients that were hospitalized with high

levels of stress and smoking behaviors may be a good example of how stress and health behaviors contribute to disease. Behaviors that are enjoyable may often relieve symptoms of stress but overall be unhealthy coping with stress, which contributes to disease and behavioral disorders (Cohen et al., 1983; Krueger & Chang, 2008).

Specifically, behaviors like smoking and physical inactivity are related to higher levels of perceived stress. These behaviors, even former smokers, are associated with increased perceived stress and mortality (Krueger & Chang, 2008). Alcohol was not associated with high stress level and mortality (Krueger & Chang, 2008). People with lower socioeconomic status were more affected by perceived stress level (Krueger & Chang, 2008).

### **Stress and Irrational Beliefs**

Stress and irrational beliefs are associated with dysfunctional distress. DiLorenzo, David, and Montgomery (2011) studied how rational and irrational beliefs changed during an exam period. They studied 86 students with an expected exam and found that irrational beliefs were specific to testing and not based on a personal trait. They also found that an increase of rational beliefs and a decrease in irrational beliefs was associated with increased feelings of functional distress (sad and nervous) and decreased dysfunctional distress (miserable and worthless). This indicates that fewer irrational beliefs may lead to fewer problematic and troubling feelings (DiLorenzo, David, & Montgomery, 2011).

The role of irrational beliefs and daily hassles were studied by Ziegler and Leslie (2003) among 192 college students. They tested that Ellis' REBT model by studying irrational thinking using the Survey of Personal Beliefs (Kassinove, 1986) and daily hassles using Hassles Scale (Kanner et al., 1981). Ziegler and Leslie (2003) found that increased scores of irrational thinking were associated with higher frequency of daily hassles, which supported the REBT concept in that increased irrational thoughts resulted in more daily hassles.

Given Ellis's (1964) concept of irrational beliefs, stress may activate irrational beliefs specific to one's health. There seems to be a gap in the literature about this, which this study attempts to investigate.

### **Irrational Health Beliefs and Health Behaviors**

Ellis (1994) identified in the binary model of distress negative feelings as both functional and dysfunctional, and is based on the individual's experience of the stressful situation, thoughts, feelings, and behaviors. The event prompts negative feelings. These feelings are determined functional or dysfunctional based on if the thoughts are rational or irrational. If the negative feelings lead to rational thoughts and adaptive behaviors, then the negative feelings are functional. In contrast, if the negative feelings lead to irrational thoughts and maladaptive behaviors, the negative feelings are dysfunctional. Dysfunctional negative feelings are associated with anxiety and depression (Ellis, 1994).

David et al. (2005) compared unitary and binary models of distress. Ellis' binary model was presented in the previous paragraph. The unitary model of distress views high

levels of distress associated with high negative affect and low levels of distress associated with low negative affect. A sample of breast cancer patients was used to compare models of distress. Results indicated that in a stressful situation high levels of irrational thoughts were associated with high levels of functional (sad and nervous) and dysfunctional negative feelings (miserable and worthless). Low levels of irrational thoughts were associated with fewer dysfunctional negative feelings and more functional negative feelings. This suggests that irrational thoughts contribute to negative feelings, but one is likely to have fewer problematic behaviors and significant distress.

Irrational thinking may influence health behaviors. Some findings indicate that irrational health beliefs are associated with poor adherence to medical regimens (Christensen et al., 1999; Williams, Manas, and Rowan, 2009) and more negative health behaviors. Christensen et al. (1999) developed and validated the IHBS with the purpose of developing a scale that assess the tendency to appraise health related situations in an irrational manner. Christensen et al. conducted two studies using clinical and nonclinical samples in order to validate the scale. In a nonclinical sample, study 1 had a sample of 392 undergraduate psychology students. Using a test-retest design, the random sample included random selection of 65 students, of which 54 agreed to participate and was retested 18 months after the initial test. Results indicated that a higher IHBS score was associated with fewer positive health behaviors.

In the clinical study, study 2 107 individuals with a diagnosis of insulin criterion, type 1 diabetes were sampled. Results supported the findings of study 1 that more



irrational thoughts contributed to fewer beneficial health behaviors. Higher IHBS scores were associated with poorer objective measures, subjective measures, HbA1 levels, and self-reported patient adherence.

Irrational thoughts and emotions play a role in dysfunctional behavior. In research by Williams, Manias, and Walker (2009), the role of irrational beliefs in medication compliance among patients with diabetic kidney disease was investigated. The participants in the study were all diagnosed with diabetic kidney disease, were on multiple medications, and had other co-morbidities. They researched the role of two irrational thoughts, heuristics, and denial. Williams et al., (2009) describe heuristic thoughts as common sense that are used to solve problems and simplify decision making. Denial is described as a defense mechanism that is used to protect one's self (Williams, et al., 2009). The researchers considered heuristic thoughts as irrational because they are associated with inaccurate assessments of risk and bias about medication used for treatment. Heuristic thoughts can impair problem solving skills and decision making due to the bias. Denial was considered an irrational belief as a way to protect self. Heuristic decision making and denial are psychological defenses and mental processes that interfere with medical adherence (Williams et al., 2009). Findings support that irrational thoughts can lead to maladaptive health behaviors. In this case poor medication adherence can be detrimental to the patient's health since the medication can slow the progression of the disease (Williams et al., 2009).

Irrational beliefs are characterized by Ellis (1994) as demandingness, catastrophizing, low frustration tolerance, and self-downing and are believed to lead to anxiety and depression. The irrational thoughts can elicit symptoms of anxiety in testing situations (DiLorenzo, David, & Montgomery, 2011) and with one's health status (Braunstein, 2004).

With regards to health status, Braunstien (2004) researched the role of irrational beliefs and death anxiety among 101 individuals diagnosed with human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome. Participants were divided up by asymptomatic, symptomatic, and symptomatic with diagnosis of AIDS. Their research supported that irrational beliefs contributed to an increase of death anxiety among all participants, identifying irrational beliefs as predictors of death anxiety (Braunstien, 2004). The researcher found a relationship between irrational beliefs and health distress (Braunstien, 2004). Two samples were used to compare irrational health beliefs and two measures of anxiety (Fulton et al., 2010). In the first study, the sample was undergraduate psychology students. This first study assessed for irrational health beliefs, mood, anxiety, and attitude about illness. In the second study, the sample was also undergraduate psychology students. Irrational health beliefs and anxiety were assessed. Results indicated that irrational health beliefs mediated health anxiety and could contribute to poor self-care and medical decision making (Fulton et al., 2010).

The appraisal of the event can lead to a higher risk for behavioral or emotional dysfunction, if the event is appraised in an irrational manner (Christensen et al., 2009).

Szentagotai and Freeman (2007) studied irrational beliefs and automatic thoughts as predictors of distress. Irrational beliefs and automatic thoughts are found to predict emotional reaction to stressful situations. Distress was defined in this study as depressed mood. A sample size of 170 individuals diagnosed with major depressive disorder (MDD) was studied to compare REBT, CT, and medication treatment. The researchers found a relationship between irrational thoughts, automatic thoughts, and depressed mood (Szentagotai & Freeman, 2007).

### **Research Methodology**

A cross-sectional, quantitative, survey study was conducted to examine the relationships between perceived stress, health behaviors, and irrational beliefs. The sample for the current study, was a convenience sample consisting of male and female participants, aged 18 to 45 years of age, recruited from the Walden University subject pool, and Facebook. The sample was comprised from the general population aged 18-45 years because this group has the highest stress levels compared to other age groups studied (APA, 2010). The convenience sample was used since it is easy to access participants within the age range of the target population for this study. Qualified participants will obtain consent and take the survey online.

### **Conclusion**

Prior researchers indicated an association between the influences of high stress levels and poor health behaviors. Stress often triggers maladaptive coping (Cohen & Janicki-Deverts, 2007; Hajek et al., 2010; Kaplan, Madden, Mijanovick, & Pucaro, 2012;

Ng & Jeffrey, 2003) that in return are causing long term health risks (Cohen et al., 1983; Krueger & Chang, 2008). According to Ellis (1994), irrational beliefs are the catalyst for exhibiting maladaptive behaviors or feelings from a stressful situation. Little is known about irrational health beliefs and health behaviors. This study will contribute to fulfilling this gap in research by examining the associations between stress, irrational health beliefs, and health behaviors.

This study will contribute to the field of health psychology by extending knowledge of stress, irrational beliefs, and health behaviors. Results of this study may contribute to social change by providing researchers and clinicians the information needed to develop interventions for people with a health condition to better cope with their condition and to improve health-related practices to improve their health.

In Chapter 3, I discuss research design, methodology, population, sampling procedures, and validity of the instruments to be used in the study. I will also address the threats to validity.

## Chapter 3: Research Method

### **Introduction**

In Chapter 3, I discuss the research design and methodology. I will also discuss population, sampling procedures, and validity of the published instruments to be used in this study. I will also address the threats to validity.

Survey research and quantitative analysis are used to understand relationships between the variables of irrational health beliefs, stress, and health behaviors. The relationships that were explored are perceived stress and health behaviors; perceived stress and irrational health beliefs; and irrational health beliefs and health behaviors. If statistically significant results were found in these three relationships, then a mediation testing would have been conducted to determine if irrational health beliefs mediate the relationship between perceived stress and health behaviors. The results did not meet these criteria.

### **Research Design and Rationale**

The predictor and criterion variables are based upon the research questions. For the first research question, perceived stress is the predictor variable and health behaviors are the criterion variable. In the second research question, perceived stress is the predictor variable and irrational health beliefs is the criterion variable. Irrational health beliefs are the predictor variable and health behaviors are the criterion variable in the third research question. For the fourth research question, perceived stress is the predictor variable,

health behaviors in the criterion variable, and irrational health beliefs is the mediating variable.

The purpose of the survey method is to sample the population regarding health behavior related to stress and irrational health beliefs. Survey research is useful in obtaining information about the behavior of a population (Creswell, 2009). The survey design in this study was a cross sectional approach and surveys were administered online. An online survey method is suitable for data collection in this study because the approach is cost and time effective, can reach a large number of potential participants, and offer convenience for participants (Creswell, 2009; Kraut et al., 2004).

The purpose of this survey study was to examine the relationships of perceived stress, irrational health beliefs, and health behaviors. This study can advance knowledge in health psychology by gaining insight on multiple factors that influence health behaviors.

## **Methodology**

### **Population**

The target population was adult males and females, aged 18 to 45. This age range was selected based on the study that identified 18 to 45 years old as those with the highest levels of stress (APA, 2010). The researchers found that the ability to cope with stress improved with age; however the population with highest level of physical complaints related to stress were 32-45 years in age. A sample of 97 adults participated in the study. The target sample size was 96, which is determined by a 95% confidence

interval, 10% margin of error, 50% response distribution, and a population of over 20,000.

### **Procedures for Recruitment, Participation and Data Collection**

The sample was obtained by recruiting through the participant pool and social media. Participants learned about the study through advertisements with the participant pool as well as Facebook. A Facebook page was created to describe the study. The advertisement contained a link for Survey Monkey to learn more about the study, complete informed consent and the survey.

The informed consent consisted of researcher information, procedures, background information, sample questions, declaration of voluntary participation, potential risk and benefits, no monetary reimbursement, privacy, and contact information for researcher. These issues were discussed in a clear and concise manner. No identifying information was obtained. Consent was given prior to access to the study. The participant gave consent online by clicking “next” at the end of the consent form to advance to the survey.

Study data were collected through an online survey that was created and maintained on the Survey Monkey website, which is secured with password protection and McAfee security software (Survey Monkey, 2013). Online surveys can support a higher level of compliance, can increase sample size, and are a convenient option for gathering data and participating in research (Kraut et al.,2004). Participant responses to the survey were transmitted over a secure and encrypted connection. Data were backed

up by Survey Monkey and all data are encrypted. When the survey was complete, the participant had an opportunity to contact me or a university representative for follow up questions or concerns. Participants may stop taking the survey at any time for any reason. The demographic information collected included age, gender, ethnicity, and education level. The participants were provided and required to complete an informed consent form prior to participating.

### **Instrumental and Operation of Constructs**

The questionnaire included three published instruments and demographic information. Stress was measured by the Perceived Stress Scale (PSS; Cohen, Karmarck, & Mermeistein, 1983). Irrational health beliefs were measured by the Irrational Health Belief Scale (IHBS; Christensen et al., 1999). The Health Behavior Checklist (HBC; Vickers et al., 1990) is designed to measure health behavior.

The PSS, a 10 item scale, is a recommended measurement for examining the level of stress that one experiences (Cohen et al., 1983). Participants are asked to rate the level of stress felt over the last month using a 5 point Likert scale ranging from 0 (*never*) to 4 (*very often*). A total score was used in the statistical analysis in this study and a higher score indicates greater perceived stress. The PSS was measured against four scales that measured life events, social anxiety, depressive symptoms, and physical symptoms. Three samples were taken sample one was of 121 males, 204 females, and two nonspecified male or female college students. The mean age was 19.1. The second sample was of 60 males, 53 females, and one nonspecified male or female college



students. The mean age was 20.75. The third sample was of 27 males and 37 females involved in a smoking cessation program. The mean age was 38.4. The coefficient alpha reliability was .84, .85, and .86, respectively (Cohen et al., 1983).

The test retest indicated a .85 correlation for 82 college students in a 2 day period of time. The test retest for 64 participants in the smoking cessation program after a 6 week period of time was .55 correlations (Cohen et al., 1983). Overall, the internal consistency and test retest is adequate for measuring perceived stress. The developer grants permission for use of this instrument to contribute to researcher in this area (Cohen et al., 1983). The population and development of this test is consistent with the design of the research study to identify the level of stress experienced among adults.

The IHBS was developed to measure the level of impact irrational health beliefs have on medical adherence (Christensen et al., 1999). The IHBS is a 20 item scale and a total score was calculated for quantitative analysis in this study. Participants are asked to rate each IHBS item on a five point Likert scale ranging from 1 (*not at all like I think*) to 5 (*almost exactly like I would think*). A higher score indicates more irrational health beliefs. Internal consistency is adequate with .84 among a sample of 392 undergraduate students. The test retest correlation over 18 months was .57, which is moderately stable among sample of 65 students (Christensen et al., 1999).

This scale is appropriate in measuring the level of irrational health beliefs among the population that is indicated for the design of the study. The developer of the IHBS has

granted permission for the use of the research and recommended further research in the area of irrational health beliefs and health behavior.

The HBC was originally designed for military personnel to gain insight into the types of health behaviors as well as influences that effect health behavior. The HBC (Vickers et al., 1990) is a 40 item measure representing four dimensions of wellness and prevention: wellness, accident control, traffic risk, and substance use. The developer has granted permission to use in future research. Participants are asked to rate each HBC item on a five point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Reliability measures for the original HBC range from .50 to .77 (Wasylikiw & Fekken, 1999). The health behavior checklist was found to have adequate internal consistency to measure health behaviors among the populations ages 16 to 55. Vickers et al. (1990) provided construct validity for the male population in two samples of male participants, sample one 812 males ages 18 to 50 and sample two 605 males ages 16 to 35. Wasylikiw and Fekken findings among the female samples were consistent with Vickers et al. in male samples; providing construct validity. Demographic information will include gender, age, race/ethnicity and educational attainment. All demographic variables were categorical.

### **Data Analysis**

The raw data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) software. Analysis was conducted based on the research questions to

better understand the relationships between stress, irrational health beliefs and health behaviors.

Research Question 1: Is there a relationship between perceived stress level and health behaviors?

$H_01$ : There is no statistically significant relationship between perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

$H_a 1$ : There is a statistically significant relationship between perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

Data Analysis #1: A linear regression assessed perceived stress and health behaviors.

Research question #2: Is there a relationship between perceived stress level and irrational health beliefs?

$H_02$ : There is no statistically significant relationship between perceived stress level as measured by the PSS and irrational health beliefs as measured by the IHBS.

$H_a2$ : There is a relationship between perceived stress level as measured by the PSS and irrational health beliefs as measured by the IHBS.

Data Analysis #2: A linear regression was assessed perceived stress and irrational health beliefs.

Research Question 3: Is there a relationship between irrational health beliefs and health behaviors?

$H_{03}$ : There is no statistically significant relationship between irrational health beliefs as measured by the IHBS and health behaviors as measured by HBC.

$H_{a3}$ : There is a statistically significant relationship between irrational health beliefs as measured by the IHBS and health behaviors as measured by HBC.

Data Analysis #3: A linear regression assessed irrational health beliefs and health behaviors.

Research Question 4: Is the relationship between perceived stress level and health behaviors mediated by irrational health beliefs?

$H_{04}$ : Irrational health beliefs as measured by the IHBS are not a mediator of perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

$H_{a4}$ : Irrational health beliefs as measured by the IHBS are a mediator of perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

Data Analysis #4: A mediation procedure discussed by Baron and Kenny (1986) would have been conducted if the first three research questions yield statistically significant relationships. A mediation model must meet four criteria: (a) a significant relationship between the predictor variable and criterion variable, (b) a significant relationship between the predictor variable and mediating variable, (c) a significant relationship between the mediating variable and criterion variable, and (d) the relationship between the predictor variable and criterion variable is less after controlling for the mediating variable. Thus, four regression equations determine mediation: (a) the

first regresses the criterion variable on the predictor variable, (b) the second regresses the mediating variable on the predictor variable, (c) the third regresses the criterion variable on the mediating variable, and (d) the fourth regression is estimated between the predictor variable and criterion variable after controlling for the mediating variable. Regression coefficients of the first and fourth regression equations are compared and significant differences in the regression coefficients indicate that the mediating variable is involved in the equation.

### **Threats to Validity**

The use of nonrepresentative samples can threaten external validity and generalization of findings beyond the limits of the sample (Graziano & Raulin, 2009). The threats to external validity were addressed by gathering a sample that is representative and clearly defining the sample gathered (Graziano & Raulin, 2009). The sample gathered was clearly defined and discussed. Internal validity can be threatened by confounding variables. Construct validity can be threatened by unreliable testing measurements. This was addressed by using valid testing measurements that have demonstrated good psychometric properties when used within the type of sample intended to be studied (Graziano & Raulin, 2009). Statistical validity can be threatened by inadequate sample size which was addressed through power analysis for gathering the appropriate sample size (Graziano & Raulin, 2009).

Potential threats to validity could be presented if the participant becomes disinterested in the study and quickly responds to items without careful reading. This may

provide information that is not representative of their beliefs or behaviors. In addition, participants may answer questions based on what they believe is generally expected, which is called social desirability bias. These were addressed by encouraging participants to answer authentically. Participation is voluntary and no compensation was provided. The participants had to have access to the internet, which may exclude some populations, such as those of lower socioeconomic status.

### **Ethical Procedures**

Institutional permission was acquired through the institutional review board prior to recruiting participants and obtaining data. Participants were recruited online and will not be selected as a part of a community group. They were randomly selected. Participants were not offered any payments, gifts or reimbursement for participation. There are no adverse consequences to refusing participation or withdrawing from the study. Participation was voluntary and participants may withdraw at any time. This was expressed in the informed consent form.

Data were collected online. The information gathered included some demographic information but was anonymous. All data was kept confidential through password protected software. The data will be kept for a minimum of 5 years. Data will be stored on Survey Monkey during data collection and on an internal and external hard drive after data collection that will be password protected. Survey monkey uses Norton, TRUSTe, and McAfee security software. The internal and external hard drives will use McAfee security software. Data will be destroyed after five years by commercial software that is

for erasing records. The National Institute of Health (NIH) “Protecting Human Research Participants” was completed 03/14/2014 Certification Number 888341.

### **Summary**

The study is a survey study and used quantitative analysis methods to understand relationships between irrational health beliefs, stress, and health behaviors. Data collection and participation recruitment was conducted online. The sample consisted of males and females ages 18-45 years old. Data were analyzed using linear regression. All variables were measured by research tools with good reliability and validity. Chapter 4 includes a report on the results of the study. In Chapter 5, I interpret the findings, discuss implications for social change, identify limitations of the study and make recommendations for further research.

## Chapter 4: Results

The purpose of this study was to understand how stress may relate to irrational health beliefs and health behaviors. The instruments used in the study are PSS-10, IHBS, and HBC. The scales were chosen because they have been shown to be valid and reliable measures of stress, irrational health beliefs, and health behaviors. The PSS-10 is a recommended measurement for examining the level of stress that one experiences (Cohen et al., 1983). The IHBS was developed to measure the level of impact health related irrational beliefs have on medical adherence (Christensen et al., 1999). The HBC was designed to gain insight into the types of health behaviors as well as influences that effect health behavior. The data were analyzed using a series of regression analyses to understand the interrelationship among stress, irrational health beliefs, and health behaviors. The goals of the analysis were to answer four research questions:

Research Question 1: Is there a relationship between perceived stress level and health behaviors?

$H_0$ 1: There is no statistically significant relationship between perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

$H_a$  1: There is a statistically significant relationship between perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

Research question #2: Is there a relationship between perceived stress level and irrational health beliefs?



$H_{02}$ : There is no statistically significant relationship between perceived stress level as measured by the PSS and irrational health beliefs as measured by the IHBS.

$H_{a2}$ : There is a relationship between perceived stress level as measured by the PSS and irrational health beliefs as measured by the IHBS.

Research Question 3: Is there a relationship between irrational health beliefs and health behaviors?

$H_{03}$ : There is no statistically significant relationship between irrational health beliefs as measured by the IHBS and health behaviors as measured by HBC.

$H_{a3}$ : There is a statistically significant relationship between irrational health beliefs as measured by the IHBS and health behaviors as measured by HBC.

Research Question 4: Is the relationship between perceived stress level and health behaviors mediated by irrational health beliefs?

$H_{04}$ : Irrational health beliefs as measured by the IHBS are not a mediator of perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

$H_{a4}$ : Irrational health beliefs as measured by the IHBS are a mediator of perceived stress level as measured by the PSS and health behaviors as measured by the HBC.

### **Data Collection**

Data were collected over a 5 week period, using Survey Monkey. A sample size of 278 was the original sample size. Since participant recruitment was poor, the target sample size was adjusted to 97 based on a 95% confidence level and 10% margin of

error. Participants were recruited through social media and the participant pool. Participants learned about the study through advertisements with the participant pool as well as Facebook. A Facebook page was created to describe the study. The advertisement contained a link for Survey Monkey to learn more about the study, complete informed consent and the survey. The survey was open to the general population. The response among the participant pool was poor. The Facebook page recruiting was more successful in obtaining the minimum sample size. A total of 118 surveys were collected. However, 11 were incomplete surveys and 10 were completed by participants that were over the sample age limit, so these surveys were excluded from the data set. A shorter survey that required less time may have produced more completed surveys.

### **Sample Demographics**

The demographic information was optional for the participants, so not all items were completed by all participants. Participants were required to supply their age, and this was used to determine eligibility. In order to be included in the study, participants had to be between 18 and 45 years old. The ages 18 to 45 years of age were selected because this is the age range that reported the higher levels of stress (APA, 2010). Stress and stress management tends to improve with age (APA, 2010). The age group 32-45 tended to have the most physical symptoms of stress and the highest level of unhealthy coping behaviors (APA, 2010). The final sample was composed of 97 participants.

The participants were mostly female and mostly white. The majority, 70.1%, of the sample size were ages 18-35 and most, 70.1%, reported to have a Bachelor degree or Graduate degree. Participant demographics are displayed in Table 1.

Table 1

*Demographic Characteristics of the Sample (n=97) for Gender, Age, Ethnicity and Highest Level of Education*

Demographic Characteristics	<i>n</i>	%
<b>Gender</b>		
Male	15	15.5%
Female	81	83.5%
Unknown	1	1%
<b>Age</b>		
18-35	68	70.1%
36-45	29	29.9%
<b>Ethnicity</b>		
White	71	73.2%
Black or African-American	2	2.1%
Native American	1	1%
Asian	2	2.1%
Hispanic	4	4.1%
From multiple races	4	4.1%
Unknown	13	13.4%
<b>Highest Level of Education</b>		
Some High School	1	1%
Completed High School	2	2.1%
Some College	13	13.4%
Associates Degree	8	8.3%
Bachelor Degree	39	40.2%
Graduate Degree	29	29.9%
PhD or MD	4	4.1%
Unknown	1	1%

### Descriptive Statistics for the Variables

Descriptive statistics were conducted for the variables of stress, irrational health beliefs, and health behaviors. The final sample was comprised of 97 participants.

Descriptive statistics for the variables are found in Table 2.

Table 2

*Descriptive Statistics for PSS, IHBS, and HBC (n=97)*

Variable	<i>N</i>	Range	<i>Mean</i>	<i>SD</i>
PSS	97	4-35	16.57	7.36
IHBS	97	19-61	35.09	10.04
HBC	97	68-165	125.46	18.65

Table 3

*Correlation matrix for PSS, IHBS, and HBC (n=97)*

Variable	1	2	3
PSS	---	ns	-.383*
IHBS	ns	---	-.260**
HBC	---	----	----

$p < .001^*$   $p < .01^{**}$

The PSS, a 10 item scale, is a recommended measurement for examining the level of stress that one experiences (Cohen et al., 1983). Participants were asked to rate

the level of stress felt over the last month using a 5 point Likert scale ranging from 0 (*never*) to 4 (*very often*). A total score was used in the statistical analysis, with a higher score indicating greater perceived stress. Cronbach's alpha was calculated .910.

The IHBS is a 20 item scale and a total score was calculated for quantitative analysis in this study. Participants were asked to rate each IHBS item on a 5 point Likert scale ranging from 1 (*not at all like I think*) to 5 (*almost exactly like I would think*). A higher score indicates more irrational health beliefs. Cronbach's alpha was calculated .826.

The HBC (Vickers et al., 1990) is a 40 item measure representing four dimensions of wellness and prevention: wellness, accident control, traffic risk, and substance use. Participants were asked to rate each HBC item on a 5 point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A higher score indicates positive health behaviors. Cronbach's alpha was calculated .832.

### **Data Analysis**

The raw data were transferred from surveymonkey.com and analyzed using the SPSS software. Analysis was conducted based on the research questions to better understand the relationships between stress, health-related irrational beliefs and health behavior. Regression analysis was chosen in order to determine if there is a relationship between the variables, to understand the relationship and determine if the variable can predict the behavior. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Normality was tested using

skewness and Kurtosis. PSS skewness (.432) and Kurtosis (-.316), IHBS skewness (.646) and Kurtosis (-.050), and HBC skewness (-.139) and Kurtosis (-.045). All suggest that the assumption of normality is reasonable. Linearity is a reasonable assumption based on no symmetry in graphical testing. Homoscedasticity was tested using Levene's static for all three research questions. Levene's test for equal variance was used for the first three research questions. Levene's statistic for research question 1 is 2.443,  $p=.003$ , variance is equal. Levene's statistic for research question 2 is 1.091,  $p=.376$ , variance is not equal. Levene's statistic for research question 3 is 2.143,  $p=.01$ , variance is equal. Regression is robust against Levene significance.

### **Relationship Between Perceived Stress Level and Health Behaviors**

*Regression #1:* A regression analysis was performed with perceived stress as the predictor variable and health behaviors as the criterion variable. Perceived stress was tested as a predictor of health behaviors. Stress level explained a significant proportion of variance in health behavior scores, accounting for 14.7% of variance in health behavior scores ( $F(1, 96) = 16.364; p < .001$ ). High stress level is a statistically significant predictor of lower health behaviors scores, which indicate negative health behaviors ( $\beta = -.383; t(96) = -4.045; p < .001$ ). The slope is -.973 and intercept 141.583. The null hypothesis was rejected.

Table 4

*Descriptive Statistics for PSS, and HBC (n=97)*

Variable	Unstandardized coefficients		Standardized coefficients Beta	t	p
	B	Std. Error			
(constant)	141.583	4.356		32.502	.000
PSS	-.973	.241	-.383	-4.045	.000

### **Relationship Between Perceived Stress Level and Irrational Health Beliefs**

*Regression #2:* A regression analysis was performed with perceived stress as the predictor variable and irrational health beliefs as the criterion variable. Perceived stress was tested as a predictor of irrational health beliefs. Stress level was not significant in predicting irrational health beliefs ( $F(1, 96) = 2.896, p = .092$ ). The null hypothesis was accepted.

Table 5

*Descriptive Statistics for PSS, and IHBS (n=97)*

Variable	Unstandardized coefficients		Standardized coefficients Beta	t	p
	B	Std. Error			
(constant)	31.202	2.499		12.483	.000
PSS	.235	.138	.172	1.702	.092



### Relationship Between Irrational Health Beliefs and Health Behaviors

*Regression #3:* A regression analysis was performed with irrational health beliefs as the predictor variable and health behaviors as the criterion variable. Irrational health beliefs were tested as a predictor of health behaviors. Irrational health beliefs explained a significant proportion of variance in health behavior scores, accounting for 6.7% of variance in health behavior scores ( $F(1, 96) = 6.862; p = .010$ ). Irrational health beliefs are a statistically significant predictor of lower health behavior score, which indicate negative health behaviors ( $\beta = -.260; t(96) = -2.619; p = .010$ ). The slope  $-.482$  and intercept  $147.395$ . The null hypothesis was rejected.

Table 6

*Descriptive Statistics IHBS and HBC (n=97)*

Variable	Unstandardized coefficients		Standardized coefficients Beta	t	p
	B	Std. Error			
(constant)	142.395	6.720		21.189	.000
IHBS	-.482	.184	-.268	-2.619	.010

### Irrational Health Beliefs Mediators of Perceived Stress and Health Behaviors

*Regression #4:* A mediation procedure by Baron and Kenny (1986) was not conducted since not all of first three research questions yielded statistically significant relationships. The mediation model must meet four criteria: (a) a significant relationship between the predictor variable, perceived stress, and criterion variable, health behaviors;

(b) a significant relationship between the predictor variable, perceived stress, and mediating variable, irrational health beliefs; (c) a significant relationship between the mediating variable, irrational health beliefs, and criterion variable, health behavior; and (d) the relationship between the predictor variable, perceived stress, and criterion variable, health behaviors, is less after controlling for the mediating variable. See Table 7.

*Table 7*

*Baron and Kenny (1986) Mediation Model Analysis Procedure*

<i>Mediation Model Criteria if all research question are significant</i>	
<i>Step 1</i>	Conduct a simple regression analysis to test a significant relationship between the predictor variable, X, perceived stress, and criterion variable, Y, health behaviors
<i>Step 2</i>	Conduct a simple regression analysis to test a significant relationship between the predictor variable, X, perceived stress, and mediating variable, M, irrational health beliefs
<i>Step 3</i>	Conduct a simple regression analysis to test a significant relationship between the mediating variable, M, irrational health beliefs, and criterion variable, Y, health behavior
<i>Step 4</i>	Conduct a multiple regression analysis to test a significant relationship between the predictor variable, X, perceived stress, and criterion variable, Y, health behaviors, is less after controlling for the mediating variable, M, irrational health beliefs.

## **Conclusion**

In Chapter 4, I discussed the data collection, demographics, data analysis, and results of the study. In Chapter 5, I will discuss interpretation of the findings, limitations of the study, recommendation for further research and the implications of the study.

## Chapter 5: Introduction

The purpose of this study was to develop an understanding of how stress related to irrational health beliefs and health behaviors. This study was designed to focus on the relationship that stress has on irrational health beliefs and health behaviors. Linear regression was used to analyze the relationship between stress and health behaviors, stress and irrational health beliefs, and irrational health beliefs and health behaviors. Levene's test was significant for stress and health behaviors and irrational health beliefs and health behaviors. Levene's test was not significant for stress and irrational health beliefs.

### **Interpretation of findings**

Stress was found to be a significant predictor of negative health behaviors. This finding is consistent with previous studies. Specifically, perceived stress and health habits were studied among college students (Hudd et al., 2000), women with breast cancer (Golden-Kreutz & Andersen, 2004), people with diabetes (Surwit et al., 2002), stroke survivors and their spouses (Ostwald et al., 2009), people with insomnia (Morin et al., 2003), and people with cardiac disease (Nezu et al., 2007). A theme among the studies is that higher stress is related to poor health habits, negative health behaviors, and it increases disease risk. Results of this study are consistent with previous findings in that it was conducted amongst a general population with a variety of health issues. The findings in this study have not been refuted other research studies.

I did not find that stress made a unique contribution to irrational health beliefs. There is little research in the area of irrational health beliefs and perceived stress. However, irrational beliefs are predictors of dysfunctional reactions to stressful events and are also associated with clinical anxiety and depressive disorders (David et al. 2002; David et al., 2008). Ziegler and Leslie (2003) did find that irrational thinking is a predictor of higher levels of daily hassles. Ziegler and Leslie's study was different than this study, which measured perceived stress and irrational health beliefs. More research in this area is needed.

Irrational health beliefs had a significant relationship with health behaviors. Specifically, higher levels of irrational health beliefs were related to negative health behaviors. These findings are consistent with previous studies by Christensen et al. (1999) and Williams et al. (2009) who also found that irrational health beliefs were related to negative health behaviors. This study was a non clinical sample of individuals in the general population. Christensen et al. studied both non clinical sample of undergraduates as well as insulin criterion type 1 diabetic patients to examine compliance with medical regimen. Williams et al. studied medication compliance among individuals with diabetic kidney disease. There are no studies that refute the findings, further research should be conducted. There are limited studies about irrational health belief and health behaviors. This study can contribute to the body of knowledge that exists supporting that higher stress levels are related to negative behaviors, which are often

associated with maladaptive coping skills (Cohen & Janicki-Deverts, 2012; Kaplan et al., 2012; Keller et al., 2012; Ng & Jeffery, 2003).

### **Theoretical Framework**

The HBM focuses on the perception of the individual. There are four areas of perception that the HBM focuses on: perceived susceptibility, perceived severity, perceived benefits and perceived behaviors (Janz & Becker, 1984). The focus of the current study is individual's perception of stress level, health beliefs, and health behaviors. The HBM could be helpful in individual assessment understanding that stress may impact their perceptions of susceptibility, severity which would impact their perceptions of benefits and behaviors. The HBM is successful with individuals with rational thoughts but has mixed reviews in predicting health behaviors of those with irrational beliefs (Christensen et al., 1999).

The transactional model of stress and coping is designed at the appraisal of the event and level of threat (Lazarus & Folkman, 1984). Transactional model of stress and coping provides a framework to understand stress and the process of coping. The relationship between the individual and the event is appraised based on psychosocial influences. The primary appraisal is the perception of potential harm or threat, and the secondary appraisal is the perception that one can cope with the situation or change it (Lazarus & Folkman, 1984). I found that the higher stress levels were associated with higher levels of health distress, less positive health behaviors, and partial mediator for

irrational health beliefs. Supporting that stress can lead to maladaptive coping behaviors by engaging in less positive health behaviors.

Irrational beliefs are predictors of dysfunctional reactions to stressful events and are also associated with clinical anxiety and depressive disorders (David et al., 2002; David et al., 2008). Ellis's ABCDEF cognitive model of distress: (a) a rational or irrational belief is activated by an event or situation, (b) the beliefs about the event lead to consequences, (c) consequences are emotional, behavioral, and cognitive. The D and E components are part of REBT therapy: (d) is an intervention to challenge irrational beliefs and (e) are the effects of the disputing intervention leading to (f) a new feeling or behavior. The rational beliefs lead to adaptive behaviors and irrational beliefs lead to maladaptive behaviors. This model can be used to better understand how stress may influence health behaviors. When the irrational belief is activated, beliefs about the event lead to consequences in this case the thoughts about the event can lead to beliefs about being able to manage, cope or control the event. Irrational health beliefs were associated with less positive health behaviors support that the irrational thoughts lead to the beliefs about the event leading to the consequences. This study could provide some understanding in treating irrational health beliefs and creating intervention, effects, and new behaviors.

### **Limitations of study**

The study was assessed online, which required participants to have access to the internet. This may have unintentionally limited the sample. Some of the information may

have been delicate to some and if some are engaging in irrational health beliefs, then the faulty thinking may have led the participant to answer health behavior questions in an inaccurate manner as well. While this may be a limitation, it could also provide evidence that if thinking is inaccurate regarding health it may also be erroneous regarding health behaviors. It is expected that participants answered truthfully and honestly. Recruitment was poor possibly due to the length of the survey.

### **Recommendations**

Future recommendations are to investigate the impact that educational level has on stress level, irrational health beliefs, and health behaviors. Lantz et al. (2005) found that higher stress, health outcomes, and mortality are associated with lower income and education. Over time chronic stress can lead to poorer health and mortality (Braveman et al., 2010; Keller et al., 2012; Lantz et al., 2005). Thus, future researchers could also focus on daily hassles/life events as opposed to chronic stress as they relate to irrational health beliefs and health behaviors. A strength of the study is that the sample is from the general population compared to previous studies that focused on populations with specific diseases. However, further research is needed amongst the general population in the area of stress, irrational health beliefs, and health behaviors in order to better be able to generalize findings to health populations as a whole. Future research on intervention for stress and irrational beliefs and the impact on health behaviors is recommended to be able to identify if targeted interventions improve health behaviors.



### **Implications**

This study can help researchers and clinicians to develop interventions that can improve the overall quality of life for individuals with high stress levels and high irrational health beliefs. Identifying mediators to negative health behaviors can help prevent individuals from engaging in negative health behaviors. This can lead to improved health overall, which can be beneficial at the individual, family, and societal levels. For example, improved overall health can lead to a decrease in the overuse of health resources, which can contribute to poor quality healthcare and high cost for health services (Korenstein, Falk, Howell, Bishop, & Keyhani, 2012).

### **Conclusion**

The purpose of this study was to survey adults 18-45 year of age and assess their levels of perceived stress, irrational health beliefs, and health behaviors. The ages 18 to 45 years of age were selected because this is the age range that reported the higher levels of stress (APA, 2010).

I found that higher stress levels are related to negative health behaviors. However, stress did not make a unique significant contribution to irrational health beliefs. Irrational health beliefs were statistically significant supporting higher irrational health beliefs are related to negative health behaviors.

There is an association between the influences of high stress levels and negative health behaviors. Stress often triggers maladaptive coping (Cohen & Janicki-Deverts, 2007; Hajek et al., 2010; Kaplan et al., 2012; Ng & Jeffrey, 2003;) that in return are

causing long term health risks (Cohen et al., 1983; Krueger & Chang, 2008). According to Ellis (1994), irrational beliefs are the catalyst for exhibiting maladaptive behaviors or feelings from a stressful situation. Little is known about health related irrational beliefs and health behaviors. Assessing the relationship among stress, health related irrational beliefs, and health behaviors provides a better understanding of the relationship that stress has on health-related thinking and health-related behaviors. The cognitive approach to understanding stress identifies that the appraisal of the event is key to the way that the individual responds to the stressor. As the individual changes their perception of the event, they change their response to the stressor. Since perceived stress and irrational health beliefs were predictors of negative health behaviors, then interventions can be developed to address these directly in order to possibly prevent negative health behaviors.

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## Curriculum Vitae

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### **Education:**

Doctor of Philosophy – Health Psychology  
Walden University, Minneapolis, Minnesota

Expected 2015

Master of Social Work  
Stephen F. Austin State University, Nacogdoches, Texas

2008

Bachelor of Science – Biology  
East Texas Baptist University, Marshall, Texas

2003

### **Relevant Professional Experience:**

Clinical Renal Social Worker  
DaVita Healthcare Partners

2012-Present

Conduct psychosocial assessments for patients. Educate patients about modalities for renal replacement therapy. Provide supportive counseling for patients with End Stage Renal Disease. Develop plan of care to meet social, emotional and lifestyle needs of renal patients. Administer and score the Kidney Disease Quality of Life scale.

Program Therapist  
Excel Center, Fort Worth, Texas

2010-2011

Provided assessments for intensive outpatient, partial hospitalization and hospitalization placement based on clinical diagnosis and level of need. Developed treatment plans and monitor progress of patients. Provided group and family therapy. Created discharge plans to transition the patient into less restrictive treatment programs.

Treatment Director  
East Texas Open Door, Marshall, Texas

2008-2010

Conducted weekly youth staffing with treatment team to evaluate progress, assess needs and make recommendations for treatment goals. Provided training and education for all youth workers. Provided group, individual, and family counseling services. Supervised and evaluated services provided by any contract therapist. Provided crisis intervention, including all instances of suicidal ideation, gesture and/or attempt.

Director of Intake  
The Bair Foundation, Tyler, Texas

2003-2008

Assured that foster home records are in compliance with state regulations. Performed and assessed foster home care certification and recertification as required by state regulations. Applied advanced social service knowledge to develop Individualized Services Plan (ISP) to

establish the appropriate services to be provided for each child in placement and to assure compliance with state regulations. Supervised recruiters, placement coordinators and foster parent secretary. Completed foster and adoptive parenting home assessments. Lead foster parent training regarding behavioral intervention.

**Licenses and Certifications:**

Georgia, Licensed Clinical Social Worker- CSW004813

Licensed

Texas, Licensed Master Social Worker- 52440

Licensed