ABSTRACT

DAVIS, ELIZABETH NEWELL. The Relationship Between Daily Stress, Psychological Distress, and Personal Meaning in Adults at Midlife. (Under the direction of Siu-Man Raymond Ting, Ph.D.).

Stress is a pervasive health concern that has been consistently linked to serious physical and psychological impairment. One form of stress that is associated with negative mental health consequences is daily stress. Daily stress refers to relatively minor events that occur on a day-to-day basis. Research has found significant associations between daily stress and psychological distress, warranting further examination of potential resources that may aid in managing daily stressors. One such potential resource is personal meaning, an existentially-rooted, psychological variable found to hold high relevance to positive mental health functioning. The current study used a quantitative correlational design to examine relationships between daily stress, psychological distress, and personal meaning. Two theoretical frameworks, Lazarus’ transactional theory of stress (1974) and Reker and Wong’s personal meaning framework (1988) were used to provide context and to operationalize key variables. Using existing data from the Midlife in the United States II (MIDUS II) survey and the National Study of Daily Experiences II (NSDE II), blocked multiple regressions were conducted to determine whether significant relationships exist between daily stress appraisals, psychological distress, and personal meaning. Analyses of the individual subscales of personal meaning were also conducted to determine the extent to which the specific dimensions of personal meaning were significant to the prediction of daily stress and psychological distress. Moderation analysis was conducted to examine whether personal
meaning moderates the relationship between daily stress and psychological distress. Results indicated significant negative associations between personal meaning and daily psychological distress. In particular, the motivational and affective dimensions of personal meaning were significant to the prediction of psychological distress. Additionally, daily stressor appraisals were positively related to daily psychological stress. The personal meaning dimensions did not emerge as statistically significant moderators of the relationship between daily stress appraisals and psychological distress; however, an additional analysis found that when calculated as a single composite factor, personal meaning did moderate the relationship between daily stress and psychological distress. An examination of conditional effects indicated that psychological distress, as predicted by daily stress appraisals, varies at high and low personal meaning. The findings suggest that high personal meaning protects against the negative emotional effects of daily stress. Overall, the study confirmed that personal meaning is a relevant psychological resource for midlife adults that contributes to positive affective outcomes in daily stress processes.
The Relationship Between Daily Stress, Psychological Distress, and Personal Meaning in Adults at Midlife

by
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CHAPTER 1: INTRODUCTION

Clinical counselors frequently encounter clients who are seeking help managing stress. Stress is a broad term used in everyday parlance to denote a feeling of tension resulting from an overload of work and life responsibilities or from unexpected life changes. Anxiety, anger episodes, sleep disruption, depression, and relationship conflicts are a few of the psychosocial symptoms commonly reported by those experiencing problems with stress (Almeida, Piazza, Stawski, & Klein, 2011; Everly & Lating, 2002). Stress in the United States is pervasive. A recent national survey conducted by the American Psychological Association (APA) found that 75% of adults in the U.S. reported at least one symptom of stress in the previous month, and nearly one-half reported that stress has a negative effect on their personal and professional lives (APA, 2015). Of the 3068 survey respondents, over one-third reported unhealthy stress responses such as overeating and sleep disturbances, and 25% reported significant stress-related health problems (APA, 2015).

Over the past 50 years, stress has been the focus of much research, and the damaging effects of stress on human functioning has been well-documented. Medical research has linked excessive stress to a range of serious health consequences including cardiovascular, gastrointestinal and musculoskeletal complications (Everly & Lating, 2002; Hanratty, Holland, Jacoby & Whitehead, 2007; Schneiderman, Ironson, & Siegel, 2005). Chronic exposure to stress has been found to weaken the immune system response, increasing risk of illness, disease, and premature death (de Frias & Whyne, 2015; Southwick, Vithilingam, & Charney, 2005). The impact of stress on mental health is likewise considerable, and a clear
relationship has been established between chronic stress and depression (Bayram & Bilgel, 2008; Charles et al., 2013; Krause, 2007), decreased cognitive performance, (Klein & Boals, 2001), and impaired emotional regulation ability (Schilling & Diehl, 2015; Wang & Saudino, 2011). As decades of research has documented, stress is a public health concern consistently linked with adverse physical and mental health outcomes.

A substantial body of research has examined the impact of different types of stress on mental health functioning. Much of research has focused on the impact of major and chronic life stressors on psychological functioning. Major life stressors, which include bereavement, divorce, and traumatic experiences, tend to occur infrequently but have high impact on emotional functioning (Serido, Almeida, & Wethington, 2004). Chronic stressors such as illness, discrimination, unemployment, and financial strain are ongoing stressors of varying severity that typically have no foreseeable resolution (Serido et al., 2004). Major and chronic stressors have been consistently linked to poor mental and physical health outcomes (Kirsch & Ryff, 2016).

**Daily Stress**

Daily stress, also called daily hassles, refers to relatively minor events and interactions that occur on a day-to-day basis (Almeida, 2011). Typical daily stressors may include unforeseen changes in responsibilities at home or work, routine challenges of meeting deadlines, or spontaneous disagreements with relatives or coworkers (Serido et al., 2004). Whereas major and chronic life stressors are associated with prolonged adjustment and persistent emotional repercussions, daily stressors have an immediate impact on
emotional functioning but tend to resolve more quickly, often within the same day (Almeida, 2005; Serido et al., 2004). Although daily stressors are mundane and often trivial in nature, research suggests that the cumulative effect of daily exposure to minor stressors is as damaging to psychosocial wellbeing as major life stressors (Almeida, 2005; Lazarus, 1999).

Studies examining the effect of daily stress have found that daily hassles are strongly correlated with psychological distress and significant reductions in psychological wellbeing (Birditt, Nevitt, & Almeida, 2015; de Frias & Whyne, 2015; Mroczek & Almeida, 2004). Psychological distress, a term which indicates the state of experiencing negative emotions in response to a stressful event, is a common outcome measure in stress research (Everly & Lating, 2002; Lazarus, 1999). Given that daily hassles have the potential to greatly impair psychological functioning, it is essential that counselors are knowledgeable about the impact of daily stressors on mental health and are prepared to assist clients in identifying personal resources to combat unhealthy levels of stress.

Researchers have identified a number of factors that appear to offset the damaging effects of stress. These protective factors, or psychosocial resources, influence the stress process in terms of how stressors are appraised and experienced by the individual (Krohne, 2002; Lazarus, 1991). Resources including optimism, social support, and spirituality have been found to moderate the damaging effects of stress and have been linked with effective coping and psychological health (Aldwin & Levinson, 2004; Bargiel-Matusiewicz & Omar, 2015; de Frias & Whyne, 2015; Krohne, 2002; Lazarus & Folkman, 1984).
Another construct that may serve as a resource in managing stress is personal meaning. Personal meaning is an existentially-rooted, psychological construct that is often used interchangeably with the term meaning in life. Developing gradually over the life course, personal meaning can be described as the individual’s unique worldview that influences the interpretation of life events and fosters a sense of wellbeing and purpose in life (Reker & Wong, 2012). Personal meaning is shaped by one’s experiences and environment and contributes to one’s sense of life as having purpose, coherence, and significance (Mascaro & Rosen, 2006; Reker, 2000; Yalom, 1980).

Personal meaning has been found to play an important role in adjustment to major life stressors such as trauma, chronic illness, and acute life changes. Little is known, however, about the relationship between personal meaning and daily stress, and further examination of these constructs is needed. A brief review of research on meaning and mental health will be provided in the following section.

**Meaning and Mental Health**

Meaning in life is a fundamental element of human functioning found to hold great relevance to psychological health and wellbeing (Debats, Drost, & Hansen, 1995; Frankl, 1984; MacDonald, Wong, & Gingras, 2012). As a psychological construct, personal meaning is conceptualized as a global framework that shapes one’s interpretation of past and future life events and influences values, beliefs, and goals (Mukherjee, Dogra, & Banerjee, 2014; Reker, 2000; Yalom, 1980). Meaning in life has been examined in relation to a range of mental health-related variables including substance use (Nicholson et al., 1994; Wolf, Katz,
& Nachson, 1995), chronic health problems (Lee et al., 2006; Taylor, 1983), positive and negative health behaviors (Brassai, Piko, & Steger, 2012; Fox & Leung, 2009), depression (Mascaro & Rosen, 2005; Westerhof, Bohlmeijer, & Valenkamp, 2004), and traumatic events (Park & Ai, 2006; Updegraff, Silver, & Holman, 2008). Broadly, research findings link personal meaning to healthy psychological functioning, with meaning often serving as a protective factor against psychopathology, emotional distress, and maladaptive behavior (Blazek, Kazmierczak, & Besta, 2015; Gongora, 2014; Joshi, Marszalek, Berkel, & Hinshaw, 2014; Steger et al., 2015). Additionally, deficits in personal meaning have been associated with poor psychological outcomes and emotional dysregulation (Debats et al., 1995; Glazer, Kozusznik, Meyers, & Ganai, 2014). Given such findings that consistently point to a significant relationship between personal meaning and mental health concerns, further investigation of meaning and psychological variables such as daily stress is warranted.

Rationale

As national surveys have indicated, daily stress is exceedingly common in modern society and is associated with a number of serious mental and physical consequences. Although daily stressors appear to be minor, routine hassles, research has established a link between daily stress and negative psychological consequences. Personal meaning has potential to serve as a valuable resource in offsetting the harmful effects of daily stress. Although research indicates that personal meaning is a relevant aspect of mental health that has been found to buffer the effects of major life stressors and trauma (Lee et al., 2006; Park & Ai, 2006; Taylor, 1983; Updegraff, Silver, & Holman, 2008), less is known about the
nature of associations between personal meaning and daily hassles. Further investigation of personal meaning as a resource in daily stress processes will contribute to the field of knowledge of personal meaning and likely provide important implications for treatment for clinical counselors.

**Purpose of the Study**

The purpose of the study is to examine relationships between daily stressors, psychological distress, and personal meaning in adults at midlife. Using secondary data analysis of a national longitudinal survey, the study will explore associations between the domains of daily stress (dependent variable), psychological distress (dependent variable), and personal meaning (independent variable), and investigate the extent of the relationship between dimensions of personal meaning the psychological effects of stress. An overview of the national survey that will be used is provided in the following section.

**Midlife in the United States Survey**

In 1989, the John D. and Catherine T. MacArthur Foundation established the Research Network on Successful Midlife Development (MIDMAC) to study psychosocial health issues in adults. A multidisciplinary team comprised of experts in medicine, psychology, sociology, epidemiology, public health and other fields was recruited to synthesize extant research on adult health and to develop and administer a national survey. Conducted in 1995-1996, the Midlife in the United States (MIDUS) was a nationally representative survey of over 7,000 adults that examined psychological functioning, health-related constructs, family relationships, and work and financial status (Brim, Ryff, & Kessler,
In 2002, the Institute on Aging at the University of Wisconsin-Madison received a grant from the National Institute on Aging for longitudinal study of the original MIDUS participants. The MIDUS II, conducted from 2002-2006, re-evaluated participants on all MIDUS I measures and added several new areas of assessment including evaluation of cognitive function and biomarker studies. Each wave of the MIDUS has provided rich findings about factors associated with well-being at midlife including the influence of demographic, relational, and psychological variables on aging.

National Study of Daily Experiences

The National Study of Daily Experiences (NSDE) was conducted as part of the MIDUS series to explore the effects of various types of daily stress on physical and emotional wellbeing (Almeida, McGonagle, & King, 2009). The study will use data from the NSDE II, collected from 2004-2009, and the MIDUS II to investigate relationships between daily stress appraisals, psychological distress, and personal meaning. The theoretical basis for the measures and operational definitions used in the MIDUS series and NSDE are in harmony with the empirical and theoretical foundations of the proposed study. As such, the use of these data is an appropriate fit for the rationale and research objectives of the current study.

Midlife Characteristics

Described as “the crossroads of growth and decline” (Lachman, Teshale, & Agrigoroaei, 2015; p. 3), midlife is a dynamic stage of life characterized by generativity as well as transition across multiple domains. Defined by MIDUS researchers as age 40-59
(Lachman et al., 2015), midlife is often a challenging time marked by the onset of age-related changes in physical and cognitive functioning and significant shifts in psychosocial responsibilities and resources (Dainese et al., 2011; Lachman, 2004; Wiggs, 2010). For many adults, midlife is characterized by high work and family demands and peak levels of involvement in social activities (Dainese et al., 2011). Midlife adults are also faced with changes in roles and identity that typically involve children leaving home, caring for elderly parents, and parental bereavement (Lachman, 2004). The difficulty of balancing multiple areas of obligation while adapting to significant life changes can contribute to increased stress and in some instances, negative mental health consequences including depression and psychological distress (Jorm et al., 2005; Lang, Llewellyn, Hubbard, Langa, & Melzer, 2011).

**Vulnerability factors in midlife.** Socio-demographic factors including age, race, employment status, and gender also have bearing on perceptions of stress and are linked to differences in health outcomes in midlife adults (Almeida, 2005). Chronic life stressors including racial and gender discrimination, educational attainment, and economic strain are associated with increased vulnerability to stress and decreased emotional wellbeing at midlife (Almeida, 2005; O’Brien, 2012). The MIDUS Refresher, an update to the original MIDUS study that included specific questions focusing on the impact of the 2007-2009 economic recession, indicated that chronic economic stress predicted deficits in overall health and wellbeing, particularly among adults with less education (Kirsh & Ryff, 2016). Chronic
stress has been found to increase one’s vulnerability to daily stressors and is associated with heightened psychological distress in response to daily hassles (Almeida, 2005).

**Gains in midlife.** Adjustment to age-related changes is a central challenge for middle-aged adults, however midlife can also be a time of growth, where gains in knowledge and experience accumulated over the lifetime begin to wield positive influence on psychosocial functioning (O’Connor & Chamberlain, 1996; Wiggs, 2010). Several important psychological resources tied to well-being become more integrated during midlife including goal motivation, self-awareness, and introspection (Lazarus & DeLongis, 1983; O’Connor & Chamberlain, 1996). Life satisfaction and purpose in life, which are thought to peak in later life, also begin an upward trajectory at midlife (Lachman, 2015).

As a time of adjustment, gains and losses, midlife is complex phase of life that has not been frequently examined in research. Further study of stress processes, risk factors, and protective resources is needed to better understand the mental health needs and concerns of midlife adults.

**Theoretical Frameworks**

Two theoretical frameworks, Lazarus’ transactional theory of stress (1974) and Reker and Wong’s personal meaning framework (1988) will be used in the study to provide context and to operationalize key variables. An overview of the theories is included in the following section, and the theories will be discussed in greater detail in the literature review.
**Transactional Theory of Stress**

Transactional theory of stress is a cognitive-relational model of psychological stress proposed by Richard Lazarus. Prior to the introduction of Lazarus’ theory, the prevailing theory of stress was based in stimulus-response research and conceptualized stress as a stereotypical response to external stimulation (Krohne, 2002; Selye, 1956). Breaking from the stimulus-response model held by his predecessors, Lazarus proposed a cognitive framework that defined stress as, “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing” (Lazarus & Folkman, 1984, p.19). Lazarus conceptualized stress as an idiosyncratic response resulting from the individual’s appraisal of an event in light of personal beliefs, values, and experiences (Lazarus, 1999; Schwarzer, 1998). Affective responses to stress (e.g., anger, fear) are a result of one’s perceptions of events as personally significant or meaningful (Lazarus & Lazarus, 1994; Schwarzer, 1998).

Lazarus wrote extensively about the reaching impact of daily stressors on emotional wellbeing and emphasized the importance of engaging personal resources in managing daily stress (Lazarus & Lazarus, 1994). Lazarus’ view of stress as a process of subjective appraisals that are filtered through one’s worldview is particularly suited to a study of personal meaning. Given that the aim of this study is to examine personal meaning in daily stress appraisals, Lazarus’ theory provides a relevant framework for understanding associations and for conceptualizing key variables.
Personal Meaning Theory

Reker and Wong’s conceptualization of personal meaning is grounded in the work of the eminent existential psychologist Viktor Frankl, who was one of the first in his field to highlight personal meaning as a significant factor in mental health (Wong, 2010; Zika & Chamberlain, 1992). Aiming to construct an empirically sound model of existential meaning, the authors integrated findings from previous research with the Frankl’s theoretical assumptions to develop a comprehensive model of personal meaning. Researchers have long commented on the barriers to research of existential variables and the challenge of evaluating abstract constructs (Krok, 2015; Park, 2010; Reker, 2000; Schulenberg, 2003).

Responding to the problem of ambiguous operational definitions, Reker and Wong’s model specifies three components that together form a comprehensive, operational definition of personal meaning. The motivational, affective, and cognitive components of meaning were derived through empirical research and are an expansion of Frankl’s conceptualization of meaning (Wong, 1998). The motivational component refers to goal-oriented nature of personal meaning and one’s sense of purpose in life. The affective component of personal meaning relates to feelings about oneself, life accomplishments and life satisfaction. The cognitive component refers to mental aspects of personal meaning including sense-making and interpreting events. (Wong, 2012). The components were proposed to capture the key characteristics of personal meaning, and scholars have found support for the multidimensional framework (O’Connor & Chamberlain, 1996; Reker & Wong, 1988).
Reker and Wong’s dimensions of meaning will be used in the proposed study as a basis for operationalizing personal meaning and for selecting meaning-related variables.

**Significance of the Study**

The current study is unique in several ways. As previously mentioned, little research has been devoted to personal meaning as a potential resource daily stress processes. It is clear that personal meaning is related to positive adjustment to major life stressors and traumatic events (Lee et al., 2006; Park & Ai, 2006; Taylor, 1983; Updegraff, Silver, & Holman, 2008), but little is known about the relationship between personal meaning, perceptions of daily stressors and emotional responses to daily stress. A study of how these factors are associated may have important implications for theory and clinical practice. Another unique aspect of the proposed study relates to the target group. Researchers in personal meaning have primarily focused on adolescent, emerging adult, and elderly populations. Few studies have examined personal meaning in adults at midlife, a stage of life generally defined as an age range from 40 – 59 (Dainese et al., 2011; Lachman et al., 2015; Mroczek & Almeida, 2004). Given the potential for excessive stress at midlife and the lack of research conducted with this population, an examination of personal meaning and stress in middle-aged adults is needed and may have significant impact on theoretical and clinical conceptualizations of stress and mental health at midlife.
Research Questions

The aim of the proposed study is to examine relationships among perceptions of daily stress, psychological distress, and personal meaning in adults at midlife. The research questions are as follows:

1. Does personal meaning explain differences in psychological distress in adults at midlife?
2. Which dimensions of personal meaning are significant to the prediction of psychological distress?
3. Does personal meaning explain differences in daily stressor appraisal, in terms of severity of stressors?
4. Which dimensions of personal meaning are significant to the prediction of daily stressor appraisal, in terms of severity of stressors?
5. Does personal meaning moderate the relationship between the severity of daily stressors and psychological distress in adults at midlife?

Terms and Definitions

Daily Stress

The authors of the NSDE define daily stress as “relatively minor events arising out of day to day living” (Serido et al., 2004; p. 18). Also referred to as daily hassles, daily stressors are minor disruptions involving work, schedule, or relational conflicts that typically resolve over the course of a day.
Midlife

In line with the MIDUS researchers’ description, the current study defines midlife as the age range from 40 – 59 (Dainese et al., 2011; Lachman et al., 2015; Mroczek & Almeida, 2004).

Personal Meaning

Reker and Wong (2012) defined personal meaning as, “the cognizance of order, coherence and purpose in one’s existence, the pursuit and attainment of worthwhile goals, and the accompanying sense of fulfillment” (p. 434). Within this definition, three components of personal meaning are identified: motivational, affective, and cognitive. Following the authors’ conceptualization, people high in personal meaning would report having a sense of purpose and direction in life, experience feelings of satisfaction and acceptance about accomplishments and self, and hold thoughts and beliefs that support a view of life as comprehensible and manageable.

Psychological Distress

In a general sense, psychological distress has been referred to as a non-specific, negative emotional state occurring in response to specific life events (Ridner, 2004). The authors of the NSDE use the term psychological distress interchangeably with the term negative affect, which refers to emotional states marked by feelings of sadness, anger, guilt, or anxiety (Serido et al., 2004; Watson, Clark, & Tellegen, 1988).
Limitations

Although there are many advantages to conducting secondary data analysis, there are limitations associated with this type of method. First, the use of an existing data set restricts the choice of variables to those used in the initial investigation (Greenhoot & Dowsett, 2012). Although many of the operational definitions, variables, and instruments used in the MIDUS II are congruent with the purpose and theoretical basis of the proposed study, not all variables of interest are included in the MIDUS II. Variables not included in the existing data must then be created from the existing variables. Another limitation is the self-report nature of the data set, which increases the possibility of bias. Although the NSDE utilizes a daily diary method, which may reduce the threat of memory-related bias, other potential threats such as social desirability are not eliminated. Another limitation is that of generalizability of findings. Although NSDE participants were randomly selected from the national MIDUS study of over 7,000 adults, a majority of participants are Caucasian with at least some college education. Findings from the proposed study may not be generalized to other populations. Finally, the current study is cross-sectional in design and as such, causation cannot be inferred.

Summary

Daily stressors, although commonplace and minor in nature, have been found to have a significant impact on psychological functioning. In view of findings that consistently link daily stress with psychological distress and decreased wellbeing (Almeida & Horn, 2004; Mroczek & Almeida, 2004), researchers have sought to identify personal resources that may
offset the harmful effects of stress on mental health. Optimism, social support, and spirituality are such resources that have been found to buffer the effects of daily stress. Personal meaning is another resource that may serve as a protective factor in daily stress processes and contribute to daily emotional health. According to Lazarus, stress is not defined by the stimulus, or actual stressful event, but rather by the individual’s appraisal of the event as personally significant (Lazarus & Folkman, 1984). Following Lazarus’ view, personal meaning, which encompasses goals, emotions, and cognition, has potential to explain differences in how daily stressors are appraised and experienced. Given the lack of extant research on personal meaning and daily stress, particularly in midlife populations, the proposed study aims to address this gap through an investigation of the relationships between these constructs.
CHAPTER 2: LITERATURE REVIEW

The following chapter provides an overview of the literature and research of the theoretical frameworks used to guide the current study. The key assumptions, constructs, and research findings of transactional stress theory (Lazarus, 1974) and personal meaning theory (Reker & Wong, 1988) will be detailed to provide context for understanding the purpose and rationale of the current study.

Transactional Stress Theory

The proposed study uses Lazarus’ transactional stress model as a framework for understanding stress appraisal, daily stressors, and coping resources. A well-established theory, the transactional model conceptualizes stress as a dynamic process that is highly influenced by personal evaluations of events and resources. The following section includes a review of the background, assumptions, key constructs and empirical studies of transactional stress theory.

Background

Prior to the work of Lazarus, much of stress research focused on the physiological factors associated with stress. In the 1930’s, Walter Cannon examined sympathetic nervous system responses and hormonal changes occurring with prolonged exposure to heightened emotional states (Brown & Fee, 2002). Credited with identifying the “flight or fight” response, Cannon was one of the first to link physiological processes with emotional distress and to elaborate on the harmful impact of stress on physical functioning (Lazarus, 1999). Hans Selye, who is credited with bringing the term stress into public awareness, defined
stress as “the sum of all the wear and tear caused by any kind of vital reaction throughout the body at any one time” (Selye, 1956; p. 274). Through animal research, Selye developed the general adaptation syndrome, a stimulus-response model of stress that described a series of neurological and endocrinal changes activated in times of stress as a biological defense (Mason, 1975; Szabo, Tache, & Somogyi, 2012). Although his model shed light on the physiology of stress responses, it was criticized for its lack of precision and broad conceptualization of stress as a predictable response to any outside stimulus (Lazarus, 1974; Mason, 1975). Building on Selye’s conceptualization of stress as a nonspecific response, Holmes and Rahe (1967) proposed the critical life events approach, which attributed stress to major life disruptions necessitating adaptation. To assess the impact of life events on health, Holmes and Rahe (1967) developed a checklist of 43 major life events such as death of a loved one, divorce, and illness. Total scores on measure indicated the level of risk one’s stressful events pose to overall health. Although the life events approach was widely used to evaluate stress, it was criticized for ignoring individual differences and for assuming all people experience events equally (Krohne, 2001; Lazarus & Folkman, 1984).

**Assumptions**

Lazarus’s transactional model was based on the premise that stress is not a prescribed response to stimuli nor a reaction to a particular event but rather a dynamic relationship between the individual and the environment (Folkman, 1984). In the transactional model, stress is understood as a process in which the individual appraises environmental demands (or events) as exceeding personal resources for coping (Lazarus & Folkman, 1987).
Appraisals are central to transactional theory and refer to a cognitive process of evaluating events in terms of personal significance and manageability (Krohne, 2002; Lazarus & Folkman, 1984). Events that are appraised as (a) personally significant and (b) exceeding one’s coping abilities, result in negative affective responses such as anxiety, frustration, or distress (Folkman, 1984; Lazarus & DeLongis, 1983). The essential assumption of Lazarus’ model is that of stress as an active process that is guided by the individual’s unique judgements of a particular environment. The following section will provide further information about transactional theory by detailing the key constructs including stress, appraisal, commitments and beliefs, coping resources, and affective responses.

**Key Constructs**

**Stress.** Lazarus conceptualized stress in terms of a person-environment relationship in which personal perceptions of events and coping resources determine how stress is experienced. According to Lazarus, it is not the objective environmental demand or event that arouses a stress response, but rather it is the individual’s evaluation of the event and perception of coping options that determine the type of emotional response (Lazarus & Folkman, 1984). To illustrate the relational aspect of transactional stress theory, Lazarus (1999) depicted the stress process in terms of a seesaw in which events or demands are on one side and personal resources on the other. If one’s perception of situational demands outweigh resources for coping, the individual experiences psychological distress. However, if one perceives coping resources to outweigh demands, the emotional impact of the demand would be minimal (Lazarus, 1999).
**Appraisal.** Lazarus (1999) described appraisal as a cognitive process in which events and coping resources are assessed in light of a number of personal and environmental factors. Lazarus and Folkman (1987) suggested appraisals seek to determine the personal importance of an event, answering the question of, “What does it mean for me personally?” (p. 145). Lazarus identified two forms of appraisal that can occur simultaneously during the stress process. Primary appraisals are the initial assessments in which the individual evaluates the personal significance of the event, and secondary appraisals refer to the individual’s assessment of whether events can be managed in view of one’s coping resources (Bargiel-Matusiewicz & Omar, 2015; Lazarus & Lazarus, 1994). Appraisals are shaped by a number of personal factors that account for individual differences in stress appraisal and coping. Commitments and beliefs are among these factors that wield high influence on appraisal processes, shaping interpretations of events and coping resources (Folkman, 2010; Lazarus & Folkman, 1984).

**Commitments and beliefs.** Commitments and beliefs are relatively stable personal constructs thought to influence stress appraisal. Although the transactional model emphasizes the fluid, contextual nature of stress appraisal, Lazarus (1999) acknowledged that preexisting factors such as commitments and beliefs also play a role in appraisal processes. Lazarus and Folkman (1984) defined commitments as factors that “determine what is at stake in a specific stressful encounter” (p. 56). Commitments are comprised of the individual’s most important values and goals, and are thought to serve as a basis for determining the significance of an
event. Beliefs influence appraisals by acting as a lens through which events are interpreted and include religious and existential views (Lazarus & Folkman, 1984).

**Coping resources.** Coping resources refer to a broad array of personal and environmental tools the individual may call upon in the face of difficult events (Folkman, 2010). Whereas environmental resources refer to tangible forms of support such as monetary resources and social support, personal resources refer to internalized traits, attitudes, and beliefs that influence appraisal processes (Lazarus & Folkman, 1984). Self-esteem, religious beliefs, problem-solving abilities, and self-confidence are a few of the many personal resources that may be evaluated in secondary appraisal processes (Folkman, 2010; Park & Folkman, 1997). Like commitments and beliefs, personal coping resources may be fairly stable in nature, changing slowly over the life course. Subjective beliefs about one’s available resources and perceptions of the possible efficacy of these resources have direct bearing on emotional outcomes (Folkman, 1984). If the individual determines that the threatening event is too great for available coping resources, psychological distress results (Lazarus, 1999).

**Affective responses.** Affective responses refer to the emotions experienced through the process of stressor appraisal. Affect is an important indicator of mental health functioning and is commonly used as an outcome measure in stress research (Almeida, McGonagle, & King, 2009). Positive affect is marked by feelings such as optimism, happiness, satisfaction, or confidence, whereas negative affect reflects feelings of anger, hopelessness, guilt, nervousness, or contempt (Watson, Clark, & Tellegen, 1988). The extent to which the
individual’s commitments and beliefs are held in importance is proportional to the emotional response. For example, individuals who rank marriage and family as their highest value would likely experience significant affective distress upon divorce, whereas individuals who value freedom over marriage would experience less emotional distress in the same circumstance (Park & Folkman, 1997).

In summary, Lazarus conceptualized stress as a relationship between the individual and the environment in which the individual’s unique appraisals and personal perceptions determine emotional outcomes. Lazarus emphasized the importance of individual differences in stress processes and the influence of personal coping resources on affective outcomes. Although the transactional model is widely researched and generally held as a prominent theory of stress, Lazarus’ model has several limitations that will be noted in the following section.

**Limitations**

A key criticism of Lazarus' model relates to the contextual view of stress that has little to say about stable traits such as personality. Researchers have determined that personality traits such as neuroticism play an important role in stress appraisal and affective outcomes. Also referred to as trait negative affect, neuroticism is a personality type characterized by symptoms of anxiety, depression, and decreased emotional regulation ability (Bolger & Zuckerman, 1995; Watson & Clark, 1992). Research has linked neurotic personality with elevated emotional and physical responses to stressors as well as to
differences in stress appraisals when compared with other personality types (Mrocek and Almeida, 2004; Suls, Green, & Hillis, 1998; Watson & Clark, 1992).

Another limitation relates to precision of concepts. Scholars have commented on the difficulty of isolating primary and secondary appraisals in empirical testing. Critics have suggested the two forms of appraisal are interdependent and cannot be evaluated as independent components in the stress process (Zohar & Dayan, 1999). Carpenter (2016) also noted that few studies have examined both forms of appraisals simultaneously, and that tests of Lazarus’ stress model have typically targeted only primary appraisals. In regard to the current study of personal meaning, the lack of conceptual clarity related to appraisal processes is relevant. The proposed study frames personal meaning as a coping resource. In Lazarus’ model, coping resources are associated with secondary appraisals. However, as a global belief system, personal meaning could also be viewed as a preexisting commitment or belief associated with primary appraisal processes. Despite these limitations, Lazarus’ theory is well-regarded and continues to influence stress research.

Transactional theory facilitated the study of daily hassles, a term proposed by Lazarus and colleagues to describe minor life stressors (Kanner, Coyne, Schafer, & Lazarus, 1981). Relevant to the proposed study, an overview of Lazarus’ model of daily hassles including empirical support for his model will be provided in the following section.

**Daily Hassles**

Lazarus and colleagues described daily hassles as, “irritating, frustrating, distressing demands that to some degree characterize everyday transactions with the environment”
(Kanner et al., 1981; p. 3). Following the transactional framework, Lazarus proposed that the individual’s perception of hassles, rather than the objective events themselves, contribute to stress arousal and affective outcomes (Lazarus, 1984; Lazarus, 1999). Lazarus suggested that because daily hassles occur with greater frequency than major life stressors, the negative impact on mental health is equal to, if not greater than, the impact of major life stressors on mental health (Kanner et al., 1981; Lazarus & Folkman, 1984). Noting that stress research had primarily relied on major life event scales that did not take into account individual differences in predicting psychological outcomes, Lazarus and colleagues proposed new stress measures were needed.

**Daily Hassles Scale.** To examine the nature of daily hassles, Kanner et al., (1981) developed the Daily Hassles Scale, a 116 item-measure of minor daily concerns. Items included concerns such as traffic jams, misplacing possessions, and interruptions (Kanner et al., 1981). To address the influence of personal appraisal, stress was measured by number of exposures and ratings of severity, rather than by the type of event experienced.

Validity and reliability of the scale were established in a series of longitudinal studies by Lazarus and colleagues that examined daily stress and health outcomes in adults (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; DeLongis & Lazarus, 1982; Kanner et al., 1981). Findings from the series provided support for Lazarus' suppositions and elucidated the nature of daily stress, coping resources and affect. For example, Kanner et al., (1981) determined that perceptions of daily hassles, measured in terms of frequency and severity ratings, were better predictors of psychological outcomes than major life events. Findings
from this study also indicated significant differences between college-age and midlife adults in frequency and severity ratings of daily hassles as well as emotional responses to stress. Results of the study suggest that contextual and age-related factors play a significant role in how daily stressors are appraised and experienced. Another study in the series by DeLongis et al. (1982) reported significant relationships between frequency of daily stressors and both psychological and physical complaints. Negative affect was significantly associated with frequency of daily stressors, and social support and self-esteem emerged as significant coping resources in daily stress appraisals. These early studies provided support for Lazarus' contextual model of daily hassles and introduced a new method for evaluating daily stressors in light of personal appraisals.

Subsequent research based on Lazarus' model has provided similar findings about the salience of daily stress to mental health (Almeida & Kessler, 1998; Bolger, DeLongis, Kessler, & Schilling, 1989; Chamberlain & Zika, 1990; Grzywacz, Almeida, Neupert, & Ettner, 2004). Researchers, including the developers of the National Study of Daily Experiences (NSDE) have continued to apply Lazarus' methodology for assessment of daily stress (Serido et al., 2004). Findings from NSDE have supported Lazarus' stress appraisal model and view of daily hassles as having high impact on psychological functioning (Almeida et al., 2002; Dainese et al., 2011).

**Stress and Coping Resources**

Over the years, researchers have examined many aspects of Lazarus' model, particularly focusing on the influence of personal coping resources on stress and
psychological outcomes. Lee-Flynn et al. (2011) applied Lazarus' model in an examination of self-esteem as a coping resource in cognitive appraisals of daily interpersonal stress. The authors hypothesized that self-esteem would be associated with better emotional responses to stress, and that high self-esteem would moderate the relationship between stress appraisal and daily negative affect associated. Appraisals and affect were assessed through week-long, daily diary measures and phone interviews. As predicted, high self-esteem was associated with better affective outcomes, and high self-esteem was found to moderate relationship between stress appraisal and daily negative affect. Although the generalizability of findings is limited due to the narrow focus on interpersonal stressors, the study supports Lazarus' proposal that personal coping resources such as self-esteem have significant impact on appraisal and emotional outcomes.

A recent study examined the buffering effect of three coping resources (optimism, positive affect, and social support) on wellbeing in middle-aged adults (Dainese et al., 2011). The authors hypothesized that the three resources would serve as protective factors on physical and mental health and further, that the resources would predict health functioning over a 10-year period. Using data from the MIDUS longitudinal survey, the researchers found significant positive associations between each coping resource and physical and mental health variables, with positive affect emerging as the strongest predictor of wellbeing over the 10-year period. The researchers recommended further examination of other protective variables, noting that the three factors chosen do not capture the range of possible resources in daily stress.
Religious and spiritually-oriented coping resources have been examined in relation to daily stress. Like personal meaning, spirituality and acceptance-based disciplines such as mindfulness are transpersonal constructs often associated with holistic approaches to mental health. Whitehead and Bergeman (2011) examined the effects of spirituality on daily stress and negative affect in a sample of 244 adults, aged 55-80. The authors based the study on previous research that enumerated the health benefits of faith and spirituality as a global coping resource. Similar to the current study, the authors aimed to determine the extent to which global spiritual beliefs affect coping processes on a daily basis. Participants completed daily self-report surveys of perceived stress, positive and negative affect, and daily spiritual experiences for 56 days. Findings revealed a significant positive correlation between negative affect and perceived stress, and positive affect was found to have a significant relationship with both perceived stress and daily spiritual experiences. Daily spiritual experiences were found to partially moderate the relationship between perceived stress and affect, significantly buffering the effects of stress on daily negative affect.

De Frias and Whyne (2015) investigated the effect of mindfulness as a coping resource on stress and health in adults, 50-85 years of age. Mindfulness is an acceptance-based practice that involves centering one’s focus in the present as a means of self-regulation. The authors hypothesized that there would be an inverse relationship between number of stressful life events and physical and mental wellbeing, and that mindfulness would moderate the relationship between stress and health. Through hierarchical regression analysis, the authors found support for the hypotheses. Life stress was a significant predictor
of both physical and mental health, and mindfulness moderated the effect of life stress on mental health. As hypothesized, life stress was inversely related to health outcomes, and mindfulness was found to have a significant association with positive health outcomes. The results provided support for mindfulness as a protective factor against the harmful effects of stress on aging. Like personal meaning, mindfulness is a transpersonal construct that enables the individual to transcend distressing emotional states. It follows that personal meaning may play a similar role in reducing the negative effects of daily stress on mental health.

**Meaning-Focused Coping**

Building on Lazarus' transactional stress theory, Park and Folkman (1997) developed a model of meaning-focused coping in which the personal significance of stressful events is reappraised as a means of coping. The authors define meaning in a broad, semantic sense that differs from the existential definition of personal meaning. Describing meaning as “perceptions of significance” (Park & Folkman, 1997; p. 116), the authors’ framework isolates meaning-making strategies such as positive reappraisal and benefit-finding as integral means of managing stress. Positive reappraisal refers to the process of reframing negative events such that positive meaning can be construed. Benefit-finding is described as the process of determining possible positive consequences of negative life events. The meaning-focused framework has been examined through applied research in which investigators developed treatment modules based on meaning-focused coping strategies (Park, 2010). Positive reappraisal and benefit-finding have been associated with positive outcomes in studies of grief and bereavement (Davis, Nolen-Hoeksema, & Larson, 1998) as
well as in studies of individuals with chronic illnesses (Boehmer, Luszczynska, & Schwarzer, 2007; Pakenham & Cox, 2009). Although the model serves as a good conceptual framework, illustrating the influence of subjective meanings on stress appraisal and coping methods, the model lacks clear operational definitions and instrumentation to facilitate empirical testing (Park, 2010).

In summary, Lazarus' transactional theory is a contextual model of stress that emphasizes the importance of personal perceptions and individual differences in determining emotional responses to stress. Lazarus contended that it was not the objective events themselves but one’s appraisal of events and coping options that contributed to feelings of stress. Previous research demonstrates that global beliefs significantly influence appraisals of daily stressors and moderate affective outcomes. As a global belief system, personal meaning may serve as a coping resource in daily stress processes. The following section will review theories and empirical research on personal meaning.

**Personal Meaning Theory**

The following section describes the theoretical foundations of the personal meaning construct and provides a summary of relevant empirical research on personal meaning and mental health. The purpose of the review is to provide a comprehensive account of the dimensions of meaning and to demonstrate the relevance of personal meaning to psychological functioning. The review is organized by the following sections: background, assumptions, dimensions, key constructs, measurement, limitations, and empirical research.
Background

Meaning in life is multidimensional construct found to have high relevance to psychological wellbeing. Until the twentieth century, meaning in life was primarily understood as a philosophical construct concerned with the enduring human quest to make sense of existential matters such as life, death, and suffering (Schulenberg, Baczwaski, & Buchanan, 2014). By most accounts, Viktor Frankl was the first to propose meaning in life as a psychological construct and to integrate existential meaning into psychotherapeutic practice (Steger, Frazier, Oishi, & Kaler, 2006; Wong, 2010; Zika & Chamberlain, 1992). Frankl described personal meaning as the most vital element of human functioning that has influence on all areas of life including behavior, emotions, and cognitions (Frankl, 1984).

In the years since Frankl’s model was introduced, personal meaning has become of topic of great interest to researchers, and scholars have integrated Frankl’s assumptions into their own conceptual models of psychological wellbeing. Theorists including Baumeister (1991), Battista and Almond (1973), Crumbaugh and Maholick, (1964), Krause (2007), Reker and Wong (1988), and Wong (2010) have proposed frameworks of personal meaning that were informed by Frankl’s theory. Although there are subtle differences in conceptualizations of meaning reflecting each scholar’s theoretical orientation (Reker, 2005), there is agreement across theories regarding the nature of personal meaning as a sense of coherence, purpose, and fulfillment (King, Hicks, Krull, & Gaiso, 2006; Krok, 2015; Mascaro & Rosen, 2006; Wong, 1998).

Researchers have commonly defined and measured personal meaning in terms of in
terms of dimensions or structural components. For example, Battista and Almond’s (1973) framework conceptualized personal meaning in terms of two dimensions: goals and fulfillment. Baumeister (1991) proposed a framework comprised of four dimensions including purpose, values, self-efficacy, and self-worth. Personal meaning has also been defined in terms of the specific life domains from which people derive a sense of meaning. Sources of meaning such as spirituality, relationships, and achievement have also been used to indicate the presence of personal meaning (Jaarsma, Pool, Ranchor, & Sanderman, 2007; MacDonald, Gingras, & Wong, 2012; O’Connor & Chamberlain, 1996).

Of the prominent modern frameworks of personal meaning, Reker and Wong’s conceptualization has been frequently used to operationalize personal meaning in empirical research. Reker and Wong integrated Frankl’s existential tenets into a structural model comprised of three interrelated components. The motivational, affective, and cognitive dimensions are considered building blocks of personal meaning and serve as indicators of meaningfulness. As the authors described, an individual with a strong sense of personal meaning “has a clear life purpose, has a sense of direction, strives for goals consistent with life purpose, feels satisfied with past achievements, and is determined to make the future meaningful” (Reker & Wong, 2012; p. 435).

Given the influence of Frankl’s model on modern conceptualizations of meaning, the review of personal meaning theory will begin with a discussion of Frankl’s assumptions. Reker and Wong’s dimensions of personal meaning, which will be used to operationalize personal meaning in the proposed study, will also be reviewed.
Frankl’s Assumptions

Frankl’s theory was based on three assumptions that captured his view of the essential nature of personal meaning. Along with the three tenets, Frankl proposed another triad comprised of enduring values that elucidate ways of discovering meaning. The assumptions (will to meaning, meaning in life, freedom of will) and enduring values (creative, experiential, attitudinal) formed the basis for logotherapy, Frankl’s meaning-focused model of psychotherapy. Frankl’s main assumptions along with the corresponding values will be described in the following section.

Will to meaning. The assumption of will to meaning suggests that all people possess an inherent motivation to find meaning in life. This assumption refers not only to the search for an ultimate, existential meaning in life but also to the quest to find meaning in daily experiences (Wong, 1997). Frankl described will to meaning as a counter to Freud’s pleasure principle, which stated that the primary, instinctual drive is to seek pleasure and avoid pain to ensure survival of the species (Frankl, 1984). According to Frankl (1997), will to meaning is the key to human health and survival, for it is by having a sense of meaning that humans are able to transcend suffering.

Will to meaning is linked to Frankl’s creative value, which suggests meaning can be discovered through goal-oriented pursuits and by contributing to the greater good through work (Frankl, 1984). The creative value is linked to the motivational drive to discover one’s purpose and is manifested in one’s pursuit of value-congruent goals (Fabry, 2013).
**Meaning of life.** The assumption of meaning of life refers to the human ability to find meaning in all circumstances. This assumption was informed by Frankl’s experiences as a prisoner in Nazi concentration camps during World War II (Frankl, 1997). Frankl’s experiences and observations of other prisoners influenced his determination that suffering and meaning are significantly linked. As described by Wong (2012), “Frankl observed that people are willing to endure any suffering if they are convinced that this suffering has meaning” (p. 625). Frankl proposed that having a belief that life is intrinsically meaningful is a powerful way to manage times of intense and prolonged suffering.

The assumption of meaning of life relates to the experiential value, which suggests meaning is discovered through mindful awareness of life and appreciation for spiritual gifts and experiences (Wong, 2014). Different from the creative value in which meaning is discovered through contributions and actions, experiential value focuses on meaning discovered through reflection, self-exploration, and spiritual connections.

**Freedom of will.** A third assumption relates to the freedom of humans to choose how they think or respond to life events. This assumption holds that although people do not have the freedom to avoid all physical or environmental hardships, people do possess the freedom to choose their attitudes toward these hardships (Wong, 1997). Frankl asserted that even in situations where one has no control over circumstances, people have the ability to choose their perceptions of the events. Frankl suggested that choosing a meaningful outlook promotes resiliency and hope in the face of stressful events (Mascaro & Rosen, 2005).
Freedom of will corresponds with the attitudinal value, which suggests meaning is discovered through cultivating courage in times of hardship and “digging deeper into one’s inner resources” in the face of suffering (Wong, 2012; p. 624). Frankl described the attitudinal value as a primary resource human survival through which people make sense of and construe meaning from the most negative circumstances.

In summary, Frankl conceptualized personal meaning as an inherent human drive to determine one’s purpose in life and to find meaning in all circumstances. Frankl’s tenets and corresponding values formed the basis for Reker and Wong’s conceptualization of personal meaning as a multidimensional construct comprised of motivational, affective, and cognitive components.

**Reker and Wong’s Dimensions**

Reker and Wong (1988) conceptualized personal meaning in terms of three interrelated dimensions that reflect each of Frankl’s assumptions. The motivational, affective, and cognitive dimensions are structural components that together serve to define personal meaning and describe how meaning is experienced.

**Motivational dimension.** The motivational dimension relates to Frankl’s assumption of will to meaning and refers to the goal-seeking, future-oriented nature of personal meaning. The pursuit of goals and realization of one’s purpose in life indicators of personal meaning as well as avenues through which meaning is discovered (Wong, 2012). Reker, Peacock, and Wong (1987) suggested that “a sense of personal meaning means having a purpose and striving toward a goal” (p. 44). Across theories of personal meaning, most scholars
acknowledge the motivational characteristic of personal meaning and the centrality of purpose in life to one’s sense of meaningfulness (Battista & Almond, 1973; Mascaro & Rosen, 2006; Steger et al., 2006). Individuals high in the motivational component of personal meaning view their lives as having direction and purpose and engage in daily activities that promote the attainment of future-oriented goals.

**Affective dimension.** The affective dimension corresponds to Frankl’s assumption of meaning of life and encompasses the emotional experiences related to living in congruence with meaningful goals and values. Different from other theoretical conceptualizations that acknowledge only the motivational and cognitive dimensions, Reker and Wong (1988) suggested personal meaning is also typified by positive emotions including feelings of fulfillment and satisfaction. Describing the affective dimension, Wong (1999) characterized positive affect as, “a barometer of the degree of meaningfulness” (p. 87). The affective aspect of meaning is realized through reflection on one’s life, including past and present experiences, and is manifested in feelings of acceptance and contentment related to one’s accomplishments (Van Selm & Dittmann-Kohli, 1998). People high in the affective dimension of personal meaning have a positive sense of self, view past difficulties and weaknesses with acceptance, and feel pleased with their life’s work and achievements (Ryff, 2013).

**Cognitive dimension.** Corresponding to Frankl’s assumption of freedom of will, the cognitive dimension includes the various mental processes involved in interpreting and making sense of the world and life events (Wong, 1997). The cognitive component of
meaning enables people to understand the world around them and to experience life as comprehensible, coherent, and manageable (Reker & Wong, 2012). Cognitive functions such as perspective taking (in which events are viewed in terms of global beliefs), reappraisal (in which events are reevaluated to improve one’s emotional response to an event) and benefit-finding, (in which individuals look for positive outcomes emerging in times of hardship), are implicated in the cognitive dimension and are associated with one’s ability to transcend times of suffering (Auhagen, 2000; Van Selm & Dittmann-Kohli, 1998). People high in the cognitive dimension of personal meaning find growth and benefit in times of suffering, have beliefs and values that contribute to a coherent worldview, and are able to modify thoughts and perspectives to manage challenging situations (Glazer et al., 2014).

In summary, Reker and Wong defined personal meaning in terms of three dimensions that incorporated Frankl’s existential tenets into a psychological framework. The comprehensive definition has been widely used to operationalize personal meaning and has formed the basis for empirical research. (Jaarsma et al., 2007; Van Selm & Dittmann-Kohli, 1998). Wong expanded upon these dimensions in his later theoretical and empirical work, which included the development of several meaning measures (Wong, 1998). The dimensions also informed Wong’s clinical model, meaning therapy, which was an application of Frankl’s logotherapy that combined evidenced-based approaches with existential tenets (Wong, 2010).

O’Connor and Chamberlain (1996) examined Reker and Wong’s theoretical framework through a qualitative study of midlife adults. The authors aimed to determine to
what extent the dimensions proposed by Reker and Wong would be evident in people’s accounts of meaningful events. Thirty-eight participants completed structured interviews in which they were asked general questions about meaning in life as well as specific questions designed to elicit responses related to each dimension of meaning. In the process of analyzing the interviews, the authors first identified categories pertaining to sources of meaning. Over two-hundred unique sources of meaning were identified and grouped into five categories. The sources of meaning were then inspected to determine whether motivational, affective, or cognitive dimensions were represented. The authors reported that the three dimensions were apparent in nearly all participants’ responses. For example, in describing interpersonal relationships (the source of meaning), participants’ narratives associated with this source included all of Reker and Wong’s dimensions. The authors suggested the findings confirm the three-component structure and further, that in order to experience an event or interaction as meaningful, all three dimensions must be present.

Key Constructs

The assumptions and dimensions of personal meaning implicate several important constructs that have been frequently examined in studies of psychological wellbeing.

**Meaninglessness.** Meaninglessness refers to a state of emptiness and alienation that reflects one’s unwillingness or inability to perceive life as coherent and worthwhile (Yalom, 1980). Frankl refers to the state of meaninglessness as the existential vacuum, which he viewed as the source for depression, addiction, and aggression, also referred to as the mass neurotic triad (Frankl, 1997). Contemporary theorists have viewed meaninglessness as a
negative cognitive state marked by psychological distress, depression, and lack of purpose (Garcia-Alandete, 2015; Reker & Wong, 1988). Researchers have found particularly strong support for the link between meaninglessness and substance abuse (Harlow & Newcomb, 1990; Nicholson et al., 1994; Wolf, Katz, & Nachson, 1995) and depression (Kinnier et al., 1994; Mascaro & Rosen, 2005; Westerhof, Bohlmeijer, & Valenkamp, 2004).

**Purpose in life.** Researchers commonly use the terms purpose in life and meaning in life interchangeably, often defining one concept in terms of the other (Steger et al., 2006). Other scholars, including Frankl and Wong, refer to purpose as a dimension of meaning in life that reflects the motivational, goal-seeking nature of personal meaning (Frankl, 1997; Reker & Wong, 2012; Westerhof, Bohlmeijer, & Valenkamp, 2004). Purpose in life has been defined as the sense of having direction and finding meaning in past and present experiences (Ryff, 2013). Research has established a link between high purpose in life and positive psychological wellbeing (Ryff, 2013; Steger et al., 2006), life satisfaction (Blazek, Kazmierczak, & Besta, 2015; Chamberlain & Zika, 1988), and successful aging (Reker, Peacock, & Wong, 1987).

**Self-transcendence.** Self-transcendence refers to the human potential to rise above external stressors by finding meaning in times of suffering (Barnes, 2000). Describing the nature of self-transcendence, Wong (2014) wrote, “only when we redirect our focus from self-interest to something bigger than and beyond ourselves can we experience the meaning of life” (p. 158). Self-transcendence is associated with attitudinal values such as compassion toward self and others and acceptance of past and present negative life events (Ryff, 2013;
Researchers exploring topics such as aging (Ellermann & Reed, 2001), chronic health concerns (Taylor, 1983), and bereavement (Bickerstaff, Grasser, & McCabe, 2003) have linked self-transcendence to positive coping and psychological wellbeing.

**Ultimate meaning.** Frankl’s view of ultimate meaning refers to the belief that there is an overarching coherence and purpose for one’s life (Wong, 2014). Strongly tied to spirituality and values, ultimate meaning is characterized as a lifelong process of discovering one’s place in the universe and searching for answers to existential questions such as, “What is life all about?” (Fabry, 2013). Contemporary frameworks of personal meaning have commonly used the term global meaning, rather than ultimate meaning, to refer to a system of beliefs and attitudes that inform one’s sense of life as coherent (Park & Folkman, 1997; Reker & Wong, 2012). Global meaning is viewed as a stable, trait-like construct that develops incrementally over time. Research has indicated global meaning is an important resource in psychological wellbeing and successful aging. Global meaning has been found to buffer responses to stress in older adults (Lutgendorf et al., 1999), and has been linked with positive adjustment to loss and bereavement (Davis, Nolen-Hoeksema, & Larson, 1998).

**Measurement**

Although personal meaning has long been regarded as a relevant psychological construct, empirical testing of personal meaning has been slow to develop. According to some scholars, the lack of clear operational definitions of existential variables and the dearth of valid measurements has posed a challenge to researchers (Park, 2010; Macdonald, Gingras, & Wong, 2012). One of the most frequently used measures is the Purpose in Life
Test (PIL), developed by Crumbaugh and Maholick (1964) as a measure of Frankl’s meaning concepts. Although the PIL is widely used, scholars have pointed out several weaknesses of the measure including its reliance on ambiguous operational definitions and weak internal validity (Macdonald, Gingras, & Wong, 2012; Yalom, 1980; Zika & Chamberlain, 1992).

The Life Regard Index (LRI) (Battista & Almond, 1973) is another commonly used measure that assesses meaning through two subscales. The framework subscale assesses the individual’s perception of having a personal meaning framework and meaningful life goals. The fulfillment subscale assesses individuals’ perceptions of the degree to which they live their lives in congruence with their personal framework and meaning-focused goals. Although the LRI has demonstrated good construct validity and test-retest reliability (Debats et al., 1995), researchers have found the fulfillment subscale to be problematic, confounding with other variables such as life satisfaction (Chamberlain & Zika, 1988; Mascaro & Rosen, 2005).

Wong (1998) developed the Personal Meaning Profile (PMP) to examine sources of meaning. The PMP is based on an implicit theory approach, which is defined as “laypeople’s conceptions and beliefs about various psychological constructs as compared to more formal models developed by psychologists” (Wong, 1998, p. 111). Wong analyzed responses from participants who were asked to describe their ideas of a meaningful life. Through factor analysis, Wong identified seven factors that represent the characteristics of a meaningful life: achievement, religion, self-transcendence, relationship, intimacy, fairness and self-acceptance. Wong reported good test-retest reliability ($r = .85$) and strong convergent
reliability with other similar measures of meaning. The PMP has been used in studies examining a variety of psychological variables, but some researchers have suggested further validation of the test is needed (Kernes & Kinnier, 2008; Mascaro & Rosen, 2005).

Although empirical assessment has proven to be challenging, researchers have continued to examine personal meaning as a factor in mental health functioning. Personal meaning is frequently examined through correlational studies wherein level of meaning or presence of meaning is used to predict a psychological outcome. Scholars have suggested that as global framework, personal meaning serves as a protective factor against depression and enhances adjustment to negative life events (Burrow, Sumner, & Ong, 2014).

**Personal meaning and depression.** Researchers have consistently linked level of personal meaning to mood-related variables such as depression. Mascaro and Rosen (2005) examined personal meaning as a predictor of hope and depression in a sample of college students. Citing a dearth of longitudinal research on the topic of meaning, the authors collected data at two time points during the semester. Measures included the Personal Meaning Profile and a subscale of the Life Regard Index. Hierarchical regression analysis found that baseline personal meaning scores predicted levels of depression and hope, such that high personal meaning was associated with decreased depression and increased hopefulness. Kleftarus and Psarra (2012) reported similar associations in a study of Greek men. Higher personal meaning was significantly associated with lower depressive symptoms. Further analysis of the individual dimensions of meaning found that goal achievement and contentment in life were significant factors contributing to differences in depression scores.
Personal meaning and major life stressors. Personal meaning has been found to be highly relevant in adjustment to major life stressors including traumatic events, health concerns, and economic hardship. Researchers have suggested personal meaning enables individuals to make sense of challenging life events and to find positive interpretations of events that support psychological health. Krause (2007) examined personal meaning as a protective factor against depression in a sample of elderly adults with a history of trauma. Using cross-sectional data from a national survey, the author hypothesized that personal meaning, defined as having a sense of purpose, goals, values and understanding, would moderate the relationship between traumatic events and depression. The findings revealed several significant relationships. First, high occurrences of traumatic events were associated with higher depressive symptoms in individuals with low levels of personal meaning. Additionally, individuals with high personal meaning were found to experience significantly less depressive symptoms. Of the dimensions of meaning, purpose in life and goals most strongly reduced the impact of traumatic events on negative affect.

Breitbart et al., (2009) examined meaning-focused interventions in a study of patients with advanced cancer. The authors created a group treatment program based on Wong and Frankl’s assumptions and randomly assigned 90 participants to either the meaning-focused group treatment or to standard support group. Participants were assessed at pre- and post-treatment, as well as at a two-month follow up on meaning in life, spiritual well-being, hopelessness, life orientation, anxiety, and depression measures. Participants in the meaning therapy group showed significant improvements in meaning in life, spiritual well-being,
anxiety, and life orientation over those in the standard support group. Assessments at the two-month follow-up indicated these improvements also increased over time. Clinical studies based on the meaning-focused protocols with other chronic illnesses have yielded similar findings (Jaarsma et al., 2007; Lee et al., 2006).

In a recent study exploring the impact of the 2007-2009 economic recession, Kirsch and Ryff (2016) examined relationships among purpose in life, health outcomes, and recession-related stress among adults, 25 to 54 years of age. Data was collected from 2011 to 2014 as part of the MIDUS Refresher, which incorporated questions to assess the impact of the economic recession. The authors hypothesized that psychological resources including purpose in life would predict health outcomes and moderate recession stress and health outcomes among adults. Although high purpose in life was associated with fewer chronic health outcomes, it was not a significant moderator of the relationship between recession stress and health outcomes among low educated adults. The findings suggest that pre-existing vulnerabilities such as low education compound the negative effects of chronic stressors such as recession-related stress on wellbeing and reduces the potential benefits of psychological resources such as purpose in life on health outcomes.

**Personal meaning and daily stress.** Few studies have examined daily stress and personal meaning. Mascaro and Rosen (2006) examined existential meaning as a protective factor in the relationship between daily stressors and depression among college students. The authors operationalized existential meaning in terms of two related constructs, personal meaning and spiritual meaning. Personal meaning was measured with the Life Review Index.
Spiritual meaning, which bears conceptual resemblance to Frankl’s construct of ultimate meaning, was assessed through the Spiritual Meaning Scale (Mascaro, Rosen, & Morey, 2004). Both forms of meaning were significantly related to depression. Spiritual meaning, but not personal meaning, moderated the stress-depression relationship. It should be noted that the mean age of participants was 18. Researchers have suggested that younger adults tend to have a less integrated sense of personal meaning than older adults (Reker, Peacock, & Wong, 1987). As such, the age of participants may have contributed to the non-significance of personal meaning in the analysis.

Zika and Chamberlain (1987) examined daily hassles, meaning in life and psychological wellbeing in a sample with a mean age of 32 years. Significant negative relationships were found between daily hassles and meaning in life, and meaning in life was found to be a consistent predictor of positive psychological wellbeing. A recent study of adults also evidenced significant, directional relationships between daily stress, defined as current level of stress, and personal meaning (Park & Baumeister, 2016). The validity of findings is questionable due to the assessment of stress through a single item that asked participants to rate their current level of stress. However, the significant association between current stress ratings and personal meaning scores suggests further research of these variables is warranted.

**Limitations**

Although Reker and Wong’s conceptualization of meaning has been widely accepted, there is evidence in literature that the three dimensions do not necessarily provide the best
account of the construct. In recent years, theorists have proposed frameworks that include additional components not addressed in Reker and Wong’s model. For example, Wong’s later research identified two additional components of personal meaning, relational and personal dimensions, beyond those in the original model, which suggests that the three dimension-conceptualization does not provide a complete characterization of personal meaning (Wong, 2012). Schnell (2009) suggested personal meaning is defined not only by organizing dimensions but also by categories of meaning-making activities, referred to as sources of meaning. According to the model, meaningfulness is associated with both the quantity and variety of sources in which an individual invests, such as spiritual involvement, social commitment, and generativity. Steger and colleagues (2009) proposed a framework that distinguished between the presence of meaning and the search for meaning. Research based on this conceptualization has found that in midlife and older age groups, search for meaning is associated with negative affect and depression, whereas presence of meaning is associated with psychological wellbeing (Steger et al., 2009).

In summary, personal meaning is an existentially rooted, multidimensional construct that is associated with positive mental health functioning. Frankl viewed personal meaning as a transforming force that enables people to overcome situational difficulties and times of suffering. Merging existential and psychological constructs, Reker and Wong defined personal meaning as the sum of three dimensions that form a global framework for making sense of life and for managing emotional and environmental conditions.
Integration

Stress appraisal and personal meaning are similar constructs in some respects. Both are defined as subjective, contextual constructs that are comprised of, and influenced by, previous experiences, beliefs, and unique worldviews. The transactional stress model suggests that emotional responses to stress, including negative affect and psychological distress, are the result of one’s unique evaluation of events and one’s coping options. Lazarus theorized that an individual’s worldview and framework for making sense of life has a singular influence on stress appraisals. As a global framework, personal meaning provides a larger context for evaluating the threat and severity of stressors and theoretically enables the individual to view life challenges as more manageable and less threatening (Reker & Wong, 2012). The review of research finds initial evidence that personal meaning is a protective factor associated with psychological health, however further investigation of personal meaning and daily stress is needed.
CHAPTER 3: METHOD

The purpose of the current study is to examine relationships among the variables of daily stress appraisals, psychological distress, and personal meaning through secondary analysis of the Midlife in the United States Survey II (MIDUS II; Ryff & Almeida, 2004) and National Study of Daily Experiences II (NSDE II; Ryff & Almeida, 2004) data. The following chapter will provide an overview of the MIDUS series and includes the following methodological fields: sample and procedure, research design, limitations, measures, and data analysis plan.

Sample and Procedure

The first MIDUS series was conducted from 1995 to 1996 to examine social, psychological and biological factors affecting physical and mental health across varying age groups (Keyes & Ryff, 1998). A nationally representative sample of 7,108 adults ranging in age from 25 to 74 years participated in the first MIDUS study. The initial sample was attained through random digit dialing using phone bank data and included an over-sample of five metropolitan areas. (Keyes & Ryff, 1998). Participants completed telephone surveys conducted by trained interviewers as well as self-report questionnaires assessing physical and mental health, personality factors and demographic information. The MIDUS I included a sub-study, the NSDE I, which examined the effects of daily stress on health and wellbeing. A total of 1484 respondents, randomly selected from the MIDUS I sample, were recruited for the NSDE I.
From 2004 to 2006, the MIDUS II was conducted as a follow up to the original study. The sample was comprised of 4,963 adults, 35 to 86 years of age, all of whom had previously completed the MIDUS I. Participants received $60 for completing the MIDUS II, which included 30-minute telephone interviews and self-report questionnaires. A randomly-selected subsample of MIDUS II respondents were invited to participate in the NSDE II, which examined the impact of daily stressors on physical, psychological and social functioning (Almeida, Wethington, & Kessler, 2002). A total of 2,022 participants completed the daily diary study, conducted from 2004-2009. For eight consecutive days, respondents completed daily telephone interviews with researchers, providing information about sources of stress, severity of stressors and impact on emotional and physical health. Researchers conducted the daily diary study in 40 “flights”, interviewing approximately 38 participants per flight (Ryff & Almeida, 2004). Daily diary methodology was used to reduce threats to validity related to memory distortion and to enable examination of within-person differences in stress and affective responses (Almeida, 2005). Respondents received $25 for completing the week-long study. Participants ranged in age from 35-84, with a mean age of 56. More than half the participants were female (58%) and 91% of respondents were white.

The sample for the current study consists of 537 participants age 40-59. In the current study, 53% are female and 95% are white. In addition, 75% of the sample is married, and 67% are employed. Full sample characteristics are provided in Chapter 4.
Research Design

The study used a quantitative correlational design to examine relationships among daily stressors, psychological distress, and personal meaning. The use of quantitative correlational methods is suited to the research questions and enables statistical investigation of the variables of interest. The review of literature indicates a dearth of extant research devoted to daily stress and personal meaning. Given the recommendation that correlational designs are particularly suited to topics for which little research exists (Heppner, Kivlighan, & Wampold, 1999), the design is appropriate and may provide statistical evidence to support the theoretically-based hypotheses regarding relationships between variables.

Limitations

The study has several limitations related to the design and use of secondary data analysis. The research design is correlational in nature and as such, only relational inferences can be made. Although correlational design is commonly used in counseling research, interpretation of correlational findings is limited and cannot be used to infer causation (Heppner, Kivlighan, & Wampold, 1999). The use of secondary data analysis has many advantages including access to a large, national sample. However, there are also several limitations including lack of control over research design choices including constructs, measures, and participants. Additionally, a potential limitation of the MIDUS II and NSDE II relates to generalizability. Although the data sets are comprised of a representative national sample, participants are predominately Caucasian, college-educated, and married (Brim,
Ryff, & Kessler, 2004). As such, research findings may not be generalizable to other demographic groups.

Measures

Data in the current study consisted of archival data and as such, the researcher did not administer any of the following measures directly. To assess variables of interest, data was drawn from the MIDUS II and NSDE II, collected between 2004-2009 through a series of telephone surveys. The concepts of interest in this study are (a) daily stress, (b) psychological distress, which is operationalized as daily negative affect, and (c) personal meaning, which is operationalized as three variables that tap the defining dimensions (motivational, affective, and cognitive) proposed by Reker and Wong. To measure these concepts, variables from four instruments were selected. From the NSDE II, the Daily Inventory of Stressful Events (DISE) was used to measure daily stress, and the Negative Affect Scale (NAS) will be used to measure daily psychological distress. From the MIDUS II, two subscales from the Psychological Well-Being Scale (PWBS) was used to measure the motivational and affective dimensions of personal meaning, and one subscale from the Primary and Secondary Control scale (PSCS) was used to measure the cognitive dimension of personal meaning.

The personal meaning scales were selected following a review of extant personal meaning measures including the Personal Meaning Profile (PMP) (Wong, 1998), the Life Regard Index (LRI) (Battista & Almond, 1973), and the Sense of Coherence Scale (SOC) (Antonovsky, 1993). The three measures were chosen because of their relevance to the
theoretical definitions of the dimensions described in the literature review and for the resemblance of scale items to those included in the PMP, LRI, and SOC.

**Daily stress.** Daily stress was measured through the Daily Inventory of Stressful Events (DISE; Almeida, Wethington, & Kessler, 2002). The DISE is a 7-item scale comprised of questions relating to the following types of daily stressors: having an argument, avoiding an argument, experiencing a stressful event at work or school, experiencing a stressful event at home, experiencing discrimination, experiencing disruption related to problems of friends or relatives, and experiencing any other bad event. The DISE assesses stressors in terms of number of stressful events and severity. To assess number of stressors, participants indicate whether they have experienced any of the stressors in the previous 24 hours. Participants are then asked to rate the severity of the stressors experienced on a 0 to 3 scale (0 = Not at all, 1 = Not very, 2 = Somewhat, 3 = Very). Total daily stress is calculated by adding severity ratings for each stressor, with higher scores indicating higher daily stress. The DISE was developed to address weaknesses in previous stress checklists that included confounding stressful events and emotional reactivity to events (Almeida, Wethington, & Kessler, 2002). In constructing the DISE, the authors selected items from existing stress measures and identified the final stem questions included through coding and narrative analysis (Almeida et al., 2002). The authors report interrater reliability of .95, and researchers have found the scale to be a valid measure of daily stress (Burrow, Sumner, & Ong, 2014; Mroczek & Almeida, 2004; Serido et al., 2004).
Psychological distress. The concept of psychological distress, operationalized as daily negative affect, was assessed through the Negative Affect Scale (NAS; Kessler et al., 2002; Mroczek & Almeida, 2004). The NAS is a 14-item scale developed for the NSDE II from existing, valid measures including the Non-Specific Psychological Distress Scale (Kessler et al., 2002) and the Positive and Negative Affect Scale (Watson, Clark, & Tellegen, 1988). Respondents are asked to indicate how much of the time they have experienced the following emotions in the previous 24 hours: restlessness, nervousness, worthlessness, hopelessness, loneliness, fear, jitteriness, irritation, shame, distress, anger and frustration. Additionally, respondents indicate how much of the time they felt “so sad nothing can cheer you up” and “everything was an effort”. Participants rated experiences on a 0 – 4 scale (0 = None of the time, 1 = A little of the time, 2 = Some of the time, 3 = Most of the time, 4 = All the time). Total scores reflect daily psychological distress, with higher scores indicating higher negative affect. Internal consistency is reported at .89 (Almeida et al., 2002).

Several studies have used the 14-item scale, reporting high validity and reliability. A recent study of daily activity and negative affect reported internal consistency of .95, indicating an excellent degree of reliability (Tighe, Dautovich, & Allen, 2015). The study also indicated strong convergent validity, where several factors that were hypothetically related to negative affect were found to have a significant relationship with the variable (Tighe, Dautovich, & Allen, 2015). Another study of daily stress and family support reported strong internal consistency for the measure (.91) and demonstrated good convergent validity with theoretically-related variables (Cichy, Stawski, & Almeida, 2014).
**Personal meaning.** The dimensions of personal meaning, operationalized as the motivational, affective, and cognitive components proposed by Reker and Wong (1988), was assessed through subscales of two MIDUS II instruments. The Purpose in Life subscale (PILS) of the Psychological Well-Being Scale (PWBS; Ryff, 1989) will be used to assess the motivational component of personal meaning. The PILS is comprised of seven statements such as, “I live life one day at a time and don’t really think about the future”. The scale includes reverse-coded questions (“I have a sense of direction and purpose in life”). The PILS is scored on a seven-point scale (1 = Strongly disagree, 2 = Somewhat disagree, 3 = A little disagree; 4 = Neither agree nor disagree, 5 = A little agree, 6 = Somewhat agree, and 7 = Strongly agree). Higher scores indicate stronger sense of purpose in life. The author reports good internal consistency (.72), and scholars have noted that the subscale demonstrates good construct and convergent validity with other measures (MacDonald, Gingras, & Wong, 2012; Morgan & Farsides, 2009; Ryff, 1989).

The Self-Acceptance Subscale (SAS) of the PWBS (Ryff, 1989) was used to evaluate the affective component of personal meaning. The SAS is a seven-item scale that assesses feelings of satisfaction and acceptance about one’s life and is comprised of statements such as, “I feel like many of the people I know have gotten more out of life than I have”. Reverse-coded questions are also included: “When I look at the story of my life, I am pleased with how things have turned out”. As with the PILS, the SAS is scored on a seven-point scale (1 = Strongly agree, 7 = Strongly disagree) where higher scores indicate stronger sense of
affective meaning in terms of acceptance and satisfaction with life. Internal consistency for the SAS is .84 (Ryff, 1989).

The Compensatory Secondary Control – Self Protection subscale (SPS) of the Primary and Secondary Control Scale (PSCS; Wrosch, Heckhausen, & Lachman, 2000) was used to assess the cognitive component of personal meaning. The PSCS is a measure designed to evaluate the ways in which adults manage age-related life changes. The SPS subscale is comprised of five items that assess the respondent’s use of cognitive strategies such as reappraisal and benefit-finding to manage stressful events (“I find I usually learn something meaningful from a difficult situation”; “When I am faced with a bad situation, it helps to find a different way of looking at things”). Respondents indicate to what degree the statements describe them using a 1 to 4 scale (1 = A lot, 2 = Some, 3 = A little, 4 = Not at all). Higher scores indicate a stronger sense of cognitive meaning in terms of use of reappraisal and benefit-finding. The internal consistency of the subscale is .73 (Wrosch, Heckhausen, & Lachman, 2000).

Control variables. Based on previous research and relevant literature, the following demographic control variables were identified and included in analysis: gender, race, marital status, education, employment status, and income. In addition, neuroticism, a personality trait associated with dispositional negative affect, was also included as a control variable. Neuroticism was added to avoid confounding with daily psychological distress, which is the state form of negative affect (Watson et al., 1992). For the MIDUS II, trait neuroticism was measured by asking respondents to rate how well four adjectives (moody, worrying, nervous,
calm) described them. Respondents rated items on a one to four scale (1 = a lot, 4 = Not at all). Internal consistency for the neuroticism scale in the MIDUS II sample is .71 (Kessler et al., 2002).

Data Analysis Plan

The following research questions were addressed in the data analysis plan:

1. Does personal meaning explain differences in psychological distress, operationalized as daily negative affect, in adults at midlife?

2. Which dimensions of personal meaning are significant to the prediction of psychological distress?

3. Does personal meaning explain differences in daily stressor appraisal, in terms of severity of stressors?

4. Which dimensions of personal meaning are significant to the prediction of daily stress appraisal, in terms of severity of stressors?

5. Does personal meaning moderate the relationship between the severity of daily stressors and psychological distress in adults at midlife?

Research question 1. Does personal meaning explain differences in psychological distress, operationalized as daily negative affect, in adults at midlife?

To address research question 1, blocked multiple regression analysis was conducted to assess whether the three dimensions of personal meaning predict differences in daily psychological distress. In this analysis, the predictor variables correspond to the subscales of personal meaning, including the motivational dimension (measured through the PILS), the
affective dimension (measured through the SAS), and the cognitive dimension (measured through the SPS). The criterion variable corresponds to psychological distress, as measured by the Negative Affect Scale from the DISE. Additionally, gender, race, marital status, education, employment status, income, and neuroticism were included as control variables.

In multiple linear regression, the $F$ test is first conducted to assess whether the set of predictor variables collectively predict the criterion variable. The coefficient of determination, or $R^2$, indicates how much variance in affective responses to daily stressors can be accounted for by the personal meaning subscales.

Multiple linear regression is conducted under three main assumptions, including normality, homoscedasticity, and an absence of multicollinearity. The assumption of normality means there is a normal distribution of error between the predicted and actual values of the dependent variable (Urdan, 2010). This assumption can be assessed through visual examination of a normal probability plot, where normality can be assumed if data clusters close to a hypothetical normality line (Maroof, 2012). The assumption of homoscedasticity is that data are equally distributed about the line of best fit and can be assessed through visual examination of a scatterplot of the residuals. If the data displayed in this plot generally follow a rectangular shape with no distinct pattern, homoscedasticity can be assumed (Maroof, 2012). Absence of multicollinearity is the assumption that the predictor variables are not too closely correlated. This assumption is assessed using Variance Inflation Factors (VIF), which detect multicollinearity and quantify the amount of inflation. VIF
values above 10 indicate high multicollinearity and may warrant further examination (Gordon, 2010).

**Research question 2.** Which dimensions of personal meaning are significant to the prediction of psychological distress?

Research question 2 is an examination of the specific predictors from research question 1. As the results of research question 1 indicated that the combination of all three personal meaning scales predicted psychological distress, this research question guided the examination of the individual predictors. In this analysis, t tests indicated the degree that each predictor’s beta value, or individual relationship with the outcome, was different from zero. For significant predictors, the beta coefficient explained the extent to which each individual predictor corresponded with the criterion variable, using the slope (Urdan, 2010). Among the significant predictors, the unstandardized beta provided the value of increase or decrease in the outcome variable that corresponded with a single unit increase in the predictor variable’s value. By assessing the assumptions of the regression in research question 1, all of the assumptions of the t tests conducted in this stage of analysis were also assessed. As such, a successful regression analysis in research question 1 meant that individual predictors could be assessed with validity.

**Research question 3.** Does personal meaning explain differences in daily stressor appraisal, in terms of severity of stressors?

To inform research question 3, a second blocked multiple regression was conducted. As in research question 1, the motivational dimension (measured from the PILS), affective
dimension (measured from the SAS), and cognitive dimension (measured from the SPS) of personal meaning were the predictor variables. Again, demographic variables and neuroticism were entered as control variables. Different from the first regression, this analysis predicted daily stressor appraisals, which is an overall score measuring participants’ severity ratings of daily stressors experienced in the previous 24 hours. The $F$ test for this analysis determined whether the dimensions of personal meaning related to participants’ severity ratings of daily stressors. The assumptions of normality, homoscedasticity, and absence of multicollinearity were assessed using scatterplots and examination of VIF values, as outlined in research question 1.

**Research question 4.** Which dimensions of personal meaning are significant to the prediction of daily stress appraisal, in terms of severity of stressors?

Research question 4 focused on the specific subscales of personal meaning and determined whether the dimensions were significant to the prediction of daily stress appraisal. The analysis of these dimensions was appropriate only if the regression of daily stress appraisal on personal meaning was significant. In this case, the three predictor variables were examined using one $t$ test for each. For any of the personal meaning dimensions found to be significant to the prediction of daily stress appraisal, the $B$ value would provide insight to this relationship. A negative $B$ value suggests an inverse relationship, where higher levels of the personal meaning dimension correspond with lower levels of daily stressor appraisal. Conversely, a positive $B$ value suggests a direct relationship, where higher personal meaning corresponds with a higher appraisal of stressors.
Research question 5. Does personal meaning moderate the relationship between the severity of daily stressors and psychological distress in adults at midlife?

To examine research question 5, a final blocked multiple regression was conducted. This analysis examined the subscales of personal meaning found to be significant in the analyses of research questions 1 through 4 and determined whether a significant relationship existed between daily stressor appraisal and psychological distress. Additionally, the analysis examined whether this potential relationship changed based on participants’ scores on the personal meaning scales of interest, as identified by research questions 2 and 4. The purpose of this analysis was to determine whether dimensions of personal meaning demonstrated a buffering effect on the relationship between appraisals of daily stress and psychological distress.

In step 1 of the regression, the direct relationship between daily stress appraisal and psychological distress was assessed. This relationship served as a baseline and was examined for changes based on the three personal meaning scale scores. Because this was the central relationship, the moderation analysis would be considered meaningless if there were no significance (Baron & Kenny, 1986). Finding a significant relationship between daily stress appraisal and psychological distress, the moderation analysis of personal meaning was conducted. To examine the moderating effect, the interaction between personal meaning and daily stress appraisal was calculated. In this calculation, personal meaning scores were centered to have a standard deviation of one and a mean of zero, and this centered score was multiplied with daily stress appraisal.
In step 2 of the regression, the significant personal meaning scales from research questions 2 and 4 were entered into the regression to determine how much variability in distress scores was explained by the daily stress and the personal meaning scales. This step was intended to control for the direct effects of personal meaning so that the interaction terms created for this analysis could be examined while accounting for these direct effects. In step 3, interaction terms were entered into the regression to determine the potential buffering effects of the personal meaning dimensions in the relationship between daily stress and psychological distress.

**Summary**

In summary, the current study used a quantitative correlational design to examine relationships between the variables of interest. Using existing data from the MIDUS II and NSDE II, blocked multiple regressions were conducted to determine whether significant relationships exist between three dimensions of personal meaning and perceptions of daily stress and psychological distress. Analysis of the individual dimensions of personal meaning were conducted to determine the extent to which each dimension was significant to the prediction of daily stress and psychological distress. A final analysis was conducted to determine whether personal meaning moderated the relationship between perceptions of daily stress and psychological distress.
CHAPTER 4: RESULTS

The following chapter provides an account of the statistical findings and data analyses conducted to examine relationships among the variables of daily stress, psychological distress, and personal meaning. The chapter begins with a description of how the existing data sets from the MIDUS II and NSDE II were combined and cleaned, followed by a summary of the final sample demographics and a description of correlations between all study variables. Results are reported in terms of the research questions and include a discussion of assumption testing as well as the results for each blocked multiple regression.

Data Cleaning

Data cleaning consisted of matching participants from the MIDUS II and NSDE II datasets based on the unique identifier used by the original data collector. Repeat observations from either dataset were removed for perfect 1:1 matching. After combining these datasets based on the unique identifier, it was determined that some participants provided data at MIDUS II but not NSDE II, or vice versa. These participants were removed from the dataset based on their missing data. Next, the inclusion criterion was implemented, which excluded participants outside of the age range of 40 to 59. Finally, participants with missing data for any of the variables of interest were removed in a list-wise fashion for use in Stata. List-wise deletion is commonly used for handling missing data, and the large sample size in the current study mitigated potential problems of reduced statistical power associated with this method (Tabachnick & Fidell, 2007). After cleaning the data for observations with any missing responses on the variables of interest, the final n was 537.
Scores were then calculated for the variables of interest. These variables included psychological distress, which was calculated as the mean of 14 items, and daily stress, which was calculated as the mean of 7 items measuring the severity of seven specific stressors, as listed in Chapter 3. The personal meaning scales for motivational meaning (PILS), affective meaning (SAS), and cognitive (SPS) were already calculated by the MIDUS data collectors. In addition, dummy coding was performed on the variables of race and marital status; however, due to the unequal group sizes, these variables were treated as dichotomous, and referenced against a minority group. For race, the variable was coded as white (ref: other) and for marital status, the variable was coded as married (ref: other).

**Description of the Sample**

Of the final sample of 537, a slight majority was female ($n = 285, 53.1\%$). As indicated in the dummy coding explanation above, a large majority of the participants were Caucasian ($n = 511, 95.2\%$), while only 16 (3.0\%) were African American, 8 (1.5\%) were Native American/Alaska Native Aleutian Islander/Eskimo, and 2 (0.4\%) were Asian. Again, per the dummy coding, a great majority of participants were married ($n = 406, 75.6\%$). Education levels were slightly more variable, though a large portion of the sample had either a high school level education ($n = 108, 20.1\%$) or a 4 or 5-year college degree ($n = 126, 23.5\%$). Of the sampled participants, most ($n = 362, 67.4\%$) were working at the time of the survey. The frequencies and percentages of the participants’ demographic characteristics are presented in Table 1.
Table 1

*Frequencies and Percentages of Demographic Characteristics (N = 537)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
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<td>46.9</td>
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<tr>
<td>Female</td>
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<td>0.4</td>
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<td>2.4</td>
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<td>2.0</td>
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<tr>
<td>GED</td>
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<td>High school graduate</td>
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<td>20.1</td>
</tr>
<tr>
<td>1 to 2 years of college</td>
<td>96</td>
<td>17.9</td>
</tr>
<tr>
<td>3 or more years of college, no degree</td>
<td>15</td>
<td>2.8</td>
</tr>
<tr>
<td>Graduated from a 2-year / vocational / or associate’s degree</td>
<td>40</td>
<td>7.4</td>
</tr>
<tr>
<td>Graduated from 4 or 5-year / bachelor’s degree</td>
<td>126</td>
<td>23.5</td>
</tr>
<tr>
<td>Some graduate school</td>
<td>25</td>
<td>4.7</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>86</td>
<td>16.0</td>
</tr>
<tr>
<td>PhD, ED.D, MD, DDS, LLB, LLD, JD, or other</td>
<td>27</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Currently Working</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>326</td>
<td>67.4</td>
</tr>
<tr>
<td>No</td>
<td>174</td>
<td>32.4</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Means and standard deviations for each of the continuous scales were calculated.

Motivational meaning scores, measured by the Purpose in Life Scale (PILS), ranged from 10 to 49, with an average of 38.69. Affective meaning scores, measured by the Self-Acceptance
Scale (SAS), ranged from 8 to 49, with an average of 37.24. These scales were both derived from the Positive Well-Being scale and thus have the same upper and lower bounds. Cognitive meaning scores, measured by the Self-Protection Scale (SPS), were derived from the Primary and Secondary Control Scale and were not comparable to other meaning scores; the minimum and maximum for this scale were 1.4 and 4 respectively, with an average of 2.98. Daily stress scores, measured as the mean perceived severity of seven daily stressors, had a mean of 1.77 out of a possible 3, where 3 represents the upper bound (i.e., very). Income levels ranged from 0 to 200,000, with an average income of 49,060.99. As determined by the inclusion criterion, ages ranged from 40 to 59, and the sample’s average age was 49.67. Descriptive statistics and standard deviations are presented in Table 2.

Table 2

<table>
<thead>
<tr>
<th>Continuous Variables</th>
<th>Min.</th>
<th>Max.</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILS-Motivational</td>
<td>10</td>
<td>49</td>
<td>38.69</td>
<td>7.12</td>
</tr>
<tr>
<td>SAS-Affective</td>
<td>8</td>
<td>49</td>
<td>37.24</td>
<td>9.06</td>
</tr>
<tr>
<td>SPS-Cognitive</td>
<td>1.4</td>
<td>4</td>
<td>2.98</td>
<td>0.57</td>
</tr>
<tr>
<td>Daily Stress</td>
<td>0</td>
<td>3</td>
<td>1.77</td>
<td>0.76</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>0</td>
<td>3.43</td>
<td>0.41</td>
<td>0.46</td>
</tr>
<tr>
<td>Household income</td>
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<td>200000</td>
<td>49,060.99</td>
<td>42016.10</td>
</tr>
<tr>
<td>Age</td>
<td>40</td>
<td>59</td>
<td>49.67</td>
<td>5.60</td>
</tr>
</tbody>
</table>

Preliminary Analysis

To examine the potential for correlations among the study variables, a correlation matrix was conducted between the set of independent variables, control variables, and dependent variables. As seen in Table 3, only personal meaning-motivational (PILS-
Motivational) personal meaning-affective (SAS-Affective) had a large correlation ($r^2 = .72$). This indicated that it would not be likely to find issues of multicollinearity in the study regressions, though variance inflation factors (VIFs) were still assessed in response to each regression. In the correlation matrix, a coefficient of .80 or greater would be cause for concern in terms of multicollinearity, while any variables with coefficients between .30 and .50 indicate a medium strength relationship, and any above .50 exhibit a strong relationship (Urdan, 2010).

**Research Question One**

For research questions 1 and 2, a blocked multiple regression was conducted to determine if a significant relationship exists between psychological distress and the variables of interest, which included the control measures and personal meaning scales. Control measures included neuroticism and the following demographics: gender, race, marital status, education, employment status, age, and income. In step one, the control variables were added into the regression. In step two, the control variables and three independent variables (personal meaning-motivational, personal meaning-affective, personal meaning-cognitive) were entered into the regression to see if a significant relationship exists. Before this analysis was conducted, two assumptions were considered.

**Assumption Testing**

The first assumption of the regression analysis is homoscedasticity. The assumption
Table 3

*Correlation Matrix Between all Study Variables*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td>1</td>
<td>Psych Distress</td>
<td>-</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>Daily stress</td>
<td>.35*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Gender</td>
<td>.08</td>
<td>.16*</td>
<td>-</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Race</td>
<td>-.03</td>
<td>-.06</td>
<td>-.06</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Marital status</td>
<td>-.11*</td>
<td>-.15*</td>
<td>-.12*</td>
<td>.03</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Education</td>
<td>-.07</td>
<td>-.08</td>
<td>-.03</td>
<td>-.01</td>
<td>.00</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Employment</td>
<td>.12*</td>
<td>.06</td>
<td>.03</td>
<td>.03</td>
<td>-.01</td>
<td>-.15*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Age</td>
<td>-.08</td>
<td>-.08</td>
<td>.06</td>
<td>.03</td>
<td>-.03</td>
<td>.02</td>
<td>.12*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Income</td>
<td>-.13*</td>
<td>-.17*</td>
<td>-.33*</td>
<td>.07</td>
<td>.09*</td>
<td>.34*</td>
<td>-.19*</td>
<td>.05</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Neuroticism</td>
<td>.36*</td>
<td>.22*</td>
<td>.04*</td>
<td>-.01</td>
<td>-.12*</td>
<td>-.12*</td>
<td>.03</td>
<td>-.14*</td>
<td>-.09*</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>PILS-Motivational</td>
<td>-.33*</td>
<td>-.20*</td>
<td>-.03</td>
<td>-.03</td>
<td>.18*</td>
<td>.20*</td>
<td>-.06</td>
<td>.05</td>
<td>.17*</td>
<td>-.36*</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>SAS-Affective</td>
<td>-.36*</td>
<td>-.22*</td>
<td>-.05</td>
<td>.00</td>
<td>.18*</td>
<td>.22*</td>
<td>-.05</td>
<td>.12*</td>
<td>.21*</td>
<td>-.44*</td>
<td>.72*</td>
</tr>
<tr>
<td>13</td>
<td>SPS-Cognitive</td>
<td>-.19*</td>
<td>-.14*</td>
<td>.08</td>
<td>-.03</td>
<td>.04</td>
<td>.09*</td>
<td>.06*</td>
<td>.19*</td>
<td>.02</td>
<td>-.34*</td>
<td>.39*</td>
</tr>
</tbody>
</table>

of homoscedasticity was assessed through examination of a scatterplot of the standardized 
residuals against the fitted values. The second assumption of normality was addressed 
through the examination of a normal P-P Plot. When an analysis meets the assumption, the 
chances for making Type I and Type II errors are reduced, which can improve the accuracy 
of the research findings. As seen in Figure 1, the standardized residual plot did not show a 
harmful degree of patterning, and the normal P-P plot deviated slightly from the perfect 
normality line. However, the P-P plot tends to exaggerate deviations toward the center of the 
line. Although this slight deviation was found in the center of the line, Stevens (2016) 
suggested that normality is typically not problematic when sample sizes exceed 50. As such, 
the analysis was conducted as proposed. Multicollinearity was assessed using VIFs. 
According to Stevens (2016), VIFs should not exceed 10, and a VIF of 5 or greater can be a 
cause for concern for multicollinearity. In the model, none of the model’s VIFs exceeded 5, 
meaning the assumption of an absence of multicollinearity was met.

Figure 1. Residual Scatterplot and Normal P-P Plot for Regression of Psychological Distress
Results for the overall model of the blocked multiple regression indicated that the combination of (a) the control variables, and (b) the control variables and personal meaning scales did result in a significantly predictive model (step 1: \( F(8, 528) = 11.76, p < .001, R^2 = .14 \), step 2: \( F(11, 525) = 12.10, p < .001, R^2 = .19 \)). The \( R^2 \) value suggested that approximately 19% of the variability in psychological distress can be explained by the set of control variables and predictor variables in the final model. By calculating the difference in \( R^2 \), the addition of the personal meaning scales accounted for 5% more variance in psychological distress scores than the control variables alone. As seen in Table 4, the null hypothesis (H01) for research question 1 can be rejected. Based on the results of the overall regression ANOVA, the individual predictors were examined further.

Table 4

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Adj. ( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>17.42</td>
<td>8</td>
<td>2.18</td>
<td>.14</td>
</tr>
<tr>
<td>Residual</td>
<td>97.78</td>
<td>528</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td>.19</td>
</tr>
<tr>
<td>Model</td>
<td>23.29</td>
<td>11</td>
<td>2.12</td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>91.90</td>
<td>525</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
<td></td>
</tr>
</tbody>
</table>
Research Question Two

Because the overall regression in research question 1 was significant, the individual predictors were examined further. The focus of research question 2 was to assess the three personal meaning scales in particular. Results of the individual $t$ tests on each predictor’s beta value indicated that, after controlling for the influence of the control variables, both personal meaning-motivational ($t = -2.56, p = .011$) and personal meaning-affective ($t = -2.24, p = .025$) were significant predictors. Personal meaning-cognitive ($t = 0.21, p = .935$) was not significant. Examination of the beta estimates indicated that a one-unit increase in personal meaning-motivational corresponded with a 0.01 unit decrease in distress; similarly, a one-unit increase in personal meaning-affective corresponded with a 0.01 unit decrease in distress. Table 5 includes the full details for each predictor in steps 1 and 2.

Table 5

Results for Motivational, Affective, and Cognitive Personal Meaning Dimensions Predicting Psychological Distress

<table>
<thead>
<tr>
<th>Variables</th>
<th>$B$</th>
<th>$SE$</th>
<th>$t$</th>
<th>$p$</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (ref: male)</td>
<td>0.03</td>
<td>0.04</td>
<td>0.80</td>
<td>.425</td>
<td>-0.05</td>
<td>0.11</td>
</tr>
<tr>
<td>White (ref: other)</td>
<td>-0.04</td>
<td>0.09</td>
<td>-0.51</td>
<td>.611</td>
<td>-0.22</td>
<td>0.13</td>
</tr>
<tr>
<td>Married (ref: other)</td>
<td>-0.06</td>
<td>0.04</td>
<td>-1.33</td>
<td>.183</td>
<td>-0.14</td>
<td>0.03</td>
</tr>
<tr>
<td>Education</td>
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<td>0.01</td>
<td>0.37</td>
<td>.711</td>
<td>-0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Employed (ref: other)</td>
<td>0.09</td>
<td>0.04</td>
<td>2.38</td>
<td>.018*</td>
<td>0.02</td>
<td>0.16</td>
</tr>
<tr>
<td>Age</td>
<td>0.00</td>
<td>0.00</td>
<td>-1.04</td>
<td>.300</td>
<td>-0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Household income</td>
<td>0.00</td>
<td>0.00</td>
<td>-1.55</td>
<td>.121</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Neuroticism Personality</td>
<td>0.20</td>
<td>0.02</td>
<td>8.12</td>
<td>&lt; .001**</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Constant</td>
<td>0.09</td>
<td>0.22</td>
<td>0.40</td>
<td>.689</td>
<td>-0.35</td>
<td>0.53</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (ref: male)</td>
<td>0.04</td>
<td>0.04</td>
<td>1.00</td>
<td>.318</td>
<td>-0.04</td>
<td>0.12</td>
</tr>
</tbody>
</table>
Research Question Three

For research questions 3 and 4, a second blocked multiple regression was conducted to determine if a significant relationship exists between daily stress appraisals and the personal meaning scales. Again, neuroticism and demographic measures (i.e., gender, race, marital status, education, employment status, age, and income) were included as control variables. In step one, the control variables were added into the regression. In step two the control variables and three independent variables (personal meaning-motivational, personal meaning-affective, personal meaning-cognitive) were entered into the regression. Before analyzing the relationships, assumption testing was conducted.

Assumption Testing

Assumption tests were conducted in the same manner as the previous regression using a standardized residual plot and a normal P-P plot. As seen in Figure 2, the standardized...
residual plot did not show a harmful degree of patterning, and the normal P-P plot deviated slightly from the perfect normality line. As previously noted, normality is typically not problematic when sample sizes exceed 50 (Stevens, 2016), and as such, the analysis was conducted as proposed. As in research question 1, multicollinearity was assessed using VIFs. Again, none of the model’s VIFs approached 5, meaning the assumption of an absence of multicollinearity was met.

*Figure 2. Residual Scatterplot and Normal P-P Plot for Regression of Daily Stress*

Results for the overall model of the blocked multiple regression indicated that the linear combination of (a) the control variables, and (b) the control variables and personal meaning scales did result in a significantly predictive model (step 1: \( F(8, 528) = 7.34, p < .001, R^2 = .09 \), step 2: \( F(11, 525) = 6.06, p < .001, R^2 = .09 \)). The \( R^2 \) value suggested that there was almost no change in the variability in daily stress explained by the set of control variables and predictor variables in the final model. As seen in Table 6, the null hypothesis (H02) for research question 2 can be rejected. Although the degree of change in the \( R^2 \) value
(0%) suggested that the addition of the personal meaning scales did not account for additional variance in the model, the personal meaning scales were assessed further to determine whether any were significant to the prediction of daily stress.

Table 6

ANOVA Results for Blocked Multiple Regression of Daily Stress

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Adj. $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>30.61</td>
<td>8</td>
<td>3.83</td>
<td>.09</td>
</tr>
<tr>
<td>Residual</td>
<td>275.10</td>
<td>528</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>305.71</td>
<td>536</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td>.09</td>
</tr>
<tr>
<td>Model</td>
<td>34.42</td>
<td>11</td>
<td>3.13</td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>271.29</td>
<td>525</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>305.71</td>
<td>536</td>
<td>0.57</td>
<td></td>
</tr>
</tbody>
</table>

Research Question Four

Because the overall regression in research question 3 was significant, the individual predictors were examined further to determine whether any of the significance of the overall ANOVA was due to the personal meaning scales. Results of the individual $t$ tests on each predictor’s beta value indicated that, after controlling for the influence of the control variables, none of the personal meaning scales were significant predictors (i.e., $p > .05$ for all). As such, none of the personal meaning scales had meaningful beta values, and these were not interpreted. Table 7 includes the full details for each predictor in steps 1 and 2.
Table 7

Results for Motivational, Affective, and Cognitive Personal Meaning Dimensions Predicting Daily Stress

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (ref: male)</td>
<td>0.18</td>
<td>0.07</td>
<td>2.67</td>
<td>.008*</td>
<td>0.05</td>
<td>0.31</td>
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<td>-1.06</td>
<td>.290</td>
<td>-0.44</td>
<td>0.13</td>
</tr>
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<td>Married (ref: other)</td>
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<td>0.07</td>
<td>-2.42</td>
<td>.016*</td>
<td>-0.32</td>
<td>-0.03</td>
</tr>
<tr>
<td>Education</td>
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<td>0.01</td>
<td>-0.39</td>
<td>.695</td>
<td>-0.03</td>
<td>0.02</td>
</tr>
<tr>
<td>Employed (ref: other)</td>
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<td>0.06</td>
<td>0.81</td>
<td>.417</td>
<td>-0.07</td>
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<td>0.01</td>
<td>-1.42</td>
<td>.155</td>
<td>-0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Household income</td>
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<td>-1.80</td>
<td>.072</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Neuroticism</td>
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<td>4.36</td>
<td>&lt;.001**</td>
<td>0.10</td>
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</tr>
<tr>
<td>Constant</td>
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<td>1.11</td>
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</tr>
<tr>
<td>Step 2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (ref: male)</td>
<td>0.19</td>
<td>0.07</td>
<td>2.83</td>
<td>.005*</td>
<td>0.06</td>
<td>0.32</td>
</tr>
<tr>
<td>White (ref: other)</td>
<td>-0.17</td>
<td>0.15</td>
<td>-1.19</td>
<td>.236</td>
<td>-0.46</td>
<td>0.11</td>
</tr>
<tr>
<td>Married (ref: other)</td>
<td>-0.15</td>
<td>0.07</td>
<td>-2.03</td>
<td>.043*</td>
<td>-0.30</td>
<td>0.00</td>
</tr>
<tr>
<td>Education</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.02</td>
<td>.986</td>
<td>-0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Employed (ref: other)</td>
<td>0.05</td>
<td>0.06</td>
<td>0.86</td>
<td>.390</td>
<td>-0.07</td>
<td>0.17</td>
</tr>
<tr>
<td>Age</td>
<td>-0.01</td>
<td>0.01</td>
<td>-1.21</td>
<td>.225</td>
<td>-0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Household income</td>
<td>0.00</td>
<td>0.00</td>
<td>-1.53</td>
<td>.126</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>0.13</td>
<td>0.05</td>
<td>2.84</td>
<td>.005*</td>
<td>0.04</td>
<td>0.22</td>
</tr>
<tr>
<td>PILS-Motivational</td>
<td>-0.01</td>
<td>0.01</td>
<td>-1.11</td>
<td>.269</td>
<td>-0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>SAS-Affective</td>
<td>0.00</td>
<td>0.005</td>
<td>-0.67</td>
<td>.502</td>
<td>-0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>SPS-Cognitive</td>
<td>-0.06</td>
<td>0.065</td>
<td>-0.9</td>
<td>.371</td>
<td>-0.19</td>
<td>0.07</td>
</tr>
<tr>
<td>Constant</td>
<td>2.41</td>
<td>0.432</td>
<td>5.57</td>
<td>&lt;.001</td>
<td>1.56</td>
<td>3.26</td>
</tr>
</tbody>
</table>

*p < .05; **p < .001

Note. PILS-Motivational = Motivational personal meaning dimension as measured by Purpose in Life Scale. SAS-Affective = Affective personal meaning dimension as measured by Self-Acceptance Scale. SPS-Cognitive = Cognitive personal meaning dimension as measured by Self Protection Scale.

Research Question Five

Research question five assessed the moderating effect of personal meaning in the relationship between daily stress appraisals and psychological distress. Because personal
meaning-motivational (PILS-Motivational) and personal meaning-affective (SAS-Affective) were both significant in research question 2, these were selected as the focus of this research question. To determine the moderating effects, Baron and Kenny’s (1986) moderation analysis was conducted, which begins with the assessment of the relationship between the independent variable, daily stress, and dependent variable, psychological distress. As such, this blocked multiple regression was conducted in three steps. In step 1, the control variables (i.e., neuroticism and demographic variables) were entered into a regression predicting psychological distress. In step 2, the independent variable (i.e., daily stress) and the moderators (i.e., personal meaning-motivational and personal meaning-affective) were entered. In the final step, the interaction terms for both personal meaning-motivational and personal meaning-affective were entered. If the interaction term for the moderator is significant, moderation is supported for that scale of personal meaning.

**Assumption Testing**

As in the previous regression analyses, the assumptions of homoscedasticity and normality were assessed using scatterplots (Figure 3). For this regression, the standardized residual plot showed the same results as the previous two and indicated that homoscedasticity was met. Similarly, the normal P-P plot indicated only a slight deviation from normality, which is exaggerated toward the middle of the normal line.
The first step in the regression controlled for the covariates (i.e., neuroticism and demographic variables) and their relationship with the dependent variable, psychological distress. Step one was significant; $F(8, 528) = 11.76, p < .001, R^2 = .14$. Step 1, which is identical to step 1 included in Table 5, was suppressed in Table 9 for concision. Step 2 of the regression was also significant, indicating that the addition of the independent variable (i.e., daily stress) and moderators (i.e., personal meaning-motivational and personal meaning-affective) provides a significantly predictive model of psychological distress; $F(11, 525) = 16.42, p < .001, R^2 = .24$. This relationship acts as a baseline to examine the degree in which personal meaning-motivational and personal meaning-affective moderate the relationship between daily stress and psychological distress, while controlling for the direct effect of the independent variable and moderators (Baron & Kenny, 1986). The analysis completed in step 2 also indicated that the moderators and independent variable accounted for an additional 10% of the variability in psychological distress when compared to the control variables.
alone. The final regression equation was completed in step 3, and was also significant, $F(13, 523) = 14.65, p < .001, R^2 = .25$, which allowed the researcher to assess the individual predictors further and to determine whether moderation could be supported for personal meaning-motivational and personal meaning-affective. Table 8 displays the ANOVA results of these three steps.

Table 8

ANOVA Results for Blocked Multiple Regression of Psychological Distress for Moderation Analysis

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Adj. $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Model</td>
<td>17.42</td>
<td>8</td>
<td>2.18</td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>97.78</td>
<td>528</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
<td></td>
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<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td>.24</td>
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<td>Model</td>
<td>29.49</td>
<td>11</td>
<td>2.68</td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>85.71</td>
<td>525</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td>.25</td>
</tr>
<tr>
<td>Model</td>
<td>30.75</td>
<td>13</td>
<td>2.37</td>
<td></td>
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<tr>
<td>Residual</td>
<td>84.44</td>
<td>523</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
<td></td>
</tr>
</tbody>
</table>

In the final step, the interaction terms were assessed for significance, thus indicating whether moderation could be supported for either personal meaning variable of interest. Neither interaction term was significant at the alpha of .05, suggesting that moderation could not be supported for either scale. This indicates that personal meaning-motivational and personal meaning-affective did not moderate the relationship between daily stress and
psychological distress. See Table 9 for the results of this moderation analysis. Step 1, which is identical to step 1 in Table 5, has been suppressed for simplicity.

Table 9

ANOVA Results for Blocked Multiple Regression of Personal Meaning Dimensions Moderating the Effect of Daily Stress on Psychological Distress

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (ref: male)</td>
<td>0.01</td>
<td>0.04</td>
<td>0.31</td>
<td>.757</td>
<td>-0.06</td>
</tr>
<tr>
<td>White (ref: other)</td>
<td>-0.04</td>
<td>0.08</td>
<td>-0.45</td>
<td>.656</td>
<td>-0.20</td>
</tr>
<tr>
<td>Married (ref: other)</td>
<td>0.00</td>
<td>0.04</td>
<td>0.08</td>
<td>.935</td>
<td>-0.08</td>
</tr>
<tr>
<td>Education</td>
<td>0.01</td>
<td>0.01</td>
<td>1.26</td>
<td>.207</td>
<td>-0.01</td>
</tr>
<tr>
<td>Employed (ref: other)</td>
<td>0.08</td>
<td>0.03</td>
<td>2.27</td>
<td>.023*</td>
<td>0.01</td>
</tr>
<tr>
<td>Age</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.52</td>
<td>.601</td>
<td>-0.01</td>
</tr>
<tr>
<td>Household income</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.52</td>
<td>.605</td>
<td>0.00</td>
</tr>
<tr>
<td>Neuroticism Personality Trait</td>
<td>0.12</td>
<td>0.03</td>
<td>4.69</td>
<td>&lt;.001*</td>
<td>0.07</td>
</tr>
<tr>
<td>Daily Stress</td>
<td>0.15</td>
<td>0.025</td>
<td>6.16</td>
<td>.001*</td>
<td>0.10</td>
</tr>
<tr>
<td>PILS-Motivational</td>
<td>-0.01</td>
<td>0.004</td>
<td>-2.33</td>
<td>.020*</td>
<td>-0.02</td>
</tr>
<tr>
<td>SAS-Affective</td>
<td>-0.01</td>
<td>0.003</td>
<td>-2.1</td>
<td>.037*</td>
<td>-0.01</td>
</tr>
<tr>
<td>Constant</td>
<td>0.36</td>
<td>0.244</td>
<td>1.49</td>
<td>.136</td>
<td>-0.12</td>
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<td>Step 3</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Female (ref: male)</td>
<td>0.01</td>
<td>0.04</td>
<td>0.15</td>
<td>.881</td>
<td>-0.07</td>
</tr>
<tr>
<td>White (ref: other)</td>
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<td>0.08</td>
<td>-0.60</td>
<td>.548</td>
<td>-0.21</td>
</tr>
<tr>
<td>Married (ref: other)</td>
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<td>0.04</td>
<td>0.05</td>
<td>.961</td>
<td>-0.08</td>
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Table 9 (continued)

<table>
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<tbody>
<tr>
<td></td>
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<td>0.01</td>
<td>1.15</td>
<td>0.51</td>
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<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02</td>
</tr>
<tr>
<td>Education</td>
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<td>0.03</td>
<td>1.95</td>
<td>0.05</td>
<td>0.25</td>
<td>-0.01</td>
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<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.13</td>
</tr>
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<td>Employed (ref: other)</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.34</td>
<td>0.736</td>
<td>-0.01</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Age</td>
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<td>0.00</td>
<td>-0.85</td>
<td>0.394</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Household income</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.85</td>
<td>0.394</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Neuroticism Personality Trait</td>
<td>0.11</td>
<td>0.03</td>
<td>4.52</td>
<td>&lt; .001*</td>
<td>0.06</td>
<td>&lt; .001*</td>
<td>0.10</td>
<td>0.20</td>
<td>0.10</td>
<td>0.00</td>
<td>0.16</td>
</tr>
<tr>
<td>Daily Stress</td>
<td>0.15</td>
<td>0.02</td>
<td>6.00</td>
<td>&lt; .001*</td>
<td>0.06</td>
<td>&lt; .001*</td>
<td>0.10</td>
<td>0.20</td>
<td>0.10</td>
<td>0.00</td>
<td>0.20</td>
</tr>
<tr>
<td>PILS-Motivational</td>
<td>0.01</td>
<td>0.009</td>
<td>0.67</td>
<td>0.504</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>SAS-Affective</td>
<td>0.00</td>
<td>0.007</td>
<td>-0.3</td>
<td>0.762</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Daily stress * PILS- Motivational</td>
<td>-0.01</td>
<td>0.004</td>
<td>-1.73</td>
<td>0.83</td>
<td>-0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Daily stress * SAS-Affective</td>
<td>0.00</td>
<td>0.003</td>
<td>-0.62</td>
<td>0.539</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.32</td>
<td>0.35</td>
<td>-0.94</td>
<td>0.348</td>
<td>-1.01</td>
<td>0.35</td>
<td>-0.35</td>
<td>0.35</td>
<td>-0.35</td>
<td>-0.35</td>
<td>-0.35</td>
</tr>
</tbody>
</table>

*p < .05; **p < .001. Note. PILS-Motivational = Motivational personal meaning dimension as measured by Purpose in Life Scale. SAS-Affective = Affective personal meaning dimension as measured by Self-Acceptance Scale. SPS-Cognitive = Cognitive personal meaning dimension as measured by Self Protection Scale.

**Additional Analysis**

After determining that personal meaning did not have a moderating effect when calculated in terms of individual dimensions of meaning, an exploratory analysis was conducted to determine potential moderating effects of personal meaning as a single composite factor. In this additional analysis, the scores for each personal meaning dimension were
averaged to create a composite personal meaning score. To determine the moderating effects, Baron and Kenny’s (1986) moderation analysis was conducted in the same manner as research question 5. Because neuroticism emerged as a consistently significant predictor in each of the previous regressions, it was added in the final step of the regression rather than in step 1. In step 1, the demographic control variables (excluding neuroticism) were entered into a regression predicting psychological distress. In step 2, the independent variable (i.e., daily stress appraisals) and the moderator (i.e., composite personal meaning score) were entered. In the third step, the interaction term for composite personal meaning was entered. In the final step, the covariate of neuroticism was added to determine how this covariate’s effect changed the significance of the moderator.

**Assumption Testing**

As in the previous regression analyses, the assumptions of homoscedasticity and normality were assessed using scatterplots. For this regression, the standardized residual plot showed the same results as the previous regressions, and indicated that homoscedasticity was met. Similarly, the normal P-P plot indicated only a slight deviation from normality, which is exaggerated toward the middle of the normal line. See Figure 4 for these plots. Multicollinearity was also assessed through the calculation of VIF values for the predictor variables in the final model. In this analysis, none of the variables showed high VIF values and indicated that multicollinearity was not problematic.
Step 1 of the regression controlled for the demographic variables and their relationship with psychological distress and was significant; $F(7, 529) = 3.57, p = .001, R^2 = .03$. Step 2 of the regression was also significant, indicating that the addition of the independent variable (i.e., daily stress) and the moderator (i.e., composite personal meaning score) provides a significantly predictive model of psychological distress; $F(9, 527) = 16.98, p < .001, R^2 = .21$. This relationship acts as a baseline to examine the degree to which personal meaning moderates the relationship, while controlling for the direct effect of the independent variable and moderator (Baron & Kenny, 1986). This analysis also indicated that the moderator and independent variable accounted for an additional 18% of the variability in psychological distress when compared to the control variables alone. The third step of the regression equation was also significant, $F(10, 526) = 16.32, p < .001, R^2 = .22$. The significant analysis permitted the researcher to further examine the individual predictors and to determine whether moderation could be supported for the new composite personal meaning score. In the final step, neuroticism was added and resulted in a slightly more
predictive model: \( F(11, 525) = 17.25, p < .001, R^2 = .25 \). Table 11 displays the ANOVA results of these four steps.

Table 10

ANOVA Results for Blocked Multiple Regression of Psychological Distress for Moderation Analysis

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Adj. ( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Model</td>
<td>5.20</td>
<td>7</td>
<td>0.74</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>110.00</td>
<td>529</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
</tr>
<tr>
<td>Step 2</td>
<td>Model</td>
<td>25.90</td>
<td>9</td>
<td>2.88</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>89.30</td>
<td>527</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
</tr>
<tr>
<td>Step 3</td>
<td>Model</td>
<td>27.28</td>
<td>10</td>
<td>2.73</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>87.91</td>
<td>526</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
</tr>
<tr>
<td>Step 4</td>
<td>Model</td>
<td>30.58</td>
<td>11</td>
<td>2.78</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>84.62</td>
<td>525</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>115.20</td>
<td>536</td>
<td>0.21</td>
</tr>
</tbody>
</table>

In the third and fourth step, the interaction term was assessed for significance, thus indicating whether moderation could be supported for the composite personal meaning variable. In the third step, the interaction term was significant \( t = -2.88, p = .001 \), lending support to the moderation effect of personal meaning on the relationship between daily stress and psychological distress. This interaction was further supported in step 4, where neuroticism was added as a final control variable. Though neuroticism was significant, the interaction term maintained significance as well \( t = -2.67, p = .011 \). Based on these
findings, moderation for the composite score of personal meaning was supported. See Table 11 for the results of this moderation analysis.

Table 11

*Results for Blocked Multiple Regression of Personal Meaning Moderating the Effect of Daily Stress on Psychological Distress*

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (ref: male)</td>
<td>0.04</td>
<td>0.04</td>
<td>0.89</td>
<td>.374</td>
<td>-0.04</td>
<td>0.12</td>
</tr>
<tr>
<td>White (ref: other)</td>
<td>-0.04</td>
<td>0.09</td>
<td>-0.48</td>
<td>.629</td>
<td>-0.22</td>
<td>0.14</td>
</tr>
<tr>
<td>Married (ref: other)</td>
<td>-0.10</td>
<td>0.05</td>
<td>-2.19</td>
<td>.029</td>
<td>-0.19</td>
<td>-0.01</td>
</tr>
<tr>
<td>Education</td>
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<td>.001*</td>
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<td>.001</td>
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<td>0.21</td>
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<td>-0.17</td>
<td>.871</td>
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<td>0.02</td>
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<tr>
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<td>0.00</td>
<td>-2.88</td>
<td>.001*</td>
<td>-0.02</td>
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Table 11 (continued)

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<td>.001*</td>
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<td>0.20</td>
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<td>0.02</td>
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<td>0.00</td>
<td>-2.67</td>
<td>.011*</td>
<td>-0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Neuroticism</td>
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<td>0.03</td>
<td>4.52</td>
<td>&lt;.001**</td>
<td>0.06</td>
<td>0.16</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.26</td>
<td>0.33</td>
<td>-0.78</td>
<td>.435</td>
<td>-0.91</td>
<td>0.39</td>
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</table>

*p < .05; **p < .001. Note. PMC = Personal meaning composite score.

To assess the influence of personal meaning on the relationship between daily stress and psychological distress, conditional effects were examined. Conditional effects, which describe how the relationship between two variables changes based on the value of a third, are a way of interpreting the influence of a moderator (Baron & Kenny, 1986). To examine conditional effects, participants were grouped based on their personal meaning score. Those with a score lower than the median (27.27) were considered low in terms of their personal meaning score, while those with a score higher than the median were considered high in personal meaning. After separating these two groups, one regression was conducted for either group. Among those in the low personal meaning group, daily stress was significant after controlling for all covariates and had a positive influence on psychological distress (t = 4.18, p < .001), where a one-unit increase in the daily stress variable corresponded with a 0.17 unit increase in psychological distress scores. This result is shown in Table 12. Among those in
the high personal meaning group, daily stress was also significantly predictive of psychological distress, but had a smaller effect. Among these participants, a single-unit increase in the daily stress variable corresponded with a 0.14 unit increase in psychological distress. This result is shown in Table 13. These findings indicate that daily psychological distress, as predicted by daily stress appraisals, varies at high and low personal meaning. For people with high personal meaning, the relationship between daily stress appraisals and psychological distress was weaker than it was for people with low personal meaning. These findings indicate that personal meaning buffers the relationship between daily stress appraisal and psychological distress. Though this moderating effect was significant (i.e., not likely due to chance alone), it was not a strong moderating effect. Additionally, examination of the neuroticism variable suggested that neuroticism had less influence on psychological distress among those with higher personal meaning scores.

Table 12

Regression of Daily Stress on Psychological Distress for Low Personal Meaning Group

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI Lower</th>
<th>95% CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (ref: male)</td>
<td>0.02</td>
<td>0.06</td>
<td>0.40</td>
<td>.692</td>
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<td>0.15</td>
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<td>.820</td>
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<td>-0.12</td>
<td>0.13</td>
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<td>0.03</td>
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<td>Age</td>
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<td>-0.22</td>
<td>.824</td>
<td>-0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Household income</td>
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<td>0.00</td>
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<td>.064</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
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<td>5.44</td>
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<td>0.13</td>
<td>0.27</td>
</tr>
<tr>
<td>Daily Stress</td>
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<td>0.04</td>
<td>4.18</td>
<td>&lt;.001**</td>
<td>0.09</td>
<td>0.26</td>
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<tr>
<td>Constant</td>
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<td>0.36</td>
<td>-1.08</td>
<td>.280</td>
<td>-1.11</td>
<td>0.32</td>
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</table>

*p < .05; **p < .001
Table 13

*Regression of Daily Stress on Psychological Distress for High Personal Meaning Group*

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
<th>Low</th>
<th>Upper</th>
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<td>0.05</td>
<td>-0.29</td>
<td>.770</td>
<td>-0.11 0.08</td>
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<td>-0.01 0.00</td>
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</tr>
<tr>
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<td>.801</td>
<td>0.00 0.00</td>
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<td>2.66</td>
<td>.008*</td>
<td>0.02 0.15</td>
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<td>0.03</td>
<td>4.77</td>
<td>&lt;.001**</td>
<td>0.08 0.20</td>
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<td>.943</td>
<td>-0.52 0.48</td>
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</table>

*p < .05; **p < .001

**Summary**

Chapter 4 focused on the correlational relationships between the personal meaning constructs and two psychological outcomes: perceptions of daily stress and psychological distress. Personal meaning-motivational and personal meaning-affective were found to have a negative association with psychological distress. However, none of the personal meaning constructs were found to have significant associations with perceptions of daily stress.

Research question 5 examined potential moderating effects of the personal meaning dimensions on the relationship between daily stress appraisals and psychological distress. A significant, positive association was found between daily stress perceptions and psychological distress, but the personal meaning dimensions did not emerge as statistically significant moderators of the daily stress perception-psychological distress relationship.

However, an additional analysis indicated that when calculated as a composite variable,
personal meaning moderated the relationship between daily stress and psychological distress. The results of the additional analysis showed that, among those with high levels of personal meaning, daily stress had less of an effect on daily affective responses than it did in the group with low personal meaning. In Chapter 5, these results will be expanded upon in terms of the existing research. In addition, the following chapter will provide an explanation of the limitations of this study, as well as implications for future practice and research.
CHAPTER 5: DISCUSSION

Prior research has determined that personal meaning is a beneficial coping resource that often serves as a buffer against psychological distress (Reker & Wong, 2012). To extend the research on stress and personal meaning, the current study examined associations between perceptions of daily stressors, psychological distress, and personal meaning in midlife adults using data from a national sample. The current chapter provides a discussion of the results within the context of relevant theory and research. Limitations and implications for future research and practice are also discussed.

Summary of Findings

Research question 1 examined the relationship between personal meaning and psychological distress. Based on previous research, it was hypothesized that the dimensions of personal meaning would predict psychological distress scores in the sample of midlife adults. In line with previous research, results of the current study indicated that personal meaning was a significant predictor of psychological distress. Research question 2 explored the unique contribution of each personal meaning dimension to the prediction of psychological distress. Of the specific dimensions of personal meaning, the motivational and affective dimensions were significant to the prediction of psychological distress. Research questions 3 and 4 examined associations between personal meaning and perceptions of daily stress. Based on a review of stress and meaning literature, it was hypothesized that the dimensions of personal meaning would predict perceptions of daily stress in the sample of midlife adults. The results indicated that none of the personal meaning dimensions were
significant to the prediction of daily stress. Of the control variables, neuroticism, gender, and marital status were significant predictors in daily stress perceptions. Research question 5 examined personal meaning as a moderator of the relationship between daily stress perceptions and psychological distress. It was hypothesized that the dimensions of personal meaning would moderate the relationship between daily stress perceptions and psychological distress. Daily stress appraisals were significantly associated with psychological distress, and neuroticism was also significant in the regression model. However, none of the personal meaning variables were found to have a significant interaction effect. An additional analysis was conducted to explore the potential moderating effect of personal meaning a single variable. When the dimensions of personal meaning were combined to form a composite factor, personal meaning was found to have a significant moderating effect on the daily stress-psychological distress relationship. The following discussion of the findings follows the order of the research questions.

**Personal Meaning and Psychological Distress**

Throughout literature, scholars have noted that personal meaning has significant bearing on emotional wellbeing (Reker & Wong, 2012). Research indicates personal meaning is inversely associated with psychological distress, such that an increase in level of personal meaning corresponds with a decrease in negative affective responses (Chamberlain & Zika, 1988; Steger, et al., 2009). Research question 1 aimed to extend existing research by examining the relationship between personal meaning and daily psychological distress within a sample of midlife adults.
In line with previous research, the current study found a significant, inverse relationship between personal meaning and daily psychological distress. Within the sample of midlife adults, higher personal meaning was associated with lower daily negative affect. This finding is notable for several reasons. Previous research of personal meaning has frequently utilized outcome measures that capture a stable, trait-like tendency toward pathological conditions such as depression, anxiety, and post-traumatic stress (Chamberlain & Zika, 1988; Debats et al., 1995; Mascaro & Rosen, 2005; Park & Ai, 2006). The current study assessed daily psychological distress, which refers to temporary feelings of anxiety, frustration, or sadness experienced in response to life events or stressors (Mroczek & Almeida, 2004). Given that it has already been established that personal meaning is inversely related to dispositional psychological distress, the significant relationship between personal meaning and state negative affect is novel. Additionally, this finding is important in light of research that indicates that midlife adults typically experience negative affect at a higher rate than do other age groups (Lachman, 2004). Discovering that personal meaning is significantly related to psychological distress suggests that personal meaning is relevant to daily mental health and may also be a health-promoting resource for midlife adults who are vulnerable to daily negative affect.

The findings of the current analysis are also notable in that they addressed a need for further research in midlife populations. Across literature pertaining to personal meaning and mental health outcomes, most research has investigated older adult and college-aged populations (Krause, 2007; Mascaro & Rosen, 2005). Some authors have suggested that the
midlife years have been largely ignored in research and that further studies are needed to better understand factors contributing to health and wellbeing (Lachman, 2004). The current study addresses this gap in research and provides new insights into personal meaning as a possible psychological resource for midlife adults.

**Motivational and Affective Meaning**

In the examination of the individual dimensions of meaning in research question 2, the motivational and affective dimensions were significant to the prediction of psychological distress. These findings suggest that having a sense of purpose and acceptance in life is associated with daily emotional health, such that higher motivational and affective meaning is associated with lower daily negative affect. The motivational component, which is future-oriented in nature, relates to one’s value-congruent goals, plans, and aspirations (Reker & Wong, 1988). Differently, the affective dimension is concerned with making sense of the past, resolving regrets, and having acceptance and appreciation for life challenges (Mukherjee et al., 2014). In the current study, these dimensions were inversely related to psychological distress, suggesting that one’s perspective of past and future events directly corresponds with daily emotional experiences. Previous research of similar psychological resources indicates that emotional wellbeing is linked to the way in which people regard past and future events. For example, factors such as hope and resilience have been found to contribute to daily emotional health in a manner similar to that of the personal meaning dimensions. Hope is a future-oriented mindset characterized by an attitude of perseverance, optimism, and faith. Like the motivational dimension, hope is driven by beliefs and goals that
sustain people as they move forward in life (Mascaro & Rosen, 2005; Mukherjee et al., 2014). Resilience captures the individual’s ability to overcome, and to grow from, life challenges and tragedies (Ryff, 2013). Like the affective dimension, resilience develops from reflection on one’s life and through reconciliation of difficult emotions from past events. Researchers have linked hope and resilience to healthy aging (Reker et al., 1987), effective coping (Debats et al., 1995; Mukherjee et al., 2014), and positive affect (Krause, 2007; Reker, 1997). Similarly, findings from the current study suggest that having a worldview characterized by purposeful future-orientation as well as acceptance of the past is associated with psychological health.

The significance of the motivational and affective dimensions can also be understood in terms of midlife development. Although there are individual differences in midlife experiences stemming from demographic and dispositional factors, midlife is commonly described in terms of certain characteristics that correspond with the motivational and affective dimensions. During midlife, many adults become established in career paths and are occupied with managing the demands of work, family, and social responsibilities. Goal pursuit and achievement is typically high as adults reach peak productivity in work and community roles (Lachman, 2004). For many, midlife is also a time of reflection wherein adults take stock of what they have already achieved, who they are, and of what they wish to accomplish in the second half of life (Lachman et al., 2015). The onset of changes in health and physical ability occurring in midlife often prompts a new awareness of the finite nature of life and the reality of death (Yalom, 1980). During this stage, people often reflect on what
makes their lives meaningful and begin to formulate goals for they want to achieve in their remaining active years. Given the relevance of goal pursuit and introspection in midlife development, it is reasonable that the motivational and affective emerged as significant in the current study.

**Cognitive meaning.** The cognitive dimension did not emerge as significant to the prediction of daily psychological distress. This finding may be best understood when viewed in the context of theory and research related to personal meaning development. Scholars have noted that personal meaning grows over the course of life, becoming more integrated with age (Reker et al., 1987; Wong, 1989). At different stages of life, some dimensions of meaning may be more salient or prominent than others. Studies examining personal meaning development have found significant differences in levels of meaning dimensions across various age groups. For example, Reker et al., (1987) found key differences in dimensions of personal meaning among young, middle-aged and older adults. Motivational meaning was more strongly associated with midlife adults than those in older age, whereas affective meaning was more strongly associated with those in older age than younger adults. Scholars have suggested that cognitive component is strengthened through the accumulation of life experiences and exposure to challenges (Steger, Oishi, & Kashdan, 2009; Wiggs, 2010). The more life situations individuals have encountered, the more likely they are to perceive events as congruent and manageable. Based on this view, the cognitive dimension would be more predictive of emotional outcomes in older adults who, by virtue of age, have had more life experiences and exposure to challenges than have midlife adults.
Previous studies examining the validity of Reker and Wong’s (1988) conceptualization of personal meaning have largely supported the three-component framework. Van Selm and Dittmann-Kohli (1998) found evidence for all three dimensions in a study of meaninglessness in adults age 58 to 90, as did O’Connor and Chamberlain (1996) in a qualitative investigation. Westerhof and colleagues (2006) examined the three dimensions in a study of meaning and life problems in a sample of German adults age 40 to 85 and found support for each component. However, some scholars have reported results similar to the present study, finding support for only the motivational and affective components. Kleftaras and Pssara (2012) reported similar findings in a study of personal meaning and depression among military recruits, as did Mukherjee et al. (2014) in a study of personal meaning and suicidal ideation. Both studies indicated that motivational and affective meaning, but not cognitive meaning, were predictive of psychological outcomes. Although the current study did not find a significant relationship between cognitive meaning and daily affective outcome, this does not indicate that the cognitive component is not a valid dimension of meaning. Rather, within this sample of midlife adults, cognitive meaning did not emerge as significant to the prediction of daily negative affect. Further research is needed to better understand the development and relevance of cognitive meaning in midlife. In particular, researchers may consider the use of longitudinal designs to investigate how cognitive meaning develops and changes over the lifespan.

**Control variables.** Of the control variables, employment status and neuroticism were found significant to the prediction of psychological distress, accounting for 14% variance in
the model. Employment status was significant to the prediction of psychological distress, such that being employed was associated with an increase in daily negative affect. As previously discussed in Chapter 1, employment status is one of several contextual factors that can contribute to differences in psychological outcomes. It might be expected that being unemployed, rather than employed, would be positively linked to daily negative affect. In the current study, having a job was positively associated with daily psychological distress, which suggests that the workplace provides additional exposure to potential strains and challenges that trigger mood disruption. Neuroticism also emerged as a predictor of psychological distress. As the trait form of negative affect, neuroticism would be expected to have a strong relationship with psychological distress. The significant association between neuroticism and psychological distress found in the current study is in line with previous research that links the neurotic personality trait to heightened emotional reactivity and distress (Bolger & Zuckerman, 1995; Charles & Carstensen, 2010; Lee-Flynn et al., 2011). In one such study of NSDE participants, Mroczek and Almeida (2004) found a positive correlation between neuroticism and daily stress and determined high neuroticism moderated the relationship between daily stress and daily negative affect. The current findings also suggest that for the midlife sample, daily psychological distress is highly related to neurotic personality.

**Personal Meaning and Perceptions of Daily Stress**

Research questions 3 and 4 examined relationships between personal meaning and perceptions of daily stress. None of the personal meaning variables were statistically significant to the prediction of daily stressor appraisal. Among the variables examined,
neuroticism was the strongest predictor of perceptions of stress, and marital status and gender were also significant predictors. Based on the review of theory and research, it was predicted that there would be a significant association between personal meaning and perceptions of daily stress. To understand the results of the current study, the non-significant findings will be discussed in terms of existing theory and research.

**Theoretical Context**

Support for a potentially significant relationship between personal meaning and perceptions of daily stress is found in several theoretical frameworks. For example, Park and Folkman’s (1997) meaning-focused coping model suggests that one’s sense of meaning in life has direct bearing on how events are appraised in terms of severity and manageability. Lazarus (1974) indicated that stable belief systems influence appraisal processes including assessment of the potential threat of the event as well as options for coping. Wong (2014) also conceptualized the existence of a significant relationship between level of personal meaning and stressor appraisal, suggesting that high personal meaning contributes to appraising events as less threatening and more manageable. Although there is theoretical support for a significant association between personal meaning and appraisal, few empirical studies have examined these relationships.

**Previous Research**

Research on stress appraisal and personal meaning has primarily focused on chronic stress or major life events rather than daily stressors (Halama & Bakosova, 2009). A few studies have examined personal meaning and daily stress perceptions but with disparate
findings. In a study of university students, Halama and Bakosova (2009) reported significant correlations between personal meaning and stress appraisals, such that lack of meaning was associated with higher perceptions of stress. Newcomb and Harlow (1986) also reported significant correlations between meaning in life and daily life events in a university sample. In contrast, Mascaro and Rosen (2006) found no significant relationships between perceptions of daily stress and personal meaning in a sample of college students. The authors suggested that as a stable, global construct, personal meaning is not reactive to daily events.

One possible interpretation of the non-significant relationships between personal meaning and daily stressors in the present study relates to the very nature of daily stressors as minor inconveniences. Whereas individuals facing major and chronic stressors (e.g., bereavement, chronic illness) often engage in meaning-making processes to gain a sense of peace and coherence (Park & Ai, 2006; Taylor, 1983), typical daily inconveniences such as traffic jams, scheduling changes, or lost keys may not provoke such processes. Researchers have suggested that personal meaning is most relevant in situations of high stress and suffering (Frankl, 1984; Mascaro & Rosen 2006). Baumeister (1991) suggested that severe life hardships, but not minor events, prompt meaning-making processes as a way to make sense of challenging circumstances. Differently, Machell and colleagues (2014) found that personal meaning can be relevant to perceptions of minor daily events and further, that an individual’s daily level of personal meaning can change based on daily events. It is apparent that further research is needed to clarify these relationships and to determine under what conditions personal meaning is significantly related to perceptions of daily stress.
Control variables. Again, neuroticism was a significant predictor, demonstrating a positive relationship with daily stress appraisals. This finding is consistent with literature that links dispositional negative affect to stressor appraisal. Research indicates that neuroticism accounts for key differences in how people appraise and respond to daily stressors. For example, people high in neuroticism tend to report a higher number of stressful events per day and also rate experiences as more severe or threatening than people low in neuroticism (Charles et al., 2013; Zika & Chamberlain, 1987). In general, Lazarus (1974) did not elaborate on the influence of personality characteristics in stress processes. However, Lazarus did acknowledge that in situations where the individual is not able to fully appraise an event in terms of its threat or significance, personality factors tend to become more influential (Lazarus & Folkman, 1986). By this reasoning, the threat and significance of minor daily stressors may be ambiguous and allow for dispositional traits such as neuroticism to have more influence in appraisal processes.

Gender and marital status were also significant to the prediction of daily stress. Being female and being unmarried were associated with perceiving more stressful events per day and with higher severity ratings of daily stressors. Previous research has found significant differences in how men and women appraise and experience stressors. Almeida et al., (2011) suggested that at midlife, women are more vulnerable to perceiving daily events as stressful and to experiencing distress in response to stressors. In addition, research indicates that social and family resources such as friendships and partnerships (including marriage) are particularly relevant at midlife and have been found to offset the negative effects of stress in
women (Almeida et al., 2011; Wiggs, 2010). In the current study, being female was positively associated with perceptions of daily stress, while being married was inversely related to daily stress perceptions. These findings are consistent with previous research and provide further evidence of the proposed relationships between stress, gender and marital status.

**Personal Meaning as Moderator of Stress-Distress Relationship**

Scholars describe personal meaning as psychological resource that promotes wellbeing and serves as a protective factor against negative health and psychological outcomes (Reker & Wong, 2012). Although much of existing research in personal meaning is correlational, researchers have also examined personal meaning as a moderating factor. Moderation studies examine whether the relationship between two variables change at different levels of the moderating variable (Zika & Chamberlain, 1987). Through moderation analyses, researchers have determined that personal meaning often buffers, or ameliorates, the relationship between psychological variables. Based on research that finds personal meaning to be a significant moderator of relevant psychological variables, it was hypothesized that personal meaning would moderate the relationship between daily stress appraisals and psychological distress.

**Stress-Distress Relationship**

Previous research has established that daily stressors are associated with physical and mental wellbeing (Kanner et. al, 1981; Mascaro & Rosen, 2006). Consistent with previous research, the current study found a significant, positive relationship between daily stress
perceptions and psychological distress. This finding suggests that higher stress appraisals, in terms of how many stressors were experienced and how severe they were for the individual, correspond to an increase in daily psychological distress. Lazarus and colleagues first established the significant impact of daily hassles on emotional wellbeing in a series of studies conducted in the 1980’s (DeLongis et al., 1982; Kanner et al., 1981). More recently, MIDUS researchers provided further evidence that the number and severity of daily stressors has significant bearing on emotional wellbeing and typically demonstrates a negative relationship with positive affect (Almeida & Kessler, 1998; Serido et al., 2004). The current study’s findings are also consistent with transactional stress theory, which links emotional responses to the individual’s unique assessment of events (Lazarus & Folkman, 1986).

**Moderation Analysis**

Neither motivational meaning nor affective meaning were found to be significant in the moderation analysis. Although the motivational and affective dimensions were found to have significant inverse relationships with daily negative affect, neither motivational meaning nor affective meaning moderated the relationship between daily stress and psychological distress. Other scholars have reported similar findings, where direct relationships were established but no support was found for moderation effects. Mascaro and Rosen (2006) determined significant associations between personal meaning and stress but also failed to find evidence that personal meaning moderated the relationship between daily stress and depression. Zika and Chamberlain (1987) reported similar findings in a study of daily hassles and several global resources including meaning in life. Meaning in life was
inversely related to negative wellbeing and positively related to positive wellbeing, however no interaction effects were found. The authors attributed the lack of interaction in part to confounding variables and further suggested that the problem of confounding factors in measurement of meaning frequently contributes to non-significant findings.

**Additional analysis.** An additional analysis was conducted to examine the potential moderating effects of personal meaning as a single factor. To facilitate this analysis, the individual personal meaning dimensions were combined into a single variable with the aim of increasing the predictive power of the personal meaning factor. This analysis found a small but significant moderating effect on the relationship between daily stress perceptions and psychological distress. For people with high personal meaning, the relationship between daily stress appraisals and psychological distress was weaker than it was for people with low personal meaning. Likewise, low personal meaning was associated with greater negative affect in response to daily stress appraisals. For the current sample, daily negative affect varied by level of personal meaning, which suggests that having an overarching sense of purpose, acceptance, and understanding buffers psychological distress related to daily stressors.

These findings are in line with previous research that has documented the significance of personal meaning as a protective and health-promoting psychological resource. For example, personal meaning has been found to buffer the relationship between traumatic stress and depression in elderly adults, such that high personal meaning weakens the effect of depression associated with past trauma (Krause, 2007). Halama & Bakosova (2009) found
personal meaning moderated the relationship between stress appraisals and maladaptive coping, where high personal meaning was associated with use of healthy coping styles. In an examination of personal meaning as a moderator of health outcomes in a study of older adults, Reker (2000) found high personal meaning protected against the physical and mental consequences of stress. Although it is clear that personal meaning is an important psychological resource, scholars have noted that the process through which personal meaning exerts protective effects is complex and, due to a range of individual factors, is difficult to summarize (Park & Folkman, 1997). In the current study, personal meaning may contribute to daily mental health by imbuing the individual with a broad, value-congruent perspective through which minor daily events can be interpreted. Appraising daily stressors in terms of the bigger picture of one’s life, including future goals, growth from past challenges, and current priorities, likely increases the individual’s evaluation of these stressors as being more manageable and less disruptive to daily emotional functioning.

Although the statistical findings of the current study were small, the results provide additional evidence that personal meaning demonstrates significant stress-buffering effects and can be considered a relevant psychological resource for midlife adults. Researchers in the MIDUS series have discussed the importance of uncovering psychological resources that may offset the negative consequences of stress. According to midlife research, the varied responsibilities and roles of middle-aged adults contribute to an increased vulnerability to daily stress (Lachman et al., 2015). Given that daily stress is strongly associated with decreased physical and psychological wellbeing (Almeida et al., 2009), it is important to
determine relevant resources that promote positive health outcomes in midlife adults. Finding a significant moderating effect provides evidence that personal meaning is a relevant resource that may offset the effects of stress and contribute to the emotional wellbeing of midlife adults.

**Summary**

The current investigation resulted in several key findings that should benefit the current body of literature on daily stress and personal meaning. First, results indicate that personal meaning has a significant, negative association with psychological distress, controlling for trait negative affect. This finding is important as it suggests that state psychological distress, which is a temporary emotional experience of negative affect, is inversely related to personal meaning. Controlling for dispositional negative affect (i.e., neuroticism) allowed the current analysis to exclude the influence of stable, trait psychological distress and to isolate the relationship between personal meaning dimensions and state psychological distress. The findings also addressed a gap in research pertaining to midlife adults and provided evidence that personal meaning is relevant in daily affective responses to stress in the midlife sample. Second, the current study provided further confirmation of the relationship between appraisal of daily stressors and psychological distress. Consistent with existing research and prominent theory, the study found a significant predictive association within the sample of midlife adults. Finally, the additional analysis found personal meaning to be a significant moderator of the daily stress-psychological distress relationship. This finding suggests that for midlife adults, high personal meaning
serves as a protective resource that contributes to healthier affective outcomes in response to daily stressors.

**Limitations**

Although the current study provided several noteworthy contributions to the existing body of research, there were several limitations. These limitations are discussed in the following section terms of statistical limitations and methodological limitations.

**Statistical Limitations**

To facilitate an investigation of the individual contributions of the personal meaning dimensions in the regression models, the components of meaning were entered as separate variables. In research questions 1 and 2, although two of the personal meaning dimensions were statistically significant to the prediction of psychological distress, the unique variance explained by these variables was quite small. For both the motivational and affective components, a one unit increase in meaning was associated with only a .01 decrease in psychological distress. The slight contribution of the personal meaning variables to the regression model may be due to confounding relationships among the predictor variables. One aim of the study was to examine the unique contribution of the distinct components (i.e., motivational, affective, cognitive) of personal meaning in each regression. In order to do this, separate meaning measures were used to represent and assess individual dimensions. Because the individual dimensions together form the overarching construct of global personal meaning, they are naturally related and are expected to have some degree of overlap. Although analysis of Variance Inflation Factors indicated multicollinearity was not
problematic, it is likely that confounding relationships contributed to the weak predictive power of the personal meaning variables.

Scholars have commented on the problem of confounding constructs in empirical assessment of personal meaning and existential constructs (Park, 2010; Schulenberg, 2003). Commonly used measures such as the LRI (Battista & Almond, 1973) and the PIL (Crumbaugh & Maholick, 1964) have been criticized for confounding content and vague operational definitions (Mascaro & Rosen, 2006). The problem of accurately measuring personal meaning dimensions through quantitative means has contributed to a proliferation of qualitative approaches and applied studies of meaning-focused counseling interventions (Lee et al., 2006; Park & Folkman, 1997). The results of the current study provide further evidence of the challenge of examining personal meaning dimensions in relationship to psychological variables.

Methodological Limitations

The sample for the current study was derived from the MIDUS II and NSDE II datasets. Although the MIDUS data reflects a nationally representative sample, the demographics of the sample used in the current study posed a threat to generalizability. Over 95% of the sample was white, and 75% were married. This limitation indicates that the findings may not be applicable to other demographic groups.

Because the current study utilized existing data, personal meaning was measured through scales not originally constructed to measure the personal meaning dimensions. Although the scales selected demonstrated face validity when compared to existing measures,
they were approximations of personal meaning measures. It is likely that use of these measures contributed to the weak significance of the personal meaning dimensions. Additionally, the use of the secondary dataset limited the way in which personal meaning was assessed. The MIDUS II scales assessed personal meaning in terms of presence or absence of meaning, where higher scores indicated higher personal meaning and lower scores indicated lower personal meaning. Some scholars have suggested that measuring personal meaning only in terms of presence or absence does not capture the complexity of the variable (Steger et al., 2006). Steger and colleagues (2009) have suggested that in addition to presence of meaning, search for meaning is an important construct with unique correlations to mental health variables. Search for meaning refers the process in which individuals “are trying to establish and/or augment their comprehension of the meaning, significance and purpose of their lives” (Steger et al., 2009; p. 43). Research indicates that search for meaning is associated with state negative affect as well as trait depression in midlife and older adults (Steger et al., 2006; Steger et al., 2009). In light of these findings, it is possible that the current study may have been strengthened by assessing personal meaning in terms of presence and search, rather than terms of presence or absence of meaning. However, the use of existing data determined to a great extent how personal meaning could be assessed and precluded an investigation of meaning in terms of search and presence.

Another limitation relates to the method used to assess daily stress appraisal and daily negative affect. The NSDE II researchers utilized a daily diary method in which participants were contacted at the end of each day and asked to assess the stressors and emotions
experienced over the course of that day. The daily diary method was employed to capture contextual emotional states, or what researchers referred to as “micro accounts of negative affect” (Mroczek & Alemeida, 2004; p. 360). Global mood assessments, in which respondents indicate how well certain mood-related symptoms generally describe them, capture a dispositional tendency toward conditions such as anxiety or depression. In contrast, the daily method asks whether certain emotions were experienced in the past 24 hours, which more closely describes an affective state. Although this daily method better approximates state responses than do global measures of affect, there is still the problem of immediacy in rating emotional responses. End of the day assessments, although more immediate than a global measure, are still vulnerable to recall bias (Shiffman, Stone, & Hufford, 2008). By the end of the day, assessments of stressors and emotions occurring at the start of the day may be influenced by intervening events, coping processes, and mood at time of assessment (Mroczek & Alemeida, 2004). This limitation has particular implications for future research, which will be discussed in the following section.

**Future Research**

As previously mentioned, one limitation of the study related to the daily diary method used to assess daily stress appraisals and psychological distress. Although the method somewhat reduced threats to validity related to recall bias, the end of day ratings are still retrospective in nature and cannot capture the momentary experiences of stress and emotional responses. Social and psychological research has often used Ecological Momentary Assessment (EMA) to assess and track changes as they occur across the day (Shiffman et al.,
The term EMA refers to data collection methods used to assess emotions and behaviors in real time, eliminating retrospective bias. Past EMA research has used data collection methods such as electronic diaries, in which participants are prompted by an alarm to rate their current mood at intervals during the day (Shiffman et al., 2008). More recently, researchers have integrated smart phone technology, including EMA apps into data collection (Asselbergs et al., 2015; Reid et al., 2009). In-the-moment assessments of mood and behavior provide a more accurate account of emotional fluctuations and stress appraisals than do retrospective accounts, which tend to minimize and underreport these responses (Reid et al., 2009). The use of EMA methods in future research of daily stressors, affect, and personal meaning would more accurately capture the associations between events, context, and emotional outcomes. Furthermore, EMA could be used to probe for daily fluctuations in personal meaning, which would provide new insight into the nature of personal meaning and its relationship to daily events.

Other recommendations for future research stem from the findings and limitations of the current study. First, further research should examine the constructs of interest within an ethnically diverse sample. Although the MIDUS data is comprised of a nationally representative sample, the demographics of participants in the current study were markedly homogenous. Future research might focus on inter- and intra-group differences in personal meaning, stress and affect. Second, researchers should examine how the search for meaning relates to stress appraisals and psychological outcomes in midlife adults. Possible research questions related to this area include: How does the relationship between daily stress and
affective outcomes differ for midlife adults at levels of searching for meaning and presence of personal meaning? How does the search for meaning correlate to daily stress assessment in midlife adults compared to other age groups? Finally, further longitudinal studies of personal meaning are needed to better understand how dimensions of meaning develop over the lifespan. Possible research questions include: How do the personal meaning dimensions differ at intervals of time within a sample? How do demographic factors (e.g., gender, economic status, ethnicity) relate to the development of dimensions of meaning over time?

**Implications for Practice**

The findings of the current study demonstrate that daily stress is a significant factor in psychological wellbeing. Given the link between daily hassles and negative emotional outcomes, counselors should be knowledgeable about the effects of daily stressors on mental health when assessing the needs and treatment goals of clients. Because daily stressors are minor events with temporary emotional consequences, they may not be reported or addressed in treatment. Finding that daily hassles are relevant to daily mental health, counselors should be intentional in assessing areas of daily stress and incorporate appropriate interventions in treatment planning.

Another implication for practice stems from unintentional findings related to a control variable. Throughout the analyses in the current study, neuroticism emerged as a consistent predictor of each outcome variable. It is clear that trait neuroticism plays an important role in affective responses and appraisals of daily stress, necessitating that practitioners address stable personality factors in treating stress-related symptoms. Therapeutic modalities such as
Acceptance and Commitment Therapy (ACT) (Hayes & Lillis, 2012) and Dialectical Behavioral Therapy (DBT) (Linehan, 1993) are evidenced-based protocols that address dispositional emotional distress through mindfulness practice and targeted skill building. Practitioners may consider integrating emotional regulation skills such as those detailed in ACT and DBT into work with clients to enhance treatment of stress-related problems.

Practitioners may also consider integrating meaning-focused strategies into work with clients dealing with stress. Clinicians frequently rely on evidenced-based practices such as cognitive-behavioral therapy (CBT) and solution-focused therapy (SFT) to assist clients in better managing daily stress (Lazarus & Folkman, 1986). Common strategies for stress management include monitoring irrational thoughts, prioritizing responsibilities, and planning for future triggers to stress (Lazarus & Folkman, 1986). Results of the current study suggest that in addition to change-oriented approaches such as CBT and SFT, therapists may also integrate meaning-focused strategies to enhance treatment of stress-related problems. Counselors using a meaning-focused approach assist clients in investigating how their personal meaning frameworks inform their perceptions of the world and shape their responses to people and events. In addition to using CBT or SF strategies, counselors would explore daily stress responses within the context of the client’s goals, beliefs, and values and tailor the direction of treatment according to the individual’s meaning framework. For example, in working with a client who is having difficulty balancing the demands of work and family, the counselor may assist her in exploring how her future goals, past accomplishments, and comprehension of present challenges influence emotional responses to
stress. Such meaning-focused discussions would help strengthen the client’s clarity about her priorities and uncover discrepancies between factors such as goals, values, and responsibilities that contribute to feelings of distress. Meaning-focused interventions such as goal revision, in which the client modifies her goals to increase congruence with her values, and life review, in which the client reflects on growth stemming from past events, can be implemented in session to strengthen the client’s meaning framework and enhance coping abilities (Reker & Wong, 2012). Outcome studies of meaning-focused therapies have indicated that meaning-centered approaches are highly effective with chronic and major life stressors (Breitbart et al., 2009; Jaarsma et al., 2007; Lee et al., 2006); as such, meaning-focused therapies may be similarly beneficial in treating other forms of stress.

Conclusion

The current study of daily stress, psychological distress and personal meaning revealed several important findings that point to personal meaning as a relevant, health-promoting resource for midlife adults. Frankl (1984), one of the first to elaborate on the relevance of meaning in life to positive mental health functioning, asserted that meaning is essential to overcoming difficult life circumstances. As a coping resource, Frankl suggested that one’s sense of meaning in life provides a framework for understanding distressing events and for finding coherence in times of suffering (Auhagen, 2000). Over the years, researchers have continued to explore how meaning in life relates to mental health functioning. Reker and Wong’s (1998) conceptualization of the dimensions of personal meaning facilitated empirical investigation of personal meaning and allowed researchers to determine the extent
to which personal meaning contributes to psychological wellbeing. As previously discussed, research indicates that personal meaning is a significant factor in overcoming major events and chronic stressors. The aim of the current study was to determine whether personal meaning was a significant factor in daily stress processes. The findings of this study suggest that personal meaning is significantly associated with affective responses to daily stressors and that high personal meaning buffers psychological distress related to daily stressors. The current study adds to the body of knowledge on personal meaning and mental health and provides further evidence that personal meaning serves as a protective resource for midlife adults in managing daily stressors.
REFERENCES


