ABSTRACT

MIDLIFE MEANING MODERATES THE RELATIONSHIP
BETWEEN ANTICIPATING AGING AND PERCEIVED STRESS

By Benjamin W. Mullins

This exploratory study examined the moderating effect of meaning in midlife on the relationship between anticipating aging and perceived stress in a population of aging professionals. The two main questions were: (a) are any of the classifications ("religious and spiritual" [R+S], "spiritual but not religious" [SnR], "religious but not spiritual" [RnS], and "not religious and not spiritual" [nRnS]) different from one another on the rating of the amount of meaning received from religious sources, spiritual sources, leisure, volunteer activity, relationships, and the arts; and (b) in people who consider themselves R+S or SnR, is the relationship between anticipating aging and perceived stress moderated by their rating of the amount of meaning they receive from the different categories of meaning listed in the first question? The online survey used in this study was created for a larger study conducted for the American Society on Aging and the National Council on Aging. Four hundred fifty-two participants (91 men and 361 women) recruited through ASA/NCOA membership lists completed an online survey. A one way MANOVA showed that relationships were the most important source of meaning across all classifications and that the R+S classification had the highest ratings of meaning across all sources. Six 3-way HMMRs showed that relationships, leisure, and volunteer activity significantly moderate the relationship between anticipating aging and perceived stress; the HMMRs also showed a possible 3-way interaction between classification, art as a source of meaning, and anticipating aging on perceived stress. The discussion suggests that people who find meaning in relationships, value volunteer activity, and/or see leisure as meaningful, may transition into retirement more successfully. Also, those who are both religious and spiritual may find the greatest meaning in various pursuits of later life.

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by

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INTRODUCTION

This is an exploratory study on the moderating effect of meaning in midlife on the relationship between anticipating aging and perceived stress in a population of aging professionals.[1] Over the past 30 years, there has been increasing research interest in religiousness and spirituality. Nevertheless, researchers disagree on how to define and measure each term. Although spiritual well being has been studied for several decades, it has not been examined in a sample of professionals in the field of aging. This study compares self-described "religious and spiritual" with "spiritual but not religious" aging professionals and examines how their current sources of meaning moderate the relationship between their anticipation of their own old age and current perceived stress.

The study begins by reviewing the difficulties of defining religiousness and spirituality. According to Hill, Pargament, Hood, McCullough, Swyers, Larson, and Zinnbauer (2000), disagreement on the definitions of religiousness and/or spirituality has affected the empirical value of research, with some definitions being too narrow, "resulting in operational definitions that foster programs of empirical research with limited value," and others being too broad, "resulting in a loss of distinctive characteristics of religion and spirituality" (Hill et al., 2000, p. 52). Following the discussion of a way of defining religiousness and spirituality is a review of the literature on meaning and purpose in life and how it relates to spiritual well-being and health. Next, a section describes the population of aging professionals used in this study and the unique opportunity given by the dataset employed in this research to examine their anticipation

of their own aging. This is followed by a section reviewing the literature on middle aged persons' anticipation of aging, followed by a review of current research on perceived stress. Finally, there is a statement of the exploratory questions asked in this study.

The study employs a secondary analysis of data collected in research conducted by Susan H. McFadden and James W. Ellor for the American Society on Aging (ASA) and the National Council on Aging (NCOA). The ASA "is an association of diverse individuals bound by a common goal: to support the commitment and enhance the knowledge and skills of those who seek to improve the quality of life of older adults and their families" (http://www.asaging.org/about.cfm). The NCOA is a nonprofit organization with the main mission to improve the lives of older Americans (http://www.ncoa.org/about-ncoa/).

RELIGIOUSNESS AND SPRITUALITY

"Religiousness and spirituality have been a part of human experience throughout the length and breadth of human history" (Zinnbauer & Pargament, 2005, p. 21). Social scientists have been looking at religiousness and spirituality for over 100 years and despite a lull in such research during the mid 20th century (Hill et al., 2000), there has been an increase in attention to religion and spirituality among psychologists at the turn of the 21st century (Zinnbauer & Pargament, 2005). A topic that has received considerable attention is the relationship among religiousness, spirituality, and health. Given the size of this body of literature, one would think there might be consensus on the subject of how the variables are defined, but this is definitely not true. For the most part, it seems that researchers in the psychology of religion are especially conflicted among themselves as "definitions of religiousness and spirituality remain relatively inconsistent across researchers" (Zinnbauer & Pargament, 2005, p. 22). This is a problem for the psychology of religion as a whole because "without such agreement at the definition level, the field loses focus, its boundaries become diffuse, and it produces findings that do not generalize across studies" (Zinnbauer et al., 2005, p. 22). In this study, participants were encouraged to use their own definition.

Defining Religiousness and Spirituality

The terms "religiousness" and "spirituality" have been defined by psychologists in a number of different ways (Zinnbauer et al., 1997; Zinnbauer et al., 1999; Zinnbauer &

Pargament, 2002), and there has been general agreement that both concepts are multidimensional (Hill et al.. 2000; Moberg, 2002). At the same time, the variety of definitions of religiousness and spirituality became more diverse as spirituality itself grew more popular among the baby boom cohort, now the middle aged to older adult population (Hill et al., 2000; Hood, 2003; Wulff, 1997; Zinnbauer et al., 1999). These changes in definitions and the growth in spirituality happened during a decline in traditional religious institutions, an increase in individualized forms of faith expression, a movement that emphasizes direct experience of the sacred, and a U.S. culture of religious pluralism (Hill et al., 2000; Hood, 2003; Roof, 1993; Zinnbauer & Pargament, 2005; Zinnbauer et al., 1999). According to Zinnbauer and Pargament (2005), as a result, the general population places a "substantive, static, institutional, objective, belief-based, 'bad' religiousness in opposition to a functional, dynamic, personal, subjective, experienced-based, 'good' spirituality" (p. 24). In many writings, spirituality is viewed positively: "the loftier side of life, the highest in human potential, and pleasurable affective states". Religiousness is negatively seen: "mundane faith, outdated doctrine, institutional hindrances to human potentials" (Zinnbauer & Pargament, 2005, p. 26). Wong (1998) mentions religion being characterized as irrational, intolerant, divisive and oppressive.

According to Zinnbauer and Pargament (2005), "functional descriptions that were once applied to religion are now becoming the province of spirituality" (p. 24). Spirituality has come to represent individuals' efforts at reaching a variety of sacred or existential goals in life, such as finding meaning, wholeness, inner potential, and interconnections with others (Zinnbauer & Pargament, 2005; Wong, 1998). For example,

spirituality is now being depicted as a search for universal truth (Goldberg, 1990) and as a form of belief that relates the individual to the world and gives meaning and definition to existence (Soeken & Carson, 1987). In contrast, religiousness is substantively associated with formal belief, group practice, and institutions. As such, it is often portrayed as peripheral to these existential functions (Pargament, 1997).

Hill et al. (2000) also use the individual versus institutional dimension, but they say the sacred lies at the core of both constructs, and religion includes "the means and methods of a search for the sacred that receive validation and support from within an identifiable group of people" (p. 66). Similarly, in Zinnbauer et al. (1997), personal beliefs in the sacred were common to definitions of both constructs. However, their review found that definitions of religiousness often included references to organizational practices or activities, attendance at services, performance of rituals, church membership or allegiance, commitment to organizational beliefs, and adherence to institutionally based belief systems. In contrast, definitions of spirituality often referred to feelings or experiences of connectedness, and a relationship with sacred beings or forces. Also, from a policy-capturing study of Zinnbauer and Pargament (2002), the participants tended to define religiousness as formal/organizational, and spirituality as closeness with God or feelings of interconnectedness with the world and living things.

It is also important to note that the splitting of religiousness and spirituality into incompatible opposites does not reflect the perspectives of all respondents. Zinnbauer et al. (1997) found that most of their respondents identified themselves as both spiritual and religious (74%); 19% identified themselves as spiritual but not religious, and 4% labeled

themselves as religious but not spiritual. Similarly, in a large study conducted by Corrigan, McCorkle, Schell, and Kidder (2003), 63% of respondents identified themselves as spiritual and religious, 22 % identified themselves as spiritual but not religious, and 4% identified themselves as religious but not spiritual. It appears that the people who say they are both religious and spiritual gain their spiritual development "within the context of a supportive religious environment" (Zinnbauer & Pargament, 2005, p. 29).

Wong (1998) argues that spirituality can stand on its own without relying on religion. For example, in the face of death, the "defiant human spirit can be completely based on the conviction that, having led a meaningful life, one is ready to accept death without fear and regret" (p. 12). The "spiritual but not religious" often have a negative view of religiousness. This group also reports more "mystical experiences and group experiences related to spiritual growth and less religious involvement than those who identify themselves as both religious and spiritual" (Zinnbauer & Pargament, 2005). According to Hill et al. (2000):

> the non religious were less likely to view religiousness in a positive light, less likely to hold orthodox or traditional Christian beliefs, more likely to be independent from others, more likely to engage in group experiences related to spiritual growth, more likely to hold non-traditional "new age" beliefs, more likely to have had a mystical experiences, and more likely to differentiate religiousness and spirituality as different and non-overlapping concepts. (p. 61)

There is a Need for More Research

Most psychologists of religion view religiousness and spirituality as multidimensional. They require different levels of analysis and represent different strands of human activity and experiences (Zinnbauer & Pargament, 2005). As noted by Emmons and Paloutzian (2003), new developments for the investigation of religion in cognitive science, neurobiology, evolutionary psychology, and behavioral genetics are part of the leading edge of research in a "multilevel interdisciplinary paradigm" (p. 395).

> Single-strand definitions are inadequate to the current demands for theoretical sophistication. Religiousness is not just beliefs about God. Spirituality is not just oneness with life. Both constructs contain multiple dimensions including, but not limited to, biology, sensation, affect, cognition, behavior, identity, meaning, morality, relationships, roles, creativity, personality, self-awareness, and salience. Sacred aspects of life can be found at multiple levels of analysis: health (vegetarianism, body as temple), psychological attributes (self, meaning), people (saints, cult leaders), roles (marriage, parenting, and work), social attributes or relationships (compassion, patriotism, and community), cultural products (music, literature), and global concerns (world peace). (Zinnbauer & Pargament, 2005, p. 32)

According to Zinnbauer and Pargament (2005), another dimension not considered in these definitions is development. Religiousness and spirituality may change over time for individuals and groups (Worthington, 1989). For example, Wink and Dillon (2002),

found that there is a significant increase in spirituality from midlife to older adulthood (late 60s and beyond).

> There are two broad models of spiritual development in the second half of adulthood. Proponents of the first model construe spiritual growth as the positive outcome of the maturation process. For example, Jung (1943, 1964) argued that around midlife individuals typically begin to turn inward to explore the more spiritual aspect of the self. The second model of spiritual development conceptualizes the connection between spirituality and older age more in terms of constraints and adversity than of the growth process. Further, physical aging, while restricting one's mobility, creates opportunities to experience meditation and contemplative silence, and thus facilitates spiritual development. (Wink & Dillon, 2002, p. 80)

The Wink and Dillon (2002) longitudinal study also made an argument that the increase in religiousness and spirituality was the result of many Americans no longer being content with their religious institutions, and seeking alternatives to meet their unique personal needs. Thus Wink and Dillon questioned if the increase in spirituality from middle age to older adulthood was due to spiritual development as a form of psychological growth or as coping, or whether it reflected the increase growing popularity of spirituality in American culture and the decline in allegiance to religious institutions.

According to Hill et al. (2000), baby boomers (born between 1946 and 1964) defected from organized religion in the 1960s and 70s. They chose to reject organized religion and more traditional forms of worship in favor of a personal faith that they characterized as a "spiritual journey" or spiritual "quest." The baby boomer cohort is currently mainly in the middle aged to older population which is the age group represented in this study. As they search for meaning/purpose in life, they may use their religious and spiritual beliefs or they may find other sources of meaning in their lives.

According to Zinnbauer, spirituality "is defined as a personal or group search for the sacred" and "religiousness is defined as a personal or group search for the sacred that unfolds within a traditional sacred context" (Zinnbauer & Pargament, 2005, p. 35); the sacred includes concepts of God, higher powers, transcendent beings, or other aspects of life that have been or can become sanctified. "Sanctification is a process through which aspects of life are perceived as having divine character and significance" (Pargament & Mahoney, 2005, p. 183). Some examples of sacred aspects of life can be "health (vegetarianism, body as temple), psychological attributes (self, meaning), people (saints), roles (marriage, parenting, work), social attributes or relationships (compassion, community)" (Zinnbauer & Pargament, 2005, p. 34).

The definitions of spirituality and religiousness are only Zinnbauer's definitions; even Zinnbauer and Pargament could not agree on the definitions of the terms. These will be the conceptual definitions of religiousness and spirituality because this study uses their questions and classifications in the survey so the participants could self-select their category. The conceptual definitions were not given to the participants.

MEANING AND SPIRITUAL WELL BEING

A variation of the question "why am I here?" goes through the minds of most people one time or another. This section reviews recent attempts to define "meaning" so that it can be studied empirically; this is followed by a review of the literature on meaning among older adults. Next comes a discussion of research on various sources of meaning and a review of research on how meaning, subjective well-being, and health interact in adulthood.

Defining Meaning

"Personal meaning is defined 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" (Reker, 1988, p. 1). People with a high degree of personal meaning have a clear life purpose, and have goals consistent with that purpose. They feel satisfied with past achievements, and are determined to make the future meaningful (Reker, 1988). Wong (1998) says meaning is a universal human motive. "Humans are not merely biological, social, and psychological beings, but also spiritual beings that are able to transcend these dimensions to a level of 'human spirituality' by virtue of being free to create meaning for their own lives" (Wong, 1998, p. 14). In other words, humans choose what is worthy of sanctification in their lives.

Meaning in Adulthood

Erikson (1963) and Jung (1971) both offered theories on the development of changing values and meanings over the life course, that received empirical support from analyses of autobiographies (Buhler & Massarik, 1968), value changes across life stages (Thurnher, 1975), and changes in personality orientation (Neugarten, 1964). The empirical findings led to the increase in literature on age-related changes in sources of meaning across the life span, specifically in mid to late adulthood. Thurnher's (1975) research showed middle aged to older adults moving away from a focus on obtaining goals; this creates a loss of personal meaning because a main part of personal meaning is making and achieving goals. If adults move away from a focus on obtaining goals, they need to replace that source with another. Jung's (1971) theory says adults move from instrumental values to inner-directed values as they get older. In summary, these psychologists argue that as middle aged adults get older, they look for a deeper, existential meaning to life.

Physical and usually cognitive ability often decline as a person gets older. As the first section indicated, religiousness and/or spirituality can offer that deeper, existential meaning. If people believe religion provides a sense of direction and purpose in life, they feel more optimistic and satisfied about the future (Krause, 2004). According to Wong (1998), "religion enables individuals to see the significance and values of specific events, which are located within the big picture of ultimate meaning" (p. 16). It should be noted that Wong and Krause used religion and spirituality interchangeably.

Sources of Meaning

According to Reker and Wong (1988), meaning is experienced in three interrelated ways: in beliefs, feelings, and the values that define goals and ways of attaining them. Every person can experience these differently and there are many possible sources of meaning in a middle aged/older person's religious life (McFadden, 1999). Table 1 shows sources observed in Reker's research (1988).

Table 1

Observed Sources of Meaning by Reker (1988)

1. Leisure activities (reading, sports, or travelling)
2. Meeting basic needs (food, shelter, or safety)
3. Creative activities (music, painting, or writing)
4. Personal relationships (family, neighbors, or friends)
5. Personal achievement (education, employment, or business)
6. Personal growth (wisdom, maturity, or insight)
7. Religious activities (church attendance, prayer, or bible study)
8. Social and political causes (peace movement, disarmament, or anti-pollution)
9. Altruism (social service, devotion to others, or helping others)
10. Enduring values and ideals (truth, beauty, or morals)
11. Traditions and culture (heritage, customs, or cultural/ethnic identity)
12. Legacy (leaving a mark for posterity, or lasting remembrance by others)

Individually and collectively, these sources contribute to an overall sense of personal meaning.

McFadden (1999) mentions another valuable source of meaning religious participation can provide: opportunities for service. Windsor, Anstey, and Rodgers' (2008) research on volunteering showed higher levels of psychological well-being among older adults who volunteer than younger adults who volunteer. According to Brown, Consedine, and Magai (2005), providing and/or receiving social support lead to physiological benefits under stressful conditions. Altruism, service, volunteering, and stewardship are major sources of meaning emphasized in various religious traditions.

Even though Reker (2000) says a good measurement of sources of meaning has to be multi-dimensional, he also suggests that meaning might also be measured within specific domains or within a particular social context. As research on meaning in life grows, it is important to pursue additional work on the measurement of this construct (Reker, 2000). The Sources of Meaning Profile (SOMP) was created to measure the sources of personal, present meaning in one's life. The SOMP is comprised of the sources found by Reker (1988) plus four other sources. Each item in Table 2 was followed with the question "Does this source contribute to meaning in your life?" Participants then responded on a 7-point Likert scale from "Strongly Agree" to "Strongly Disagree" for each item.

Table 2

SOMP Items

1. Participation in leisure activities
2. Meeting basic everyday needs
3. Taking part in creative activities
4. Engaging in personal relationships with family and/or friends
5. Being acknowledged for personal achievements
6. Experiencing personal growth
7. Taking part in religious activities
8. Interest in social causes
9. Being of service to others
10. Preserving human values and ideals
11. Preservation of culture and tradition
12. Leaving a legacy for the next generation
13. Feeling financially secure
14. Interest in human rights (humanistic concerns)
15. Participation in ‘hedonistic’ activities (e.g. gambling, parties, etc.)
16. Acquiring material possessions in order to enjoy the good life

Meaning, Subjective Well Being, and Health/Stress in Adulthood

Adults reporting negative attitudes about their aging are "likely to be less motivated to engage in healthy lifestyle choices in terms of exercise and diet behaviors" (Coleman & O'Hanlon, 2004, p.197). However, a number of studies suggest that a strong sense of meaning in life is associated with better physical health (e.g., Krause, 2004) and better mental health (e.g., Reker, 1997). Reker's research (1988) found that leisure activities, personal growth, and altruism are positively related to both psychological and physical well-being, whereas personal relationships, religious activities, enduring values/ideals, and traditions and culture are positively related only to perceived psychological well-being; personal achievement related positively to physical well-being (Reker, 1988).

Krause (2004) summarizes four ways meaning is related to health and stress. First, people with a strong sense of meaning are sometimes able to see that they have grown in the face of adversity. Second, having a set of goals is one of the key components of meaning. Goals are important because they foster a sense of optimism, assuming they are achievable. Studies suggest that optimism may have significant health-protective effects. Third, people with a greater sense of meaning may enjoy better health because meaning may have direct physiologic effects on the body. More specifically, meaning may improve health by enhancing immune functioning. Fourth, research indicates that having a sense of meaning in life is associated with fewer mental health problems. This is important because research shows that symptoms of psychological distress are associated with more physical health problems. Personal

meaning has been shown to be related to a number of measures of psychological, physical, and mental well-being, and is a major way to enhance self-esteem, life satisfaction, and personal growth (Reker, 1997; Reker, 1994; Reker & Butler, 1990; Zika & Chamberlain, 1992).

AGING PROFESSIONALS

Very little, if any, research targets the population of aging professionals to ask them about their own aging. It is the equivalent of asking a medical doctor about his/her own health, or asking a child psychologist how he/she raises their own child. The current study does not ask random middle aged people about their own aging; it asks a group of professionals in the field of aging (who themselves are aging) about their own aging. A PsycINFO search on EbscoHost was done using the key term "aging professionals" yielded only six results. A search using "professionals in aging" came up with 15 results. Another search using "experts in aging" found two results. None of these articles talked about the aging professionals in the context of their own aging. "One reason for this paucity of research may be because researchers and gerontologists themselves view old age in negative and aversive ways" (Coleman & O'Hanlon, 2004, p. 198).

It would be expected that aging professionals think more about their own aging, because they are more likely to have closer proximity to older adults. There is a time period called the "third age" (Weiss & Bass, 2001). The "third age" is the time in a person's life from retirement to the point when the person becomes incapacitated or dies. As middle aged people come closer to retiring from their career, it is not uncommon for them to think about what they will do during this time, and to contemplate how much of that time they will have. Research involving nursing participants have found that many respondents were highly anxious about their own aging and future old age (Bernard, 1998). If people work in a field where they are commonly in contact with older adults, it

would be expected they may think more about their own aging, and as a result, do more planning for old age.

MIDDLE AGED PERSONS' ANTICIPATION OF AGING

Wink and Dillon (2002) found that there is a significant increase in spirituality from midlife to older adulthood (late 60s and beyond). A possible reason why this happens is to help suppress aging anxiety in middle aged adults who are thinking about how their lives will be affected by aging. There is little research currently about general aging anxiety in middle aged adults. There is more research on aging anxiety in care givers of parents with cognitive impairment who see what their future may bring. A PsycINFO and Academic Search Complete search on EbscoHost was done using the key term "aging anxiety" yielded only 36 results, but 9 of the articles were in both data bases, so there were only 27 different results. Of these 27, only 10 addressed aging anxiety with middle aged participants.

Lasher and Faulkender (1993) define aging anxiety as "combined concern and anticipation of losses centered around the aging process" (p. 247). A general sense of aging anxiety exists because growing older is sometimes seen as becoming less attractive and competent than the young, along with other negative characteristics such as being dependent on others, narrow-minded, frail, angry, and easily irritated (Barrett & Von Rohr, 2008). Research has found that participants with more negative attitudes toward their own old age report greater anxiety and worry about ageing and lower subjective well-being (Coleman & O'Hanlon, 2004). Some sources of aging anxiety may loom larger for women than men. Sources of anxiety from aging commonly are related to concerns for health (as it often declines as one gets older), changes in physical

appearance, and reproductive aging; these may be more common for women, given the cultural emphasis on attractiveness and their role as mothers (Barrett & Von Rohr, 2008). Other commonly reported concerns are about financial well-being and the maintenance of supportive social networks "in light of their greater risk of poverty and the centrality of social relationships to their identities" (Barrett & Von Rohr, 2008, p. 364).

Research has shown as middle aged adults get older, they avoid attending to negative information (Ouwehand, Ridder, & Bensing, 2008). People who were more anxious about aging paid less attention to future threat-related signals from aging. When middle aged adults report higher levels of anxiety about issues related to the aging process, they are more likely to ignore signals that might confirm their anxiety (Ouwehand, Ridder, & Bensing, 2008). Research shows that negative stereotypes and cultural values demeaning older adults and the aging process can result in an increase in fear and anxiety associated with aging. "Some negative expectations for later life are realistic, but there is growing evidence that older people are typically highly skilled in successfully managing problems and challenges" (Coleman & O'Hanlon, 2004, p. 110). Research by McConatha, Hayta, Rieser-Danner, McConatha, and Polat (2004) supports the notion that, although an increasing percentage of older men and women are living healthy and productive lives well into later adulthood, aging anxiety still appears to be widespread.

PERCEIVED STRESS

The broad term "stress" is so subjective that it also challenges researchers to formulate a concrete definition. For the purpose of this study, Richard Lazarus' model of perceived stress is used. Richard Lazarus developed the Stress and Coping Paradigm which states that an event is only stressful if it is perceived as stressful by the individual (Lazarus & Folkman, 1984). According to Lazarus and Folkman, it is the psychological appraisal of life events, not the events themselves, that determines if an individual experiences stress. Events can be labeled irrelevant, relevant and positive, or relevant and negative. Irrelevant events are those determined to be insignificant and no further attention is given. Events can be labeled relevant and positive, which would be those that have an influence on one's well-being, but in a positive way. Relevant and negative events are those deemed significant to the individual's welfare and which are viewed as having harmful qualities. These are what are commonly referred to as "stressors"; examples are such life events as death of a spouse, marital divorce, and loss of employment (Tapley, 2008).

According to Lazarus and Folkman, there are at least three categories of negative appraisals or stressors: harm, threat, and challenge. Harm is present when the individual has perceived that damage has already taken place. Threat involves the anticipation of future harm or injury, and challenge refers to situations that present the potential for growth or gain. Lazarus and Folkman (1984) also describe the appraisal process as

having two components: primary and secondary. Primary appraisal occurs when people attempt to determine if the event has any effect on their well-being. Secondary appraisal is an assessment of whether the person can effectively cope with the event (Lazarus and Folkman, 1984). When individuals appraise events as relevant and negative, or stressful in the primary appraisal, they will then proceed to secondary appraisal. If people feel they cannot effectively cope, they experience the symptoms (physical and/or psychological) commonly associated with stress.

Coping

Coping has been defined as "…constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person." (Lazarus & Folkman, 1984, p. 141). In describing the coping process, Lazarus suggests that there are several resources that, when present, enhance our ability to cope with stress. These include such factors as health and energy, positive beliefs, problem-solving skills, social skills, and material resources. Our ability to cope with the stressful events of our lives determines whether or not we experience stress.

According to the stress and coping paradigm, psychological stress occurs when people believe that they are unable to effectively cope with the negative events in their lives (Tapley, 2008). Tapley reports that perceived stress might serve as a mediator through which stressful environmental events eventually affect health status (2008).

Tapley's research shows that environmental demands (stressors) result in cognitive appraisal, which may lead to the perception of stress (2008).

Frankl (1963) argued that "although individuals are not free of external conditions, they remain free to take a stance, to adopt their own attitude toward those conditions, even in the face of horrendous atrocities" (cited in Reker, 1997, p. 710) Thus it would make sense that people who perceive life as meaningful and who have a positive outlook on life will be less vulnerable to perceiving their situations as stressful and themselves as incapable of effective coping.

The freedom to choose and being responsible for those choices is the most salient existential predictor of the absence of depression; having a purpose, a sense of order, a reason for existence, and an optimistic outlook all predict the absence of psychological distress (Reker, 1997).

EXPLORATORY QUESTIONS

Because this area of research is so new, there are not enough foundations for devising testable hypotheses. Thus, based on the review of the literature, the present study's exploratory questions are:

1. Do people who think more about their aging (anticipating aging) have more perceived stress?
2. Can diverse sources of meaning be grouped into categories through an exploratory factor analysis (EFA)?
3. Are any of the classifications ("religious and spiritual" [R+S], "spiritual but not religious" [SnR], "religious but not spiritual" [RnS], and "not religious and not spiritual" [nRnS]) different from one another on the rating of the amount of meaning received from different categories of meaning?
4. In people who consider themselves R+S, is the relationship between anticipating aging and perceived stress moderated by their rating of the amount of meaning they receive from the different categories of meaning?
5. In people who consider themselves SnR, is the relationship between anticipating aging and perceived stress moderated by their rating of the amount of meaning they receive from the different categories of meaning?
6. Is there a three way interaction among classification (R+S and SnR only), anticipating aging, and the rating of the amount of meaning they receive from the different categories of meaning on perceived stress?

METHOD

Participants

Four hundred fifty-two participants (91 men and 361 women) were recruited through ASA/NCOA membership lists to fill out an online survey. The mean age for the sample is 57.2 years old (range = 25-90, SD = 10.7). The frequency of vocation type is as follows (using a "check all that apply" format): architecture and/or industrial design (1 women), business and financial management (5 men; 13 women), clergy and/or ministry (18 men; 25 women), education (13 men; 61 women), financial services/retirement planning (4 men; 4 women), human resources (3 men; 19 women), law (1 men; 3 women), medicine/dentistry, pharmacy, optometry, or nursing (4 men; 25 women), occupational therapy, recreational therapy, or physical therapy (12 women), psychology, psychiatry, social work, or counseling (26 men; 122 women), senior centers (8 men; 76 women), or other (16 men; 70 women). According to the Bureau of Labor Statistics, the vocations of business and financial management, clergy and/or ministry, financial services/retirement planning, and law are over represented by women in this sample.

Measures

The survey used in this study was created for a larger study conducted by Susan H. McFadden and James W. Ellor for the American Society on Aging and the National Council on Aging. The sections of interest for this study includes 10 questions similar to Reker's Sources of Meaning Profile (SOMP), two items on anticipating aging, the PSS-4,

a question of how participants classify themselves (R+S, SnR), the participants' opinion on the relationship between religiousness and spirituality, and three demographic questions (age, gender, and occupation).

Religiousness and Spirituality Classification

The original survey used four categories of religious/spiritual classification; "religious and spiritual" (R+S), "spiritual but not religious" (SnR), "religious but not spiritual," and "neither religious nor spiritual" (Zinnbauer et al., 1997). Two categories had low representation; "religious but not spiritual," (11 people, 2.4%) and "neither religious nor spiritual" (37 people, 8.1%). Going forward, only the two groups representing the majority of the sample (R+S and SnR) are represented in the following descriptive data. Four hundred four people classified themselves as either "religious and spiritual" (60 men and 191 women, 62.1% of the two groups R+S and SnR) or "spiritual but not religious" (19 men and 134 women, 37.9% of the two groups R+S and SnR).

Religiousness and Spirituality Relationship

Each participant was asked to respond to an item about their opinion on what best describes their belief about the relation between religion and spirituality. The five options were (1) "Religiousness and spirituality overlap but they are not the same concept"; (2) "Spirituality is a broader concept that religiousness and includes religiousness"; (3) "Religiousness is a broader concept and includes spirituality"; (4) "Religiousness and spirituality are different and do not overlap"; (5) "Religiousness and spirituality are the same concept and overlap completely" (Zinnbauer et al., 1997). The

frequency of the opinion on the relationship between religiousness and spirituality by classification is shown in Table 3.

Table 3

Frequency of Opinion on the Relationship Between Religiousness and Spirituality by Classification

Classification	Opinion					
	1	2	3	4	5	Total
R+S	131	90	8	15	5	249
SnR	76	52	0	21	0	149
RnS	5	4	0	2	0	11
nRnS	13	16	0	4	2	35

Note: Opinion codes are as follows: (1) Religiousness and spirituality overlap but they are not the same concept; (2) Spirituality is a broader concept that religiousness and includes religiousness; (3) Religiousness is a broader concept and includes spirituality; (4) Religiousness and spirituality are different and do not overlap; (5) Religiousness and spirituality are the same concept and overlap completely.

Perceived Stress Scale

The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) is a 14-item self-report measure designed to assess the degree to which individuals perceive their life as stressful. The researcher obtains a single PSS score by reverse coding the required items and summing all of the items. Psychometric data for the PSS have been found to be adequate, with internal consistency, as measured by Cronbach's alpha, ranging from .84

to .86 (Cohen & Williamson, 1988). For the purposes of this study, the 4-item version of the PSS-4 was used, with an obtained Cronbach's alpha reliability coefficient of .77. Cohen and Williamson reported that the PSS can be considered predictive of physical and psychological health independently of measures of psychological symptomatology. Scores on the PSS have been positively correlated with maladaptive health-related behaviors, such as increased smoking and higher rates of relapse among people attempting to quit smoking (Cohen, Sherrod, & Clark, 1986), providing evidence of construct and concurrent validity. Furthermore, Kuiper, Olonger, and Lyons (1986) found the PSS to be associated with greater vulnerability to depressive symptoms related to stressful life events.

The short version, PSS-4, was chosen because it is an economical and simple psychological instrument to administer, comprehend, and score. It measures the degree to which situations in one's life over the past month are appraised as stressful. Items were designed to detect how unpredictable, uncontrollable, and overloaded respondents find their lives. The PSS-4 poses general queries about relatively current levels of stress experienced. The PSS-4 items are "In the last month, how often have you felt that you were unable to control the important things in your life," "in the last month, how often have you felt that you felt confident in your ability to handle your personal problems," "in the last month, how often have you felt that things were going your way," and "in the last month, how often have you felt difficulties were piling up so high that you could not overcome them?" Since the questions are of a general nature and are not directed at any particular sub-population group, using this abbreviated version (or any version) with a

diverse population is predicted to yield equally reliable results (PSS; Cohen, Kamarck, & Mermelstein, 1983). PSS-4 is based on psychometric principles and is considered to be sound (PSS; Cohen, Kamarck, & Mermelstein, 1983). However, in Cohen and Williamson's research, the limited 4-item abridged scale suffers in internal reliability (r=.60) (Cohen & Williamson, 1988). It provides a less adequate approximation of perceived stress levels than the longer scales. Test-Retest reliability and predictive validity is strongest for shorter time periods (Cohen & Williamson, 1988). Participants' responses are measured on a five-point scale (0 = never, 1 = almost never, 2 =sometimes, 3 = fairly often, 4 = very often). PSS-4 scores are obtained by summing across all four items. Items 2 and 3 are reverse coded; the higher the score, the more perceived stress there is.

Anticipating Aging

The two anticipating aging items were "it is my perception that I think about my own aging more than most people my age," and "I am making plans so that I can experience meaning in my old age."

Sources of Meaning

The items adapted from the SOMP say "currently, I get my sense of meaning from…" followed by a list of 10 choices: the arts, my relationship with people who are close to me, my volunteer activities, my faith community, sacred texts, religious rituals I participate in, spiritual activities such as meditation, my leisure activities, learning new ways of experiencing spirituality, and learning more about other religious groups besides my own. For each of the ten choices, participants marked on a 7-point Likert-type scale,

ranging from “strongly agree” to “strongly disagree,” indicating the degree they agree that source brings meaning to them. Reker (1989) reports the SOMP having a .81 reliability alpha in a population of older adults. Zinnbauer et al. (1997) expressed the need for researchers to look at religiousness and spirituality from a broader perspective; this is why this survey did not define either term.

Procedure

ASA/NCOA members (N = 5,134) were sent an email request to fill out an online survey. Four hundred fifty-two participants (91 men and 361 women) completed the survey for a response rate of 8.8%.

RESULTS

Exploratory Question 1

An examination of the two anticipating aging item ratings and the perceived stress scale for each of the 445 participants revealed a negative correlation between "making plans so that I can experience meaning in my old age" (one of the anticipating aging items) and perceived stress. An analysis using Pearson's correlation coefficient supported this observation, $r(445) = -.16$, $p = .001$. All analyses involving anticipating aging used this one item only because it was the item with a significant correlation with perceived stress.

Exploratory Question 2

The 10 sources of meaning could be grouped into categories through an exploratory factor analysis. A principle component, orthogonal (varimax) rotation factor analysis was conducted and three components (using Eigenvalues greater than 1) were generated cumulatively accounting for 65.56% of the variance. After examining the factor loadings, only factors with a loading above .60 were kept together. Factor loadings are shown in table 3. As a result "My faith community," "religious rituals I participate in," and "sacred texts" were grouped together to make the category "Religious Sources." The category "Religious Sources" produced a Cronbach Alpha of .90. "Learning new ways of experiencing spirituality," "learning more about other religious groups besides my own," and "spiritual activities such as meditation" were grouped together to make the

category “Spiritual Sources.” The category “Spiritual Sources” produced a Cronbach Alpha of .78. “My relationship with people who are close to me” and “my volunteer activities” could be grouped together from their factor loadings, but their Cronbach Alpha was .387, so they were kept separate. “The arts” and “my leisure activities” did not load strongly enough to any component, and thus were kept separate.

Table 4

Rotated Component Matrix From Exploratory Factor Analysis on Sources of Meaning Items

	Component		
Items	1	2	3
My faith community	.903	.082	.079
Religious rituals I participate in	.875	.128	.018
Sacred texts	.861	.168	.007
Learning new ways of experiencing spirituality	.275	.834	-.079
Learning more about other religious groups besides my own	.356	.662	.053
Spiritual activities such as meditation	.444	.640	.039
My leisure activities	-.200	.586	.308
The arts	-.189	.498	.420
My relationship with people who are close to me	-.064	.083	.812
My volunteer activities	.324	.043	.713

Note: Extraction Method: Principle Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Exploratory Question 3

A one-way MANOVA was conducted to determine whether there is a difference among the four religious/spiritual classifications (R+S, SnR, RnS, and nRnS) using 6 sources of meaning dependent variables: religious sources, spiritual sources, leisure activity, arts, relationships, and volunteer activity. The one-way MANOVA revealed a significant multivariate main effect for religious/spiritual classification, Wilks' $\Lambda = .37$, $F(18, 1177.11) = 27.42$, $p < .001$, $\eta_p^2 = .28$.

Univariate between-subjects tests showed significance for "religious sources" [$F(3, 421)=148.91$, $p<.001$, $\eta_p^2 = .51$]. LSD post hoc analysis was conducted; means and standard deviations are presented in table 4. R+S was significantly different from SnR, RnS, and nRnS; all differences were significant at $p<.001$. SnR was significantly different from RnS at $p=.01$, and nRnS at $p<.001$. RnS was significantly different from nRnS at $p<.001$. Univariate between-subjects tests showed significance for "spiritual sources" [$F(3, 421)=45.09$, $p<.001$, $\eta_p^2 = .24$]. LSD post hoc analysis was conducted. R+S was significantly different from SnR at $p<.03$, and RnS and nRnS at $p<.001$. SnR was significantly different from RnS at $p=.01$, and nRnS at $p<.001$. Univariate between-subjects tests showed the source of meaning significance for "arts" [$F(3, 421)=8.23$, $p<.001$, $\eta_p^2 = .06$]. LSD post hoc analysis was conducted. R+S was significantly different from RnS at $p<.001$. SnR was significantly different from RnS at $p=.01$. RnS was significantly different from nRnS at $p<.001$. Univariate between-subjects tests showed significance for the source of meaning "volunteer activity" [$F(3, 421)=9.41$, $p<.001$, $\eta_p^2 = .06$]. LSD post hoc analysis was conducted. R+S was significantly

different from SnR and RnS at $p<.001$, and nRnS at $p<.02$. SnR was significantly different from RnS at $p=.04$.

Table 5

Means, Standard Deviations, and N's for Each Source of Meaning by Classification

		Descriptives		
Source of meaning	Classification	Mean	SD	N
Religious Sources	R+S	5.87	.98	236
	SnR	3.56	1.57	144
	RnS	4.58	1.39	11
	nRnS	2.33	1.34	34
Spiritual Sources	R+S	5.31	1.08	236
	SnR	5.04	1.25	144
	RnS	3.55	1.31	11
	nRnS	2.97	1.38	34
Leisure Activity	R+S	5.72	1.04	236
	SnR	5.83	1.18	144
	RnS	5.00	1.00	11
	nRnS	5.65	1.32	34
Arts	R+S	5.67	1.28	236
	SnR	5.80	1.23	144
	RnS	3.82	1.78	11
	nRnS	5.79	1.32	34
Relationships	R+S	6.67	.53	236
	SnR	6.59	.89	144
	RnS	6.55	.52	11
	nRnS	6.79	.48	34
Volunteer Activity	R+S	5.90	1.01	236
	SnR	5.34	1.50	144
	RnS	4.55	1.51	11
	nRnS	5.35	1.65	34

Note: Mean ratings for sources were based on 7-point likert scale where 1= Strongly Disagree and 7= Strongly Agree.

As a result of the MANOVA, pair-wise comparisons were done across sources of meaning at each classification using paired samples *t*-tests. Means and comparison rankings are in Table 6. All pair-wise comparisons were significant at p<.001 level, except for the following. In the R+S classification, leisure sources were significantly different from volunteer activity, $t(245)= 1.99$, $p=.05$, Cohen's d= .16. Art sources were significantly different from volunteer activity, $t(238)= 2.15$, $p=.03$, Cohen's d= .18. In the SnR classification, spiritual sources were significantly different from volunteer activity, $t(144)= 2.24$, $p=.03$, Cohen's d= .22. Art sources were significantly different from volunteer activity, $t(145)= 3.06$, $p=.003$, Cohen's d= .32. In the RnS classification, religious sources were significantly different from spiritual sources, $t(10)= 2.69$, $p=.02$, Cohen's d= .76. Religious sources were significantly different from relationship sources, $t(10)= 3.88$, $p=.003$, Cohen's d= 1.87. Spiritual sources were significantly different from volunteer activity, $t(10)= 2.32$, $p=.04$, Cohen's d= .71. Leisure sources were significantly different from relationship sources, $t(10)= 3.96$, $p=.003$, Cohen's d= 1.94. Relationship sources were significantly different from volunteer activity, $t(10)= 4.11$, $p=.002$, Cohen's d= 1.77. In the nRnS classification, religious sources were significantly different from spiritual sources, $t(35)= 3.25$, $p=.003$, Cohen's d= .47.

Table 6

Means and Rankings of Differences According to Post Hoc and Pair-wise Analyses

Religious Classification	Sources of Meaning					
	Relationships	Volunteer Activity	Leisure	Arts	Religious Sources	Spiritual Sources
R+S	$6.67_{1,1}$	$5.90_{2,1}$	$5.72_{3,1}$	$5.67_{3,1}$	$5.87_{2,1}$	$5.31_{4,1}$
SnR	$6.59_{1,1}$	$5.34_{3,2}$	$5.83_{2,1}$	$5.79_{2,1}$	$3.56_{5,3}$	$5.04_{4,2}$
RnS	$6.55_{1,1}$	$4.55_{2,3}$	$5.00_{2,2*}$	$3.81_{3,2}$	$4.58_{2,2}$	$3.55_{3,3}$
nRnS	$6.79_{1,1}$	$5.35_{2,2}$	$5.64_{2,1}$	$5.79_{2,1}$	$2.33_{4,4}$	$2.97_{3,3}$

Note: The first subscript is the comparison rank across the sources of meaning (rows) for each classification. The second subscript is the comparison rank across classification (column) for each source of meaning. Means with same rank indicate no significant difference. * indicates a significant difference ($p<.05$) in the post hoc analysis when there was not a significant omnibus *F*.

Exploratory Questions 4, 5, and 6

Each source of meaning was put through a three way moderated multiple regression. The predictors (classification: R+S and SnR, planning for obtaining meaning in the future, and the source of meaning) were centered and their cross products were used to create the two way interaction terms and the three way interaction. Only one model was used for each source of meaning with all predictors and interaction terms to enlarge ΔR^2.

The regression model for leisure as a source of meaning accounted for a significant amount of variance, adj. $R^2=.04$, F (7, 384) = 3.33, $p= .002$. The results for leisure as a moderator can be found in Table 7. The analyses found that leisure sources

of meaning moderated the relationship between planning for meaning in old age and perceived stress, B= -.06, *p*=.01. Figures 1 (R+S sample) and 2 (SnR sample) show a line graph of leisure sources acting as a moderator. In Figure 1, people with higher ratings of leisure sources of meaning significantly reduced their perceived stress more as they increased their planning for meaning in old age compared to those with lower ratings of leisure as a source of meaning. Figure 2 shows a minimal difference between ratings of leisure as a source of meaning, but an increase in planning for old age reduced perceived stress.

The regression model for relationships as a source of meaning accounted for a significant amount of variance, adj. R^2=.02, F (7, 382) = 2.34, p= .02. The results for relationship as a moderator can be found in Table 8. Relationships as a source of meaning moderated the relationship between planning for meaning in old age and perceived stress, B= -.09, *p*=.05. Figures 3 (R+S sample) and 4 (SnR sample) show a line graph of relationship sources acting as a moderator. In Figure 3, people with higher ratings of relationships as a source of meaning significantly reduced their perceived stress more as they increased their planning for meaning in old age compared to those with lower ratings of relationships as a source of meaning. The figure also suggests that people with higher ratings of relationships have higher ratings of perceived stress when not planning for meaning in old age. Figure 4 shows a minimal difference between ratings of relationships as a source of meaning, but an increase in planning for old age reduced perceived stress.

The regression model for volunteer activity as a source of meaning accounted for a significant amount of variance, adj. R^2=.04, F (7, 379) = 3.22, p= .002. The results for volunteer activity as a moderator can be found in Table 9. The analyses found that volunteer activity sources of meaning moderated the relationship between planning for meaning in old age and perceived stress, B= -.05, p=.04. Figures 5 (R+S sample) and 6 (SnR sample) show a line graph of volunteer activity sources acting as a moderator. In Figure 5, people with higher ratings of volunteer activity as a source of meaning significantly reduced their perceived stress more as they increased their planning for meaning in old age compared to those with lower ratings of volunteer activity as a source of meaning. Figure 6 shows a minimal difference between ratings of volunteer activity as a source of meaning, but an increase in planning for old age reduced perceived stress.

The regression model for art as a source of meaning accounted for a significant amount of variance, adj. R^2=.03, F (7, 377) = 2.50, p= .02. The results for the three way interaction among classification, planning for meaning in old age, and art sources of meaning can be found in Table 10. The analysis came close to finding a three way interaction among art sources, planning for meaning in old age and classification on perceived stress, B= -.08, p=.07. Figures 7 (R+S sample) and 8 (SnR sample) show a line graph of art sources acting as a moderator. In Figure 7, people with higher ratings of arts as a source of meaning significantly reduced their perceived stress less as they increased their planning for meaning in old age compared to those with lower ratings of arts as a source of meaning. Figure 7 also suggests that people with higher ratings of arts as a source of meaning are better off not planning for meaning in old age in comparison to

those with lower ratings of arts as a source of meaning. In Figure 8, people with higher ratings of arts as a source of meaning significantly reduced their perceived stress more as they increased their planning for meaning in old age compared to those with lower ratings of arts as a source of meaning. The figure also suggests that people with higher ratings of arts as a source of meaning have higher ratings of perceived stress when not planning for meaning in old age.

Table 7

Summary of Moderated Multiple Regression Analysis of Leisure Moderating the Relationship Between Planning for Meaning and Perceived Stress

		Model 1	
Predictors	B	Adj. R^2	ΔR^2
Classification	.04	.04***	.06***
Planning for meaning	-.10**		
Leisure	-.08**		
Classification*Planning for meaning	-.02		
Leisure*Planning for meaning	-.06*		
Leisure*Classification	-.02		
Leisure*Classification*Planning for Meaning	.04		

Note: Regression weights are unstandardized. ***p<.001, **p<.01, *p<.05

Table 8

Summary of Moderated Multiple Regression Analysis of Relationships Moderating the Relationship Between Planning for Meaning and Perceived Stress

		Model 1	
Predictors	B	Adj. R^2	ΔR^2
Classification	.01	.02*	.04*
Planning for meaning	-.12***		
Relationships	-.05		
Classification*Planning for meaning	-.03		
Relationships *Planning for meaning	-.09*		
Relationships *Classification	.09		
Relationships *Classification*Planning for Meaning	.11		

Note: Regression weights are unstandardized. ***p<.001, *p<.05

Table 9

Summary of Moderated Multiple Regression Analysis of Volunteer Activity Moderating the Relationship Between Planning for Meaning and Perceived Stress

		Model 1	
Predictors	B	Adj. R^2	ΔR^2
Classification	.00	.04**	.06**
Planning for meaning	-.09**		
Volunteer	-.09**		
Classification*Planning for meaning	-.05		
Volunteer *Planning for meaning	-.05*		
Volunteer *Classification	.08		
Volunteer *Classification*Planning for Meaning	.03		

Note: Regression weights are unstandardized. **p<.01, *p<.05

Table 10

Summary of Moderated Multiple Regression Analysis of Arts Moderating the Relationship Between Planning for Meaning and Perceived Stress

		Model 1	
Predictors	B	Adj. R^2	ΔR^2
Classification	.05	.03*	.04*
Planning for meaning	-.10**		
Arts	-.03		
Classification*Planning for meaning	-.03		
Arts *Planning for meaning	.03		
Arts *Classification	.00		
Arts *Classification*Planning for Meaning	-.08$^{\#}$		

Note: Regression weights are unstandardized. $^{**}p<.01$, $^{*}p<.05$, $^{\#}p<.1$

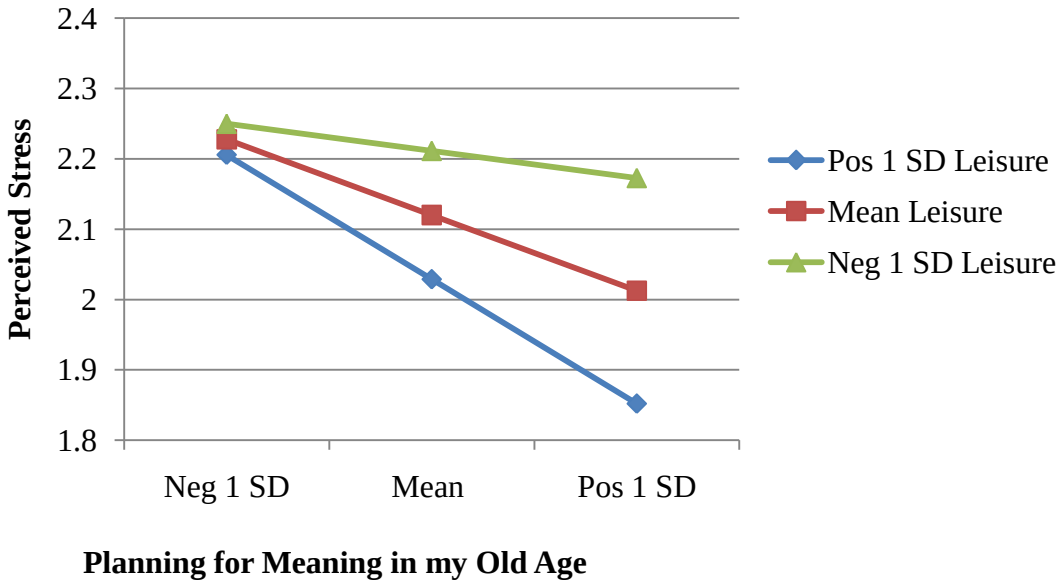

Figure 1. Two Way Interaction between Leisure Sources and Planning for Meaning in my Old Age in the R+S Classification

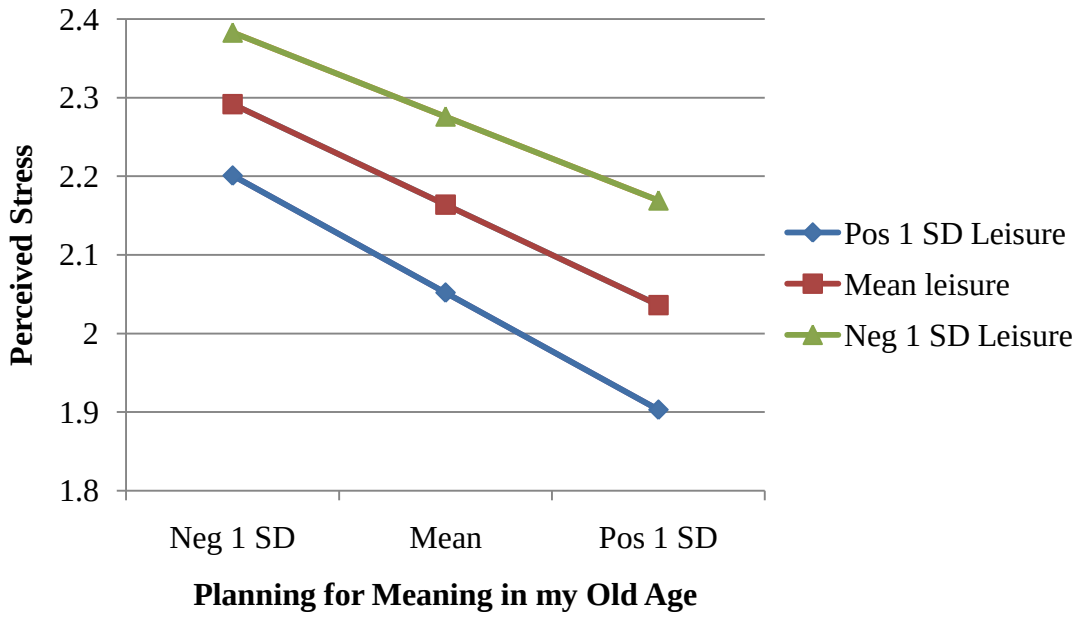

Figure 2. Two Way Interaction between Leisure Sources and Planning for Meaning in my Old Age in the SnR Classification

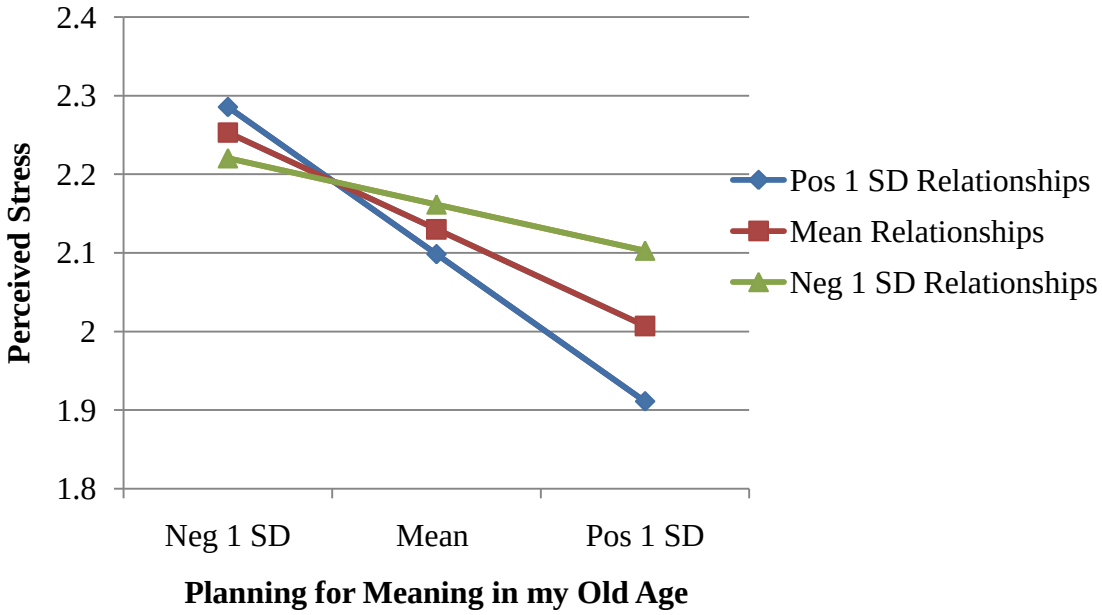

Figure 3. Two Way Interaction between Relationships Sources and Planning for Meaning in my Old Age in the R+S Classification

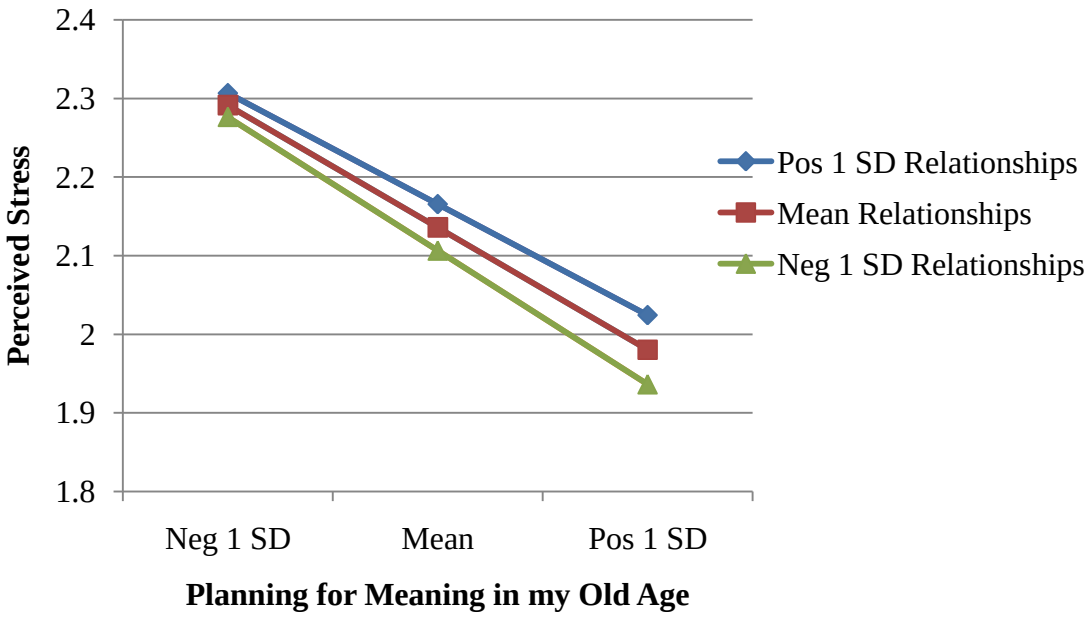

Figure 4. Two Way Interaction between Relationships Sources and Planning for Meaning in my Old Age in the SnR Classification

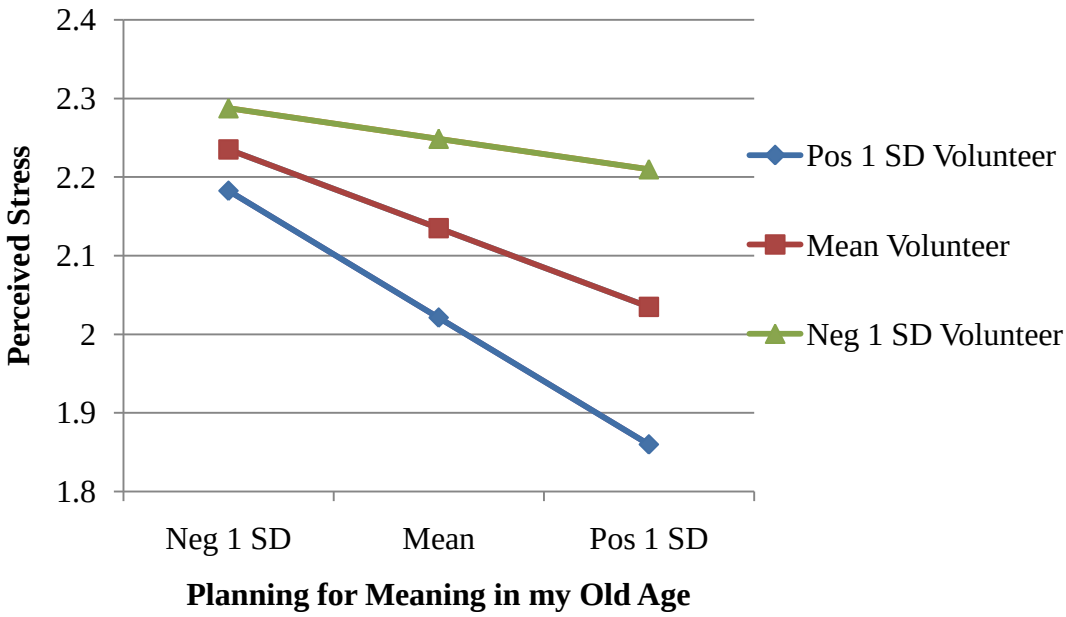

Figure 5. Two Way Interaction between Volunteer Activity Sources and Planning for Meaning in my Old Age in the R+S Classification

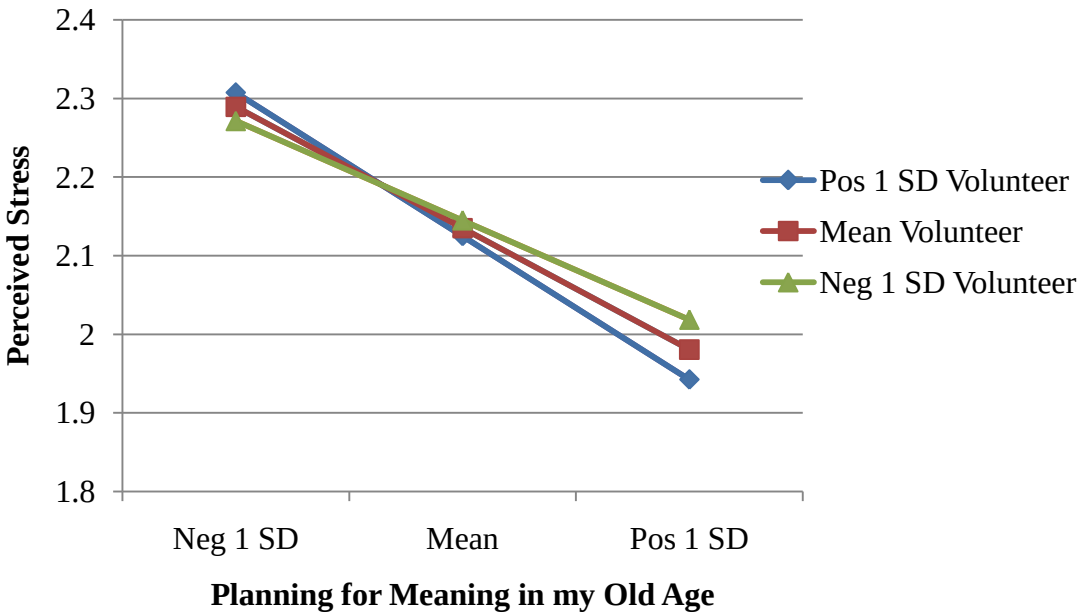

Figure 6. Two Way Interaction between Volunteer Activity Sources and Planning for Meaning in my Old Age in the SnR Classification

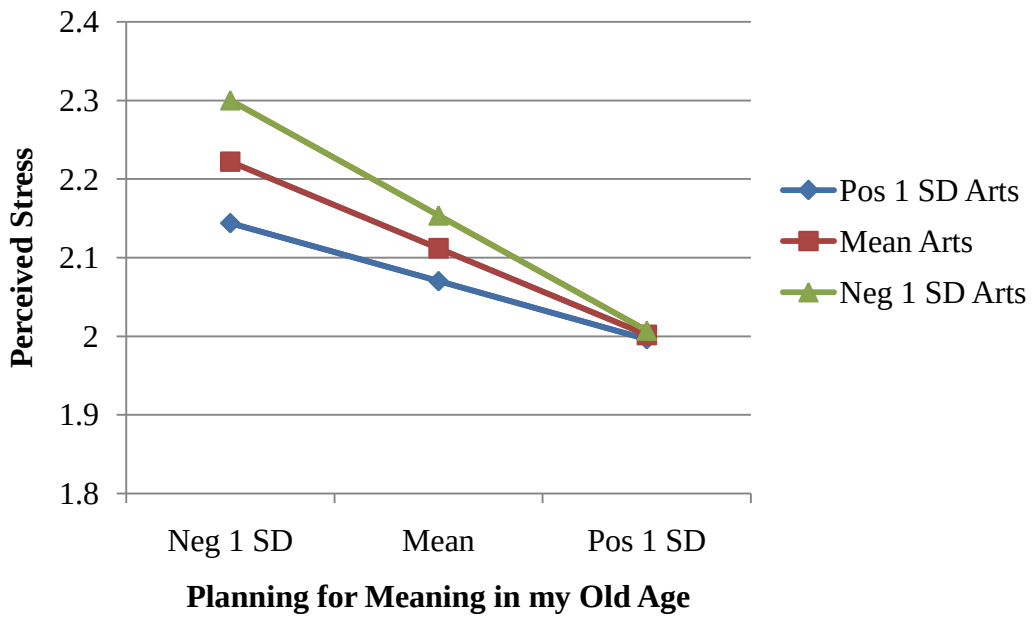

Figure 7. Two Way Interaction between Art Sources and Planning for Meaning in my Old Age in the R+S Classification

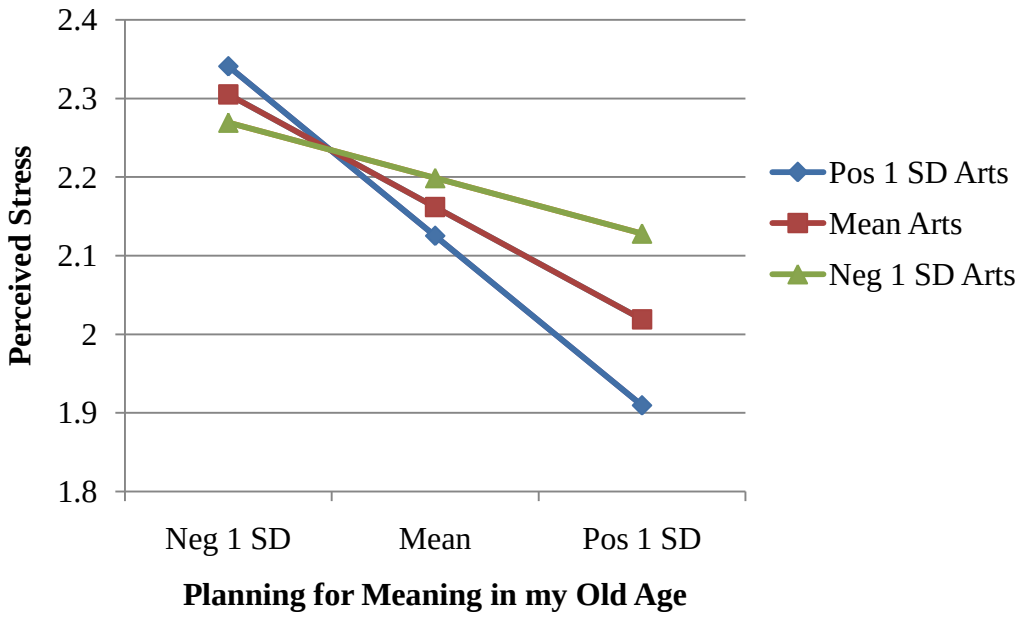

Figure 8. Two Way Interaction between Art Sources and Planning for Meaning in my Old Age in the SnR Classification

DISCUSSION

In the analysis for exploratory question 1, the bivariate correlation showed a significant negative relationship between planning for meaning in later life and perceived stress. This result suggests a person planning what sources they are going to use to obtain meaning in later life and/or being prepared for aging is an effective strategy for coping with aging anxiety. This is consistent with Krause's (2004) four explanations for why high meaning is associated with better health. Krause says setting goals increases meaning, and planning for meaning in later life is the goal (2004). Krause also said people with a greater sense of meaning may enjoy better health because meaning has positive physiologic and mental effects on the body (2004).

The exploratory factor analysis grouped the sources of meaning in a way that was consistent with the Zinnbauer et al.'s findings (1997). Religious rituals, sacred texts, and a person's faith community correspond to Zinnbauer et al.'s (1997) observation that definitions of religiousness often include references to organizational practices or activities, attendance at services, performance of rituals, church membership or allegiance, commitment to organizational beliefs, and adherence to institutionally based belief systems. Learning new ways of experiencing spirituality, learning more about other religious groups, and spiritual activity such as meditation reflect the feelings or experiences of connectedness, and a relationship with sacred beings or forces that Zinnbauer et al. (1997) found to be related to spirituality.

The one way MANOVA showed that overall, the R+S group has the highest scores across all the sources of meaning in this study. This goes along with Zinnbauer and Pargament's observation that people who say they are both religious and spiritual gain their spiritual development "within the context of a supportive religious environment" (2005, p. 29). As expected, the SnR group had a low rating for religious sources in comparison to the other classifications and its ratings for the other sources of meaning. This was expected since the "spiritual but not religious" often have a negative view of religiousness. The SnR also report more "mystical experiences and group experiences related to spiritual growth and less religious involvement than those who identify themselves as both religious and spiritual" (Zinnbauer & Pargament, 2005).

The most obvious result of the one way MANOVA was the high ratings for relationships as a source of meaning. Across all classifications, it was the highest source of meaning, and no classification was different from another. Another observation is that the RnS group was on the lower end of all source's ratings. The RnS was even significantly lower than the R+S group on the religious sources of meaning. The results suggest the RnS group does not easily compensate for the loss of spiritual sources of meaning with the other sources in the study (except relationships) or even the religious sources. Leisure, volunteer activity, and art sources of meaning may be too related to spiritual sources of meaning for the RnS group.

An interesting finding involved the nRnS group. They had just as high a rating of meaning as the R+S group on the four non-religious or spiritual sources. This shows that

people that do not identify themselves as religious or spiritual can nevertheless experience meaning.

People with a high degree of personal meaning have a clear life purpose, and have goals consistent with that purpose. They feel satisfied with past achievements, and are determined to make the future meaningful (Reker, 1988). The multiple regression results for the sources of meaning leisure, relationships, and volunteer activity support Reker. Leisure, relationships, and volunteer activity strengthened the negative relationship between ratings of planning for meaning in later life and perceived stress. So as participants reported higher ratings of meaning and planning for meaning in later life (compared to average and lower ratings), the greater the reduction in perceived stress. Figures 1-6 show these moderating effects. Relationships' ability to increase the reduction in perceived stress when the person is planning for meaning in later life is important because it appears it would work for all classifications since all classifications had similar ratings for relationships.

The possible 3-way interaction for art sources of meaning are represented by figures 7 and 8. Statistically, the results indicate a non-significant interaction between planning for meaning in later life and art sources, but that may result from the opposite effects of the R+S and SnR classifications, hence the possible three way interaction. In the SnR classification, the results were similar to the moderating effect from leisure, relationships, and volunteer activity, regardless of classification. In the R+S classification, increased ratings of art sources of meaning actually weakened the negative relationship between planning for meaning in later life and perceived stress. Figure 7

also suggests that people who obtain meaning from the arts may be better off not planning for meaning in old age in comparison to people who do not use arts as a high source of meaning. Another possibility is that they already know they will continue to obtain meaning from the arts and thus do not need to be actively planning for later life meaning.

LIMITATIONS AND FUTURE RESEARCH

A few limitations of the current research should be noted. All of the data were collected using a self-report questionnaire. The results, therefore, may have been influenced by common-method variance. Common method variance is a type of false internal consistency which occurs when the apparent correlation among indicators or even constructs is due to their common source (spurious convergence). For self-report questionnaires, the correlation may be due to the tendency of the participant to answer similarly to multiple items even when there is no true correlation of constructs. The exclusive use of self-report measures, for example, may result in inflated correlations if the measures are contaminated with socially desirable responding. The anonymous nature of the sample may have minimized this potential problem. In future research, more methods beyond self-report measures should be used to increase validity. Another limitation is the short term data collection. According to Reker, Krause, and Wong, more longitudinal studies are needed to better understand the changes of sources of meaning over the life span before solid conclusions can be made.

In this study, participants were encouraged to use their own definitions of religiousness and spirituality so the research could possible more generalizable. For the most part, it seems that researchers in the psychology of religion are especially conflicted among themselves on the definitions. This is a problem for the psychology of religion as a whole because “without such agreement at the definition level, the field loses focus, its

boundaries become diffuse, and it produces findings that do not generalize across studies" (Zinnbauer et al., 2005, p. 22).

Limitations came from the questionnaire itself. The first is a possible priming bias. The classification (R+S, SnR, RnS, or nRnS) item may have biased the participant to answer the sources of meaning items in a way that would be consistent with their classification. A future replication of this study should counterbalance when the classification item appears in the questionnaire. In this study, the PSS4 was used to measure perceived stress. Cohen's research showed this to be the least internally consistent of the PSS versions (Cohen & Williamson, 1988). The PSS4 provides a less adequate approximation of perceived stress levels than the larger scales. The PSS4 did obtain an adequate Cronbach Alpha coefficient in this research (.77), but one of the larger PSS scales should be used in the future. Another limitation is the anticipating aging items. There were only two items and their Cronbach Alpha coefficient was low (.50) and only one of them (planning for meaning in old age) had a significant correlation with the PSS4. In the future, a better and proven measure of anticipating aging or aging anxiety scale should be used; the aging anxiety scale from Scott Lynch's investigation research is an example (2000).

Another limitation is the lack of knowledge on the strength of the participant's religiousness and spirituality; there is no item in the questionnaire that addresses this. Future research should look at how much each participant is religious and/or spiritual and see how that interacts with anticipating aging, sources of meaning, and the level of perceived stress. Along with wanting to know the strength of the participant's

religiousness and spirituality, this study may be limited since there was no item asking about the participant's religious affiliation/denomination. Robert Wuthnow found that religious affiliations that are very conservative are less open to the arts (2003). This could be an explanation for the possible three way interaction when art is the source of meaning. If the R+S group was highly represented by these very conservative affiliations/denominations, who do not promote art because they believe it supports or reflects immoral behavior, then it would make sense an increase in art as a source of meaning would weaken the relationship between planning and perceived stress.

The unique opportunity to ask professionals of the field of aging about their own aging was both a strength and a limitation of this study. This study may not accurately generalize to other middle aged persons because of the specifically targeted sample. The representation ratios of the classifications was consistent with previous research, but the increased exposure to what older adults experience limits the generalizability to other middle aged adults who do not have that exposure. The added exposure aging professionals get could be a reason for extra planning for old age, but it also could be a reason for less planning because the exposure could trigger denial or the choice to ignore the possibility of complications associated with aging. Future research and/or replication is needed using a less specific sample.

A limitation in the participant recruitment is the over representation of women in certain occupations. This may be because of the membership of ASA and NCOA, or perhaps women are more likely to answer a volunteer questionnaire. Another representation limitation is the low sample size of the RnS group (n=11). Though

consistent with previous research, this small sample reduces the power of the results involving the RnS group. Future research addressing the RnS group would be interesting since this group did not show strong sources of meaning on all but one of the sources analyzed in this study. There may be a possible loss in the benefit meaning can have on health when a person has no "non-traditional" sources of meaning.

A possible limitation was the lack of answers from the nRnS group. In some groups of items, people with the nRnS classification did not answer the items, possibly because they thought that because they are neither religious nor spiritual, the item did not pertain to them; thus they left it blank. A limitation with the analysis is the reduction of models in the regression analysis because no added variance accounted for from the two way interactions or three way interaction could be calculated.

This study adds to research in the psychology of religion and spirituality. It helps to show what sources of meaning and planning for those sources in later life can do to reduce perceived stress and how that differs between people who see themselves as either religious and spiritual, or just spiritual. Among the sources of meaning measured in this study, relationships are easily the most important. The most interesting result was the opposite moderating effects art sources of meaning can have on the relationship between planning for meaning in later life and perceived stress, depending on the classification. Future research is needed to understand why this difference occurs.

INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY IMPLICATIONS

Thurnher's (1975) research showed middle age to older adults moving away from a focus on obtaining goals; this creates a loss of personal meaning because a main part of personal meaning is making and achieving goals. If adults move away from a focus on obtaining goals, they need to replace that source of meaning with another. This is evident in people's adjustment into retirement. To counter the loss of goal achievement a career provides, people are increasingly engaging in what has become to known as "encore careers." These are secondary careers people get involved in after their first retirement.

According to David Bank, encore careers aid in providing purposeful meaning and financial security. This is especially important because of the recent economic turmoil. "Nearly two-thirds of those ages 50 to 61 expect to delay their retirement because of the recession, and nearly four of every 10 adults who are still working at age 62 have already delayed their retirement plans" (Bank, 2009, p. 1). However, not everybody takes a high paying encore career. The sector benefiting the most from the encore career movement is the non-profit world. Many people enjoy taking their abilities (usually still very much intact) to places where they can work for causes they support. Some people work in completely volunteer positions. This study showed that people who used volunteer activity as a source of meaning show a stronger negative relationship between anticipating aging and perceived stress. These findings suggest that people who plan to do volunteer activity as an encore career transition into retirement more successfully. With so many of the boomer cohort approaching retirement,

companies/organizations may want to invest in recruiting techniques that take advantage of this idea of encore careers and the meaning in life they give the potential employee/volunteer. An example of a company using volunteerism is 3M encouraging employees to volunteer together as a way of team building (relationship building). Fostering a "volunteer together" culture has resulted in retirees who continue to volunteer so they can support their community and continue those relationships they created when they were a full time employee.

This study showed that most people find relationships to be very meaningful. Because relationships are a major source of meaning, and adults spend most of their time at work, companies should consider providing opportunities to employees to have meaningful relationships with co-workers. This also further supports the importance of person-to-organization fit and/or how the employee meshes with the culture of the organization. This goes for all the sources of meaning.

An increase in leisure activity is commonly valued in retirement, also. This study showed that people for whom leisure activity is a source of meaning had a stronger negative relationship between anticipating aging and perceived stress. Like for volunteer activity, this study may be predicting that people who plan to do more leisure activity in retirement may transition into retirement more successfully. The leisure/meaning connection can also be seen as connected to well-being, but how many organizations value that the worker "has a life" and indulges in more leisure activity? This study suggests that organizations that promote meaningful relationships with co-workers, create

a culture of volunteering, and help employees sustain a healthy work/non-work life ratio are more likely to have employees with more affective commitment to their organization.

Considering the research showing that a sense of meaning in life promotes health and well being (Krause 2004; Reker 1988, 1997), along with recent developments of health care and health insurance, companies will want to consider using the sources meaning discussed in this section as a potential measure to control health costs and reduce premium increases from year to year. One way a company could implement such a program is to give employees a premium deduction for participating in volunteer activity.

APPENDIX

ASA/NCOA Survey

ASA/NCOA Survey

How old are you?

_____

What is your gender?

- ❑ *Male*
- ❑ *Female*

Which professional specialty best describes you? (select all that apply)

- ❑ *Architecture, industrial design*
- ❑ *Business and financial management*
- ❑ *Clergy, ministry*
- ❑ *Education*
- ❑ *Financial services/retirement planning*
- ❑ *Human resources*
- ❑ *Law*
- ❑ *Medicine, dentistry, pharmacy, optometry nursing*
- ❑ *Occupational therapy, recreational therapy, physical therapy*
- ❑ *Psychology, psychiatry, social work, counseling*
- ❑ *Senior centers*
- ❑ *Other*

Please specify which professional specialty describes you best:

_____

_____

_____

What type of work setting best describes your employment? (Select only one)

- ❑ *Business (marketing and product development)*
- ❑ *Financial services/retirement planning*
- ❑ *Funded Older Americans Act programs, aging network*
- ❑ *Government*
- ❑ *Healthcare (managed care, sub-acute care, rehabilitation, acute care)*
- ❑ *Home-based long-term care (adult daycare, homecare agency)*
- ❑ *Housing (not age-restricted)*
- ❑ *Mental health*
- ❑ *Older adult education, lifelong learning, enrichment*
- ❑ *Religious organization/agency*
- ❑ *Residential long-term care (nursing home, assisted living, board and care)*
- ❑ *Senior centers*
- ❑ *Senior housing (retirement community, HUD housing)*
- ❑ *Social services*
- ❑ *Trade association, professional mem-bership association*

- ❑ *University or college gerontology, social work or other academic program*
- ❑ *Other*

Anticipating Aging

	Strongly Agree	*Agree*	*Slightly Agree*	*Neither Agree nor Disagree*	*Slightly Disagree*	*Disagree*	*Strongly Disagree*
It is my perception that I think about my own aging more than most people my age.	❑	❑	❑	❑	❑	❑	❑
I am making plans so that I can experience meaning in my old age.	❑	❑	❑	❑	❑	❑	❑

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate how often you felt or thought a certain way:

	Never	*Almost Never*	*Sometimes*	*Fairly Often*	*Very Often*
In the last month, how often have you felt that you were unable to control the important things in your life?	❑	❑	❑	❑	❑
In the last month, how often have you felt confident about your ability to handle your personal problems?	❑	❑	❑	❑	❑
In the last month, how often have you felt that things were going your way?	❑	❑	❑	❑	❑
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	❑	❑	❑	❑	❑

Religion & Spirituality

Select the statement that best describes you:

- ❑ *I am spiritual **AND** religious*
- ❑ *I am spiritual but **NOT** religious*
- ❑ *I am religious but **NOT** spiritual*
- ❑ *I am **NEITHER** religious nor spiritual*

Select the statement that best describes your belief about the relation between religion and spirituality:

- ❑ *Religiousness and spirituality overlap but they are not the same concept*
- ❑ *Spirituality is a broader concept that religiousness and includes religiousness*
- ❑ *Religiousness is a broader concept and includes spirituality*
- ❑ *Religiousness and spirituality are different and do not overlap*
- ❑ *Religiousness and spirituality are the same concept and overlap completely*

Sources of Meaning

Currently, I get a sense of meaning from ...

	Strongly Agree	*Agree*	*Slightly Agree*	*Neither Agree nor Disagree*	*Slightly Disagree*	*Disagree*	*Strongly Disagree*
The arts	❑	❑	❑	❑	❑	❑	❑
My relationships with people who are close to me	❑	❑	❑	❑	❑	❑	❑
My volunteer activities	❑	❑	❑	❑	❑	❑	❑
My faith community	❑	❑	❑	❑	❑	❑	❑
Sacred texts	❑	❑	❑	❑	❑	❑	❑
Religious rituals I participate in	❑	❑	❑	❑	❑	❑	❑
Spiritual activities such as meditation	❑	❑	❑	❑	❑	❑	❑
My leisure activities	❑	❑	❑	❑	❑	❑	❑
Learning new ways of experiencing spirituality	❑	❑	❑	❑	❑	❑	❑
Learning more about other religious groups besides my own	❑	❑	❑	❑	❑	❑	❑

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END NOTE

[1] Although all professionals are aging, in this study the term "aging professionals" refers specifically to persons who work in the field of aging, by giving direct service to older persons, administering organizations that serve older adults, working on public policies that affect aging persons, conducting research on aging and older persons, and/or by teaching about aging and older adults.