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Perceptions of Longevity and Successful Aging in Very Old Adults

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Abstract

We examined perceptions of longevity and successful aging in young-old (60 to 74 years), old-old (75 to 89 years), and oldest-old (90 + years) adults drawn from the *Louisiana Healthy Aging Study* (LHAS). Participants' responses to three open-ended questions that assessed their attributions for longevity, what they look forward to, and advice for younger persons today were compared. Content analyses yielded three emergent themes: maintaining physical, mental, and relational well-being; living a healthy life; and living a faithful life. Implications of these findings for current views on successful aging and insights for promoting a long and healthy life are considered.

Societal attention to the conditions of aging has increased in recent years due in part to current demographic trends that predict dramatic growth in the elderly population. By the year 2030, an estimated 19.3% of the U.S. population will be 65 years of age and older, compared to 13.1% in 2010. That is, 72.1 million adults will be age 65 and older in the U.S. in 2030, more than twice as many in 2000 (35 million) (Administration on Aging, 2011) The "oldest-old," defined as persons 85 years of age and older, are of particular concern, as they are the fastest growing segment of the population. The increased likelihood of survival after age 80 today, or *mortality deceleration* (Vaupel et al., 1998), has many psychosocial, economic, and public policy implications. Increasing health care needs coupled with declining physical health may compromise older adults' well-being and quality of life (Abeles, Gift, & Ory, 1994; Borchelt, Gilberg, Horgas, & Geiselmann, 1999). Identifying

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factors that may be associated with healthy aging and psychosocial well-being in late adulthood is a critical challenge for psychology.

Successful aging is an attractive concept that has motivated a small but growing literature (Baltes & Baltes, 1990; Butt & Besier, 1987; Depp, Vahia, & Jeste, 2010; Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007; Rowe & Kahn, 1998). Despite its intuitive appeal, there is a lack of consensus regarding the best way to define and measure this concept (Depp & Jeste, 2006; Ryff, 1982; Tate, Lah, & Cuddy, 2003). Some researchers have suggested that successful aging reflects positive adaptation across the life course (e.g., Butt & Beiser, 1987; von Faber et al., 2001). Montross et al. (2006) have made the point that psychological variables such as independence, mastery/growth, and engagement with life, as well as positive adaptation, contribute to successful aging. Physical and cognitive functionality are also important, because the absence of either one would have serious implications for independent living (Berkman et al., 1993). Social engagement is another key contributor to successful aging, with implications for health and well-being (Cherry et al., 2011). Most would agree that successful aging is a multidimensional construct, where physical health variables have been studied more often than psychological variables, such as cognition and emotion (Depp et al., 2010).

The MacArthur Study of Aging (Rowe & Kahn, 1997) identifies three presumably interactive components of successful aging, including: a) the absence of disability and disease and the lack of risk factors predisposing one toward these; b) the maintenance of physical and cognitive function that promotes well-being; and c) connection with other people and involvement in productive activities. Research-based criteria for defining successful aging are useful for research purposes. However, criteria such as the absence of disease and disability may describe only a select few as the onset of chronic conditions, medical illnesses, and/or physical disability is a common occurrence for many older persons (Phelan & Larsen, 2002; Strawbridge, Wallhagen, & Cohen, 2002). In a direct investigation of this issue, Montross et al. (2006) examined the interrelationships among self-rated successful aging and several research-based definitions of the construct. The majority of their study sample (92%) viewed themselves as "successful agers," whereas only 5% met the three objectively defined Rowe and Kahn (1997) criteria (see Strawbridge et al., 2002, for similar findings). In a recent meta-analysis based on 28 studies of successful aging, approximately one-third of the research participants (35.8%) were classified as aging successfully based on objective criteria (Depp & Jeste, 2006).

Another consideration is that research-based criteria may not capture individuals' personalistic views of successful aging (Duay & Bryan, 2006; Iwamasa & Iwasaki, 2011; Phelan & Larsen, 2002; Strawbridge et al., 2002). For example, Ryff (1989) found that middle-age and older adults' views of psychological well-being included enjoying life and having a sense of humor, positive relations with friends and family, and accepting changes related to aging (both role and physical), as well as accepting changes in the world around them. Successful aging, then, may have more to do with rewarding interpersonal relationships, social activities, and acceptance of change than research-based criteria suggest (Menec, 2003; Reichstadt et al., 2007; von Faber et al., 2001).

The present investigation was designed to provide new evidence on people's personalistic views of longevity and successful aging in a sample of adults who ranged in age from 60 to 94 years. With respect to longevity, we were interested in participants' insights into factors that promote a long and healthy life. Most would agree that longevity can be attributed to a diverse set of factors that range from genetic determinants to environmental factors and lifestyle characteristics that may affect one's chances of survival into late life (e.g., Baltes & Baltes, 1990; Rowe & Kahn, 1997). We expected that participants' responses would reflect

physical health promotion, emphasizing the importance of diet and exercise, based on prior research (Duay & Bryan, 2006), as well as the ubiquity of such messages in the popular press and media today. Of greater interest are the nonagenarians' attributions for their longevity. We expected that their responses would be consistent with the two younger cohorts. However, we also anticipated unique insights related to having experienced nine decades of life and significant historical events such as the Great Depression and World War II, among others.

With respect to successful aging, we focused on what participants look forward to the most as they grow older and advice they would have for a younger person today. Our rationale for what they look forward to the most as an integral aspect of successful aging was based on the assumption that having highly anticipated events and activities implies the presence of joy and meaning in one's life. On the basis of Carstensen's (1991) socioemotional selectivity theory, which holds that older people view time as limited and are more selective in their choices of social interactions, we expected that the two older cohorts would look forward to spending time with family and close friends with whom they are emotionally invested more often than their younger counterparts (see also Carstensen, 1992; Carstensen, Fung, & Charles, 2003; Lökenhoff & Carstensen, 2004). Regarding advice they would have for a younger person today, we reasoned that participants' responses would permit novel insights into caring for the next generation as well as late life wisdom. Importantly, care and wisdom are the emergent ego strengths associated with the last two stages of Erikson's influential theory of psychosocial development, generativity versus stagnation and integrity versus despair, respectively (Erikson, 1959; Erikson, Erikson, & Kivnick, 1986). Anticipated findings from this study would have noteworthy implications for Erikson's theoretical work on development processes in late life.

To summarize, participants responded to three open-ended questions designed to tap three different but complementary aspects of successful aging: a) attributions for longevity, b) what they look forward to the most, and c) advice for younger persons today. Open-ended questions were deemed preferable to provide greater breadth and depth of responses than would have been possible with a strictly quantitative assessment. Taken together, participants' responses to these questions yielded narrative data that were analyzed for recurring concepts and emergent themes, consistent with grounded theory methodology (Strauss & Corbin, 1998). We expected that the three cohorts would be similar in their responses concerning attributions for longevity, citing diet, exercise and lifestyle variables that contribute to longevity. In contrast, we expected that the older cohorts would differ from their younger counterparts with respect to what they look forward to and in connection with the advice they offered for younger persons today.

Method

Participants and Interview Procedure

In all, 90 individuals drawn from the *Louisiana Healthy Aging Study* (LHAS) participated in the study. They were predominantly Caucasian (n = 83), with the remaining being African-American (n = 3), American-Indian (n = 1) and other (n = 3). The three age groups included; young-old adults (M = 67.1 years, SD = 4.5 years, age range 60 to 74 years; 9 males, 10 females), old-old adults (M = 82.6 years, SD = 4.5 years, age range 76 to 89 years; 12 males, 14 females) and oldest-old adults (M = 91.2 years, SD = 1.2 years, age range 90 to 94 years; 21 males, 24 females). Informed consent was obtained for all participants according to protocols approved by the respective institutional review boards. All scored at least a 25 or higher on the Mini-Mental State Exam (MMSE; Folstein, Folstein, & McHugh, 1975) and were free of neurologic impairment due to stroke or adult dementia.

Participants were tested individually in their homes or in the laboratory at Louisiana State University (LSU) across two sessions that lasted approximately an hour to 1 hour and 30 minutes each. At the beginning of the session, we assessed cognitive and affective status, demographic characteristics, and personality (not reported here). Participants were given questions on everyday memory to read during a break period (for those tested in back-to-back sessions on the same day), or to take home and consider (for those tested across sessions held on different days). On the second day (or second half of a back-to-back session), participants completed the subjective memory assessment (not reported here). The three successful aging questions were administered next and their responses were taped recorded. Audiotapes were transcribed verbatim and double-checked for accuracy. In this paper, we focus on responses to the three successful aging questions, as follows:

- 1. "What do you think is the key to living a long life?"
- 2. "What do you look forward to the most, as you grow older?"
- **3.** "Looking back over your life, what advice or words of wisdom would you have for a young person today?"

Analysis and Coding

The qualitative interview data were analyzed employing techniques from grounded theory methodology, including open and axial coding (Strauss & Corbin, 1998). To enhance the reliability and validity of findings, "team-based analyses" were conducted (see Marks, Cherry, & Silva, 2009; Marks et al., 2008). Specifically, six members of the team were divided into three coding/analysis pairs. Pair 1 had the primary responsibility for coding/analyzing data from the "young-old" (60 to 74 years), pair 2 coded/analyzed the qualitative data from the "old-old" (75 to 89 years), and pair 3 coded/analyzed the qualitative data from the "oldest-old" (90 years and older). The age groups are hereafter referred to as Cohorts 1, 2, and 3, respectively.

The team-based approach commenced with team members independently coding five interviews (per week). After completing the open coding for each of the interviews assigned for that week (e.g., Interviews 101–105 for Pair 1, Interviews 201–205 for Pair 2, etc.), each pair would meet together weekly for several months to discuss, compare, and contrast their independent open coding from the previous week on a line-by-line, page-by-page basis, with each member of the pair alternatively "leading out" by discussing her/his personal open coding of a given page. Following presentation of one's independent coding of a given page, the other member of the pair would discuss similarities and differences in their coding for that page. Consensus was not required for line-by-line open coding. However, all researchers recorded a Numerical Content Analysis (NCA) for each interview describing how many times concepts were coded, similar to Miles and Huberman's (1994) "data accounting sheet" (p. 80). Based on these NCAs, the pairs were required to reach consensus regarding the three major themes across the interviews for the cohort they coded.

To ensure that all reported themes for all three cohorts were verifiable and clearly supported by the data, each research team/pair revisited all of their cohort's interviews and copied and pasted all data that had been directly linked with one of the major themes into data files (one file for each major theme). Each of the major themes had several pages of supporting data—consistent with Patton's (2002) recommendation of creating a data "audit trail" (p. 93).

In the cases of the three major themes identified in this article, there was considerable overlap and similarity across the three cohorts. There were, however, differences in the respective order of importance and salience across cohorts—as well as some nuances that were captured during the process of team-based analysis. The three major themes, as well as

cross-cohort differences, are reported next along with more than 30 illustrative and supportive examples from the participants' qualitative interviews.

Results

The qualitative data (responses) reported in this section were stimulated by three questions: (a) "What do you think is the key to living a long life?"; (b) "What do you look forward to the most, as you grow older?"; and (c) "Looking back over your life, what advice or words of wisdom would you have for a young person today?" Team-based analyses yielded the three themes which are presented next.

Theme 1: Maintaining Physical, Mental, and Relational Well-Being

For many participants, there seemed to be high degree of integration between physical, mental, and relational/social health and well-being (see Reichstadt et al., 2007, for a similar finding). In several cases, participants' responses seemed to blend these different aspects of well-being or health in ways that blurred the lines between what many often think of as different dimensions of well-being. The participants did not necessarily view the physical, mental, and relational as identical, but many drew strong ties between these dimensions and indicated that all of the dimensions played crucial roles in helping them live a long and happy life. Pushing further, it appeared from these data that relationships among the different dimensions were transactional in nature. For example, relatively high levels physical and mental health tended to facilitate the opportunity for increased social interaction—and high levels of positive social interaction and social support, in turn, seemed to sustain or even elevate perceived physical and mental well-being. Indeed, for many participants, physical and mental well-being was either implicitly or explicitly linked with having a strong, positive support group. For example, one participant from Cohort 1 reported:

116: [When I think of the key to living a long life]...I think [of] association with others. And when I [say] physical activity [is also a key, I don't just mean exercise], I mean association with others.

References to relationships and social support that were not explicitly familial like this were comparatively common in Cohort 1, perhaps due to the fact that many of these participants were still employed or were recently retired. Two participants from the slightly older Cohort 2 similarly mentioned social life and friends:

207: I think to involve [yourself in] things that are mentally and socially challenging [is] just as important as anything you can do physically.

219: [We've] lost a lot of our friends and family, so we depend on younger friends, new and younger friends, so we hope to continue generating interest with younger people who can be our friends.

Although the latter participant mentions friends he and his spouse "depend on," most participants from Cohort 2, placed emphasis on *family* as their salient support group. This emphasis is captured in the following interview excerpts, all from Cohort 2:

201: [A] great thing that helps you out, as far as [advice I would] give a young person, is that *I think you need to have a good family life*. What I mean is that this is [the] support group that really starts you off. It goes beyond your mother and father, brothers and sisters...it is your uncles and aunts and the people that care about you because of what we call blood kin, so to speak. When you really boil your life down to a final analysis, you only have two things going for you, that is *your family* and...*your faith* [in] the supreme creator.

209: [As far as advice for a young person today], it is very important, [and I] would tell a young person, male or female, that it's important in life to have a *family*. I'm not going to put any numbers on it, but life is not complete without having a family.

224: [When you ask me], what do I look forward to? I can't think of anything that's not [exciting] going on in my life right now because I have a *wonderful family* and they're always there. So I don't really [have to] look forward to that because I [already have them and I] know they're going to be there. [But I do] look forward to [continually]... enjoying the family and friends. That's about it.

226: *I guess the most [important] thing is family*. [That's what's got me here and] like I said, [I look forward to] being with the children and keeping up with them.... [I love to] know what they're doing, [my] children and grandchildren. [I am] just interested in what they are doing... that's the personal side of it. [That's what matters to me.]

While many Cohort 2 participants tended to focus on family relationships in connection with physical and mental well-being as they discussed both their present and prospective happiness, Cohort 3 participants seemed to be comparatively introspective. While some in Cohort 3 discussed family (like Cohort 2, as evidenced above) our "oldest-old" rarely addressed non-familial ties, nor did they mention the friend-based social support networks mentioned by some in the "young" Cohort 1. Indeed, our "oldest-old" seldom mentioned the notion of a support group as vital for physical and mental well-being. Instead, the nonagenarians focused far more on having peace of mind and absence of anger, as illustrated in the two following examples:

308: I think that the key to a long life...[is that] the mental [aspect] of your attitude has a lot to do with it. I try to keep a good outlook on life and, of course, I get disappointed and get unhappy with the way the world is going today, but I know that I won't have to be here too much longer to live in it. [I try to find joy].

310: [It is vital to have] a cheerful outlook on life. [To make sure you] laugh a lot, never go to bed angry. There is a saying that says, "He who lives with anger, that anger is a devil in your heart or your stomach," [or something] similar to that. Continual anger will eventually destroy people. You know that quote (with light-hearted laughter): "Anger rests in the belly of a foul [soul]."

Another insight and related piece of advice offered by member of Cohort 3 was this:

343: [The advice I would give to young people is to] live your life the way you enjoy [living it].... I don't know if these are words of wisdom but there are a lot of things that you could say.... My best advice for younger people is this: Never, under any circumstances, put off anything that you would like to do, that you would like to participate in, that you can afford to do, because a week from now you may not be here to do it. I mean don't put anything [important] off.

This participant's insights mesh closely with those of Bronnie Ware, a palliative care nurse who worked for several years with the aged during the last weeks of their lives. Ware recently published a volume called *The Top Five Regrets of the Dying* (2011), in which she reports:

Of all the regrets and lessons shared with me as I sat beside their beds, *the regret of not having lived life true to themselves* was the most common one of all. It was also the one that casued the most frustration, as the client's realization came too late (p. 39, emphasis in original).

Ware (2012) adds:

When people realize that their life is almost over and look back clearly on it, it is easy to see how many dreams have gone unfulfilled. Most people had not honored even a half of their dreams and had to die knowing that it was due to choices they had made, or not made. Health brings a freedom very few realize, until they no longer have it.

Our Cohort 3 participants correspond with Joan Erikson's (1998) ninth stage of development that addresses the 90+ years old population that both she and her late husband, developmental theorist Erik Erikson, lived long enough to join. Specifically, Joan Erikson identified a healthy and desirable "resolution" among those in this group that she referred to as *gerotranscendence*—a state where, in spite of an awareness of the problems in the world and in life, a profound inner sense of solace and peace is reached. This state is poignant and deep enough that it cannot be stolen by the external world, which this state seems to transcend. Based on the first author's lengthy interactions and interviews with them, many of our "oldest-old" participants seemed to reflect aspects of gerotranscendence, but this sense of solace and peace is not easy to capture or reflect in verbiage. Perhaps no participant did so as effectively or succinctly than the following:

338: [The key is having] peace of mind. I would like to think [about] peace on earth, but there will never be peace on earth. Fortunately though, you can have peace of mind even when there's not peace on earth.

As we conclude our discussion of Theme 1, we note a high level of integration between physical/mental well-being and social/relational well-being for Cohorts 1 and 2. Cohort 1 participants were, of the three cohorts, most likely to reference social relationships as salient to overall health and well-being. Cohort 2 participants focused heavily on family social support across the lifespan. By contrast, Cohort 3 participants were the most introspective and personal in their responses. Some of this cross-cohort variation is likely due to generational, historical, or cultural effects (Hareven, 2000), but we suspect that increased levels of introspection among our "oldest-old" participants is largely developmental. That is, this difference among the 90 years and older participants may be a function of life's "winding down," consistent with the theoretical work of their "oldest-old" peer, Joan Erikson and her conceptual work on gerotranscendence, as discussed more fully later on.

Theme 2: Living a Healthy Life

Participants were asked to share "keys" to a long life, as well as words of advice and wisdom for younger adults. Across the three Cohorts, participants exhibited some shared areas of overlap, but also differed somewhat in emphasis.

Participants in Cohort 1 were more likely than the older two cohorts to mention exercise and/or diet in their responses, as illustrated in the following two excerpts (both from Cohort 1):

116: [A key] is eating responsibly. [Eating] healthy. Not overeating.

118: [One key is] doing the right thing, eating healthy, exercising, keeping your mind busy by doing things. I think that's a key thing. You can't just sit in a chair and watch TV.... I'm doing something all the time.

Participants in Cohort 2 also referenced the importance of exercise and proper diet. For example:

207: [The keys are] genes, good nutrition, exercise, taking care of yourself.

However, Cohort 2 participants frequently added two additional "keys" to living a long healthy life that most of the exercise- and diet-focused responses from Cohort 1 overlooked. The first of these was a recurring emphasis on "contentment."

- 226: [I think that] *contentment* is a [key].
- 210: [I would tell people to more fully realize what you have]. Go and enjoy life as much as you can, because when you get older your health can prevent you from what you want to do.
- 213: [I believe that] health that comes [from and] with lots of things. Exercise, medications...*contentment*.

This recurring emphasis on contentment as a source of health by Cohort 2 meshes well with our earlier discussion of Joan Erikson's concept of gerotranscendence...and also with the empirical and theoretical work of former American Psychological Association president Martin Seligman, founder of the field of positive psychology. Seligman (2002) identifies the central "positive emotions about the past" as "satisfaction, contentment, fulfillment, pride, and serenity" (p. 61). Several Eastern philosophical and religious traditions have held contentment as a core ideal for millennia (e.g., Buddhism, see Smith, 1991), but evidence supporting the role of contentment in mental health is growing empirically (Seligman, 2002).

In addition to their novel focus on contentment, Cohort 2 also introduced a "key" that was later added to (and perhaps intensified) by Cohort 3. This "key" was avoidance of smoking, drugs, and alcohol. Cohort 2 participants' examples included the three following statements:

- 203: First of all, you have to take care of your health. [By this] I meant don't abuse your body with things you know [are] detrimental. For example, when I was young, going with the crowd, I tried to smoke. I didn't like the taste so I gave it up, which happens to be a very good thing. So I would say, don't develop bad habits. You know what I mean, because that is a bad habit. Take care of your health.
- 221: I can't understand anyone taking the drugs. I have never even considered such a course. [I hate to see people doing some of the things] they are now. As I was growing up, I don't think I would have ever succumbed to any such habits. I've never gone along with the crowd, I've always been unswayed by group feeling and [have had] a strong enough sense of my own [self that] I wouldn't follow any stupid trends, even if everyone else is doing it.
- 227: Oh! One good [piece of] advice: *Do not drink or smoke*! That [statement] needs to have a big circle around [it]. I am adamant about [avoiding] drinking...I will not even take wine at church! I just *detest* [alcohol]. You just don't know how that can affect your life.

One participant from Cohort 2 shared a related reflection of regret:

212: What I dislike most about the life I lived is smoking cigarettes and having... [all of the related problems that have come with it]. [I am not a] fan of smok[ing]. [In my life], 99 times out of 100, [when I have had health problems], it's usually caused by smoking, and I hate myself for it. We just didn't know any better [back when I started smoking].

Cohort 3 rarely mentioned exercise or diet when referring to living a long, healthy life. Instead, they focused on avoiding tobacco, alcohol, and drugs. The next participant was one who discussed avoiding excess in diet, as well as in alcohol and drug use:

304: I think [another key is] avoiding excessive [indulgence in] things: over eating, indulging in tobacco. I have seen so many people with emphysema from the use of tobacco. My mother was a really [hard on smoking]...[and she] put me on the road of not using tobacco. She *hated* it and she just thought it was a dirty habit, which it was. I see a lot of younger people that are having problems with emphysema and [it saddens me]. [So, again] I say [that a key to health is] avoiding excesses and avoiding tobacco. Overeating and overdrinking and all that stuff.

Other Cohort 3 participants, like the following, similarly urged against excess:

316: [An important piece of advice I have to offer is]: *No alcoholic beverages*. [That's the] best.... You can, of course, have a little bit, but so many people overdo it.... That's another thing. Don't overdo anything.

The urged avoidance (or at least warnings against excessive use) of alcohol, tobacco, and illegal drugs by Cohorts 2 and 3 resonates with recurring findings that indicate significant health differences for members of religious groups that abstain from alcohol, tobacco, illegal drugs, and caffeine (i.e., Seventh-Day Adventists and Mormons). More specifically, Seventh-Day Adventists have a "cancer mortality rate...50–70% lower than the rate for the general population" (Koenig, McCullough, & Larson, 2001, p. 362), while devout Mormon men live more than seven years longer than the national average (Enstrom, 1998). For both denominations, the associated death rates from cancer and coronary artery disease were: (a) "considerably below those of the general population" Koenig et al., 2001, p. 362), and (b) partially attributable to the same factors (avoidance of alcohol, tobacco, and illegal drugs) that were repeatedly identified by the participants in our present study.

A final related quotation from our study draws a connection between avoiding drugs and carefully selecting social ties.

313: [If you want to live a long life, I would tell you to] avoid bad company. Don't do anything without thinking about and about how it will affect other people. I guess [I believe in] the clichés...of don't do this and don't do that, but [beyond that], watch out for bad companions and avoid drugs. I think [they go together].

This participant's observation and counsel seem to create a thread across the health-related themes discussed by connecting the social ties emphasized in Theme 1 with the pronounced anti-drug messages of Theme 2. As a result, we begin to see the genesis of coherence and relationship between and across themes, a coherence we will revisit and reinforce later in the paper.

In rapid review of Theme 2, the three cohorts responses differ slightly. The importance of diet and exercise were central to Cohort 1, but mentioned less frequently by Cohort 2, and almost never by Cohort 3. Contentment was mentioned repeatedly as a "key" by Cohort 2 and to a lesser (and more implicit) degree by Cohort 3, but not at all by the youngest cohort. A point of convergence, however, was a cross-cohort warning against tobacco, alcohol, and drug use that was mentioned by some in Cohort 1 but was especially pronounced in the Cohorts 2 and 3.

Theme 3: Living a Faithful Life

When addressing important keys to a long life, many participants mentioned various aspects of "living a faithful life," which is consistent with prior research on older adults' perceptions of successful aging (Duay & Bryan, 2006). This theme is also compatible with the broader research literature on religiousness and spirituality where positive effects of religion have been documented for subjective well-being (e.g., Jackson & Bergeman, 2011), psychosocial functioning (e.g., Wink & Dillon, 2003), feelings of self-worth (e.g., Krause, 2012), and

sense of meaning or purpose in life (e.g, Steger & Frazier, 2005). Additionally, religious faith has been identified as an effective coping resource for older adults transitioning from independent living to an assisted living facility (e.g., Patterson, King, Ball, Whittington, & Perkins, 2003).

Empirically-based conceptual work indicates that religious faith is comprised of at least three dimensions that are essential to consider if we are to understand religion's influence on the lived experience of individuals and families (Dollahite, Marks, & Goodman, 2004). Those dimensions include: (a) *faith community* (support, involvement, and relationships grounded in one's congregation or less formal religious community); (b) *religious practices* (outward, observable expressions of faith such as prayer, scripture study, rituals, traditions, or less overtly sacred practice or abstinence that is religiously grounded); and (c) *spiritual beliefs* (personal, internal beliefs, framings, meanings, and perspectives).

Participants' responses regarding the importance of faith reached across all three of these dimensions (faith community, religious practices, and spiritual beliefs). The frequency of faith as a highlighted "key" to long life, however, varied widely across cohorts.

Cohort 1's references to faith tended to be implicit. One participant who did reference the importance of faith directly, emphasized the importance of faith community involvement by advising:

118: Go to church...always go to church. Do the right thing in life, and that would be not to get into any trouble. I don't have much wisdom [but I see going to church as a key].

A similar idea was raised by participants in Cohort 2. One reflected:

209: [When I think about living a long life], I know it's important to believe in God and to be able to accomplish [a strong sense of faith]. [But] there are many ways [to do that]. I believe that getting in a church is one...and following it. Following it is the best way...one of the best ways.

Upon close examination, this latter excerpt, although brief, covers a great deal of ground. This participant, like the previous Cohort 1 participant confirms the importance of the dimension of *faith community* (e.g., "getting in a church"), but also emphasizes the dimension of *spiritual beliefs* (e.g., "believe in God"), and well as the dimension of *religious practice* (e.g., "following it"). Indeed, in three short sentences all of Dollahite et al.'s (2004) major dimensions of religious faith are represented.

Other participants from Cohort 2 were more general and principle-based in their advice related to religious faith. In what seemed to be paraphrasing of two New Testament verses from the Sermon on the Mount (Matthew 6:33–34)¹, another Cohort 2 participant recommended:

212: Just live your life for God, and everything will take care of itself.

Cohort 3 participants mentioned faith more frequently than the other cohorts. In addition, a few of the Cohort 3 participants mentioned not only faith in God, but also strength against Satan and related temptations throughout life. For example, one participant (who referenced both God and Satan) reported:

¹But seek ye first the kingdom of God, and his righteousness; and all these things shall be added unto you. Take therefore no thought for the morrow: for the morrow shall take thought for the things of itself. (Matthew 6:33–34, KJV).

318: I look forward to each day. I enjoy each day God gives me. I do not care what comes and goes; I am going to be happy in the Lord. [Happy] is what he wanted me to be and that is what I am going to be. I have to fight Satan to do it, he come here one night, thought he would run me out of here. I said, "No, I know who you are.... In the name of Jesus, you get out of my house." Nothing has happened...since. Those demon spirits will follow you around.

As with other participants cited earlier, several Cohort 3 participants included an emphasis on faith community involvement and worship in their responses regarding keys to a long life. Others, like the following, included church involvement when offering points of advice and counsel to younger generations.

310: [In terms of advice], I would suggest that [young people] get into a good church and worship the Lord. Now it is a proven fact that Christian people live longer than people who are not Christian. That is proven, even by the people who do not believe in the Lord. They have checked on it and found it to be true.

In Theme 2 previously, participants addressed the avoidance of tobacco, alcohol, and illegal drug usage. Enstrom's (1998) cancer and mortality research with participants whose faith proscribes these substances was referenced, including his report of a more than seven year difference in longevity over the national average. In connection with the above participant's above claim "that Christian people live longer than people who are not Christian," we turn briefly to the empirical record.

Ample experimental evidence documents the association between religious participation and mortality, where religious individuals live longer than do their non-religious counterparts (e.g., McCullough, Friedman, Enders, & Martin, 2009). For example, Hummer, Rogers, Nam, and Ellison (1999) have shown that Americans who attend worship services twice a week live an average of 7.6 years longer than their non-attending counterparts (a figure that nearly doubles to 13.7 years among African Americans; see Marks et al., 2005). Hummer et al.'s study was based on a national sample of 20,000+ that included a variety of faiths (Christian and non-Christian) and received the highest possible rating ('10') for methodological rigor (Koenig et. al., 2001, p. 562). The "key" to this longevity difference in Hummer et al. appeared to be frequency of worship service attendance, not world faith or denomination (see also Gillum, King, Obisesan, & Koenig, 2008; Hill, Angel, Ellison, & Angel, 2005; Musick, House, & Williams, 2004).

In further linking Theme 2 (*Living a Healthy Life* and avoiding harmful substances) with Theme 3 (*Living a Faithful Life*), it is also apparent that the suppression of alcohol and drug use is associated with religious involvement. Koenig and colleagues (2001) summarize their related comprehensive review by indicating:

To date, there are nearly a hundred studies suggesting that religion may be a deterrent to alcohol or drug abuse in children, adolescents, and adult populations. The greater a person's religious involvement, the less likely he or she will initiate alcohol or drug use (p. 180).

A Cohort 3 participant seemed to capture this correlation in an observation and piece of advice:

318: [If they want to live a long, healthy life], I would tell [young people] to...be sure to make Sunday [worship]. [Honor] your God and church. And live a clean life and God will give you a long, happy life. [W]hen you[r] [peers] start messing with that doping and start drinking, [don't do it]. They might call you a chicken, but tell them, "I would rather be a live chicken than a dead duck." You will make it. Without God you are nothing.

This Cohort 3 participant blends, even integrates, faith in God with avoiding "doping" and "drinking"—and idea consistent with previous quantitative work (Koenig et al., 2001). It is important to note, however, that while religious involvement seems to have a suppressive effect on alcohol and drug abuse, this is not the only pathway through which faith community involvement influences longevity. The connection between religion and longevity is complex and multi-faceted and involves myriad factors including (but not limited to) marital status (Marks et al., 2005), better diet, safer sexual practices, and increased social support (Koenig et al., 2001). The influence of social networks on happiness and mental well-being is particularly pronounced in recent research (see Buettner, 2011). Indeed, one participant in our previous work summarized:

My mom is 85, and [her church friends] keep her active. She's constantly in that church [with her friends]...all of them are still active in the church.... As long as you are an active member, any time you are active at all, I think you survive longer. I think ... that makes a difference.... [That involvement] keeps them alive because they're part of something that's vital (Marks et al., 2005, p. 455).

A Cohort 3 participant similarly stated:

313: [If you want to live a long, healthy life], I think you should really try to adhere to the tenets of your religion. Don't give up your religion. Try to stay with it, even as hard as it is sometimes.

This statement meshes with our previous qualitative work where some participants have posited that "giving up on faith...is giving up on life" (Marks et al., 2005, p. 458).

As we conclude our discussion of Theme 3, we note the consistency across cohorts with respect to faith community involvement, with all three cohorts stressing the importance of attending services as a positive influence on everyday living. Of greater interest were Cohort 3's responses, which provided additional insights concerning longevity and successful aging, in support of our hypothesis. We expected that nonagenarians' responses would illuminate novel "keys" to living a long life, given the significant historical events they have experienced in their lifetime, including the Great Depression and World War II. We found that Cohort 3's responses were more frequent and varied with respect to faith and worship than their younger counterparts. In addition to faith in God, nonagenarians also specifically referenced resistance to temptation. Finally, Cohort 3's responses integrated faith in God with avoiding drugs and alcohol, implying that faith is a mechanism that promotes "clean living" and allows one to avoid the perils associated with substance use and abuse.

General Discussion

In this study, we examined perceptions of longevity and successful aging in three cohorts who ranged in age from 60 to 94 years. Team-based qualitative analyses yielded three major themes relating to longevity and successful aging: 1) *Maintaining physical, mental, and relational well-being*, 2) *Living a healthy life*, and 3) *Living a faithful life*. Comparisons across cohorts yielded similarities and differences within each of these themes. Our findings and their implications for current views of successful aging are discussed in greater detail next.

The first theme, *Maintaining physical, mental, and relational well-being*, reflects participants' perceptions of longevity and successful aging as multifaceted phenomena. Importantly, the physical, mental and relational aspects were highly integrated for Cohorts 1 and 2. This finding is consistent with Rowe and Kahn (1997) who suggested that components of successful aging interact vigorously (see also Reichstadt et al., 2007). Of the three cohorts, Cohort 1 was most likely to mention social relationships as salient to overall

health and well-being. Cohort 2 emphasized family social support across the lifespan, in support of our hypothesis (Carstensen, 1991).

Contrary to expectation, Cohort 3's responses did not focus on social relations with family and close friends. Rather, the nonagenarians' responses were more solitary and personal, emphasizing peace of mind and absence of anger. We have suggested that their increased levels of introspection and preference for serenity may be developmental, consistent with the notion of gerotranscendence (Erikson, 1998). Socioemotional selectivity theory assumes that older adults are motivated to seek emotional balance in the present, prioritizing emotionally meaningful activities over goals that expand social networks and future opportunities (Carstensen, et al., 2003; Lökenhoff & Carstensen, 2004). Nonagenarians may have outlived those people with whom they were emotionally invested, such as spouses, siblings and for some, children. Because the loss of emotionally significant others due to death is likely in late adulthood, enhancing emotional well-being through social contact may be unrealistic for Cohort 3. Our data suggest that nonagenarians focus on maximizing their daily emotional experience through introspection, by avoiding anger and focusing on contentment rather than pursuing social activities with family and close friends. It is also possible that our findings reflect a cohort effect, where nonagenarians embrace self-sufficiency and personal responsibility for happiness more than do the other cohorts sampled. Future research incorporating a longitudinal assessment would be desirable before firm conclusions would be warranted, however.

The second theme, *Living a healthy life*, encompassed health positive behaviors, such as exercising, eating healthy, and avoiding tobacco, alcohol and drugs. We hypothesized that participants' responses would reflect physical health promotion with emphasis on diet and exercise to promote a long and healthy life, based on prior research (e.g., Duay & Bryan, 2006; Iwamasa & Iwasaki, 2011) and popular press (Perls & Silver, 1999). Our findings partially support this hypothesis in that diet and exercise were central to Cohort 1, but mentioned less often by Cohort 2, and almost never by Cohort 3. This aspect of the data may reflect a cohort effect in that the emphasis on health promotion and participation in health positive behaviors such as diet and exercise is a relatively recent phenomenon. Cohort 3's routines of daily living may have involved more physical activity behaviors compared to their younger counterparts with access to labor saving machinery. Future research that assesses participants' history of physical activity behaviors in everyday life would be desirable to provide a more definitive analysis of this issue.

Participants emphasized the dangers of tobacco, alcohol, and drug use mentioned by some in Cohort 1 and stressed more for Cohorts 2 and 3. This finding is understandable, given that people age 60 years and older have likely observed the adverse health consequences of prolonged smoking, alcohol and drug use, including cardiovascular disease, cancer, emphysema, chronic obstructive pulmonary disease, and premature death. The first Surgeon General's report concerning the health risks associated with cigarette smoking appeared in 1964 (U.S. Department of Health and Human Services, 2012). Thus, older people have likely witnessed the death of at least two generations of friends and family (parents and grandparents, extended family) who died from complications related to smoking. Our findings, among others, underscore the importance of health positive behaviors as a critical component of successful aging (Depp & Jeste, 2006).

The third theme, *Living a faithful life*, was indicated across the three cohorts sampled. This finding confirms the earlier work of Crowther, Parker, Achenbaum, Larimore, and Koenig (2002) who made the point that spirituality has been as a forgotten factor in conceptualizations of successful aging (see also Iwamasa & Iwasaki, 2011; Sadler & Biggs, 2006). Our findings also confirm Dollahite and colleagues' (2004) multidimensional

approach where religious faith is comprised of three dimensions: *faith community*, which includes involvement and relationships grounded in one's congregation; *religious practices*, referring to observable behaviors such as prayer, scripture study, and other rituals; and personal, internal, *spiritual beliefs*. The frequency of faith as a highlighted "key" to long life, however, varied widely across cohorts.

We found that Cohort 1 and 2's responses reflected an emphasis on faith community involvement specifically stressing the importance of church attendance. In contrast, Cohort 3's responses included frequent and explicit reference to faith in God plus resisting temptation. Interestingly, Cohort 3 also integrated faith in God with avoiding drugs and alcohol, implying that faith is a mechanism to promote healthy lifestyles. One explanation for the finding that Cohort 3 referenced religious faith more than the two younger cohorts is that this difference is due to historical and/or generational factors. Alternatively or additionally, Cohort 3's focus on faith may reflect an awareness of imminent mortality. Future research to address generational differences among the cohorts sampled would be necessary to permit a more definitive analysis of this issue.

Three limitations of this study warrant brief mention. First, participants were enrolled in a multidisciplinary study of healthy aging, so a sampling bias in the direction of vitality may be in operation. Second, our study sample may reflect regional differences unique to South Louisiana such as limited variation in religious faiths, which necessarily limits the generalizability of our findings. The present results should be interpreted in light of these concerns. Third, we did not directly assess religious affiliation, religiousness or spiritual beliefs and practices in this study. Thus, inferences concerning the role of religious traditions or denominational preferences in successful aging are not warranted. Future research with quantitative assessments of religiousness and spirituality is needed to provide a more definitive analysis of this issue.

In closing, the present results add to a growing literature on successful aging in late life. Our findings highlight the role of faith in older adults' personalistic views on longevity and successful aging. Future research to explore the generality of these findings seems warranted.

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