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Abstract

As global longevity increases, increased understanding of the construct of health is important to promote successful aging. However, few researchers have investigated differences in people’s ideas of health across the lifespan. The present study directly compared the self-reported health (SRH) and health conceptualizations of 113 college adults (CA; age 18-22) from a Midwestern university versus 112 older adults (OA; age 65 and older) recruited from a university-affiliated continuing education program. Both qualitative and quantitative methods were utilized by asking participants to: (1) rate their subjective and objective health; (2) describe health in a narrative format; and (3) rate the importance of five theoretically derived health domains (physical, functional, attitudinal, behavioral, and spiritual). Results showed that OA rated their health significantly more positively than CA, despite reporting significantly worse physical health and more physical ailments. Additionally, OA reported better mental health status. Contrary to prediction, physical status was not seen as most important by either subgroup; in contrast, psychological aspects of health emerged as central to both groups. Differences emerged as OA placed significantly more importance on daily functional capabilities and spirituality than CA, while CA placed more importance on health-related behaviors. Results indicated that health is a multifaceted construct for both young and older adults but the most salient aspects differ; understanding the key features different age groups associate with health could prove helpful in targeting efforts to promote and improve health.
Self-Reported Health Status and Perceptions of Health Across Age Cohorts

Health-related topics are a popular focus of study in contemporary scientific research. As our global population ages and longevity increases, increasing our knowledge about how health can be effectively sustained, promoted, and improved grows in importance. As the emphasis on all aspects of health intensifies, theoretical questions about how health is best defined have become increasingly relevant. For over a half-century, researchers have probed the question of how to best understand the nature of health utilizing both quantitative (e.g., Breidablik, Meland, & Lydersen, 2008; French, Sargent-Cox, & Luszcz, 2012; Idler, Hudson, & Leventhal, 1999; Idler & Kasl, 1991; Maddox, 1962; Tissue, 1972) and qualitative (Borawski, Kinney, & Kahana 1996; Jylha, 1994; Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Manderbacka, 1998; Peersman, Cambier, De Maeseneer, & Willems, 2012; Simon, De Boer, Joung, Bosma, & Mackenbach, 2005; Van Dalen, Williams, & Gudex, 1994) techniques. Although this area of study is expansive and has produced some contradictory findings, one robust conclusion across studies has emerged: health is a multidimensional construct. This overarching belief diverges from the traditional notion that health is best understood in relation to biomedical states (Jylha, 1994). This body of research has increasingly shown that when defining health, one should fully consider all fundamental aspects of human existence that encompass how people understand what it means to be healthy or unhealthy in modern society—in order words, health as a psychological construct.

Self-Reported Health

When exploring health-as-construct, one widespread methodology is the use of a single-item self-reported health (SRH) question (e.g., “How would you rate your health?”), asking individuals to assign a rating on a 4- or 5-point scale (typically from 1 to 5; poor to excellent;
Idler & Kasl, 1991; Jylha, 2009; Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Manderbacka, 1998). Early research found that SRH provided insight into what was labeled “perceived health” (Suchman, Phillips, & Streib, 1958, p. 227) and defined as people’s subjective understanding of their own health, which is distinct from objective measures of health or medical evaluations (Suchman et al., 1958). Although seemingly simplistic, scientific findings on SRH since the 1950s have consistently shown that this basic, global, measure functions as a valuable and effective data collection tool, adding richness to objective health evaluation (Jylha, 2009) and evincing a strong correlation with health outcomes and mortality (Idler & Benyamini, 1997; Idler & Kasl, 1991; Lee, 2000; Mossey & Shapiro, 1982).

Perceptions of Health

Although SRH measures provide meaningful data about an individual’s overall health, their ability to convey why people view their health as they do is more limited; research has found that although two individuals may rate their health similarly, the reasoning behind their subjective evaluations may be based on a wide range of factors (Jylha, 1994). Thus, the subjective meaning of excellent health or poor health can differ widely across individuals and situations (Banerjee, Perry, Tran, & Arafat, 2010). To explore the theoretical underpinnings of individuals’ subjective assessments, many researchers turned to qualitative approaches (Borawski et al., 1996; Jylha, 1994; Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Manderbacka, 1998; Peersman et al., 2012; Simon et al., 2005; Van Dalen et al., 1994).

Beginning in the 1990s, health researchers started to use a SRH question as the foundation for such investigations, often first asking individuals to quantitatively rate their health using a SRH question and then conducting follow-up interviews asking participants to elaborate on why they rated their health status as they did (Borawski et al., 1996; Krause & Jay, 1994; Manderbacka,
1998; Simon et al., 2005; Van Dalen et al., 1994). This qualitative content was, in turn, summarized for recurrent thematic content, which was then quantified to allow for descriptive statistics and basic quantitative analyses. The results for such studies allowed researchers to draw conclusions regarding the key determinants of SRH—or the factors that individuals consider when determining their level of health. Several broad domains consistently emerged and, collectively, findings suggest that SRH is most strongly related to: (1) physical health problems; (2) functional capacity; (3) psychological aspects; and (4) health promoting behaviors (Borawski et al., 1996; Idler et al., 1999; Krause & Jay, 1994; Manderbacka, 1998).

Additionally, although not as consistent or robust, several other dimensions recurred in participant descriptions, including health comparison (Krause & Jay, 1994), social role activity, and social relationships (Idler et al., 1999).

Following their identification, these constructs have been studied using a variety of quantitative research designs, with cross-sectional (Breidablik et al., 2008; French et al., 2012; Liang et al., 2010; Millan-Calenti, Sanchez, Lorenzo, & Maseda, 2012), longitudinal (Galenkamp, Braam, Huisman, & Deeg, 2012; Lee, 2000; Leinonen, Heikkinen, & Jylha, 2002; Segerstrom, 2014), and meta-analytic (Pinquart, 2001; Roberts 1999) results generally supporting qualitative findings. Overall, quantitative investigation into determinants of health has found that the broad factors of physical illness burden, functional disability, and mental health (and health behaviors to a lesser extent) have shown the strongest relations to SRH ratings (French et al., 2012; Manderbacka et al., 1999; Pinquart, 2001).

**Person-Centered Correlates of Health**

The four well established correlates of health ratings (i.e., physical, functional, behavioral, and attitudinal) create a framework in which subjective evaluations and overall
perceptions of health can be better understood. Although it has emerged less frequently, spirituality is another correlate of health that has shown to be influential in subjective health appraisals (Hughner & Kleine, 2004; Idler et al., 1999; McCullough & Laurenceau, 2005; Nicholson, Rose, & Bobak, 2009; Nicholson, Rose, & Bobak, 2010). These central correlates function as person-centered variables as they apply to everyone, but their relative importance differs across people and reflects individual differences in subjective understandings of health.

Physical aspects of health are consistently cited most frequently as the cardinal feature of health. Individuals operationalize the physical aspects of health as including the presence or absence of major illness, degree of contact with the medical community, number of medications prescribed, and level of personal strength or robustness (Borawski et al., 1996; Hughner & Kleine, 2004; Krause & Jay, 1994; Manderbacka, 1998). Concepts related to the functional domain also commonly emerge, manifesting in a number of subdomains including the ability to attend work consistently, take care of one's household (Hughner & Kleine, 2004), ease of physical mobility, and level of independence (Van Dalen et al., 1994). Within the larger construct of attitudinal health, research has identified a number of related items including self-reported levels of depression, anxiety, happiness, energy, coping and general mental attitude or mood (Benyamini, Leventhal, & Leventhal, 2003; Borawski et al., 1996; Hughner & Kleine, 2004; Idler et al., 1999; Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Maddox, 1962; Mechanic & Hansell, 1987; Piko, 2000; Simon et al., 2005; Van Dalen et al., 1994; Verropoulou, 2009). Behavioral indices or lifestyle factors frequently emerge as reflective of health, including diet, exercise, and other health-promoting behaviors (Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Manderbacka, 1998). Lastly, spiritual contentment has emerged in research on health conceptualization, albeit less frequently (Hughner & Kleine, 2004; Idler et al., 1999;
McCullough & Laurenceau, 2005; Nicholson et al., 2009; Nicholson et al., 2010). Spiritual themes include rituals (e.g., attending religious services, meditation, prayer) as well as religious and supernatural explanations of health (Hughner & Kleine, 2004).

Although these health domains can be understood as person-centered factors that apply to everyone to a greater or lesser degree, research suggests that the relative weight placed on any single domain may systematically privilege those aspects that allow an individual to view his/her health in a more favorable light (Borawaski et al., 1996; Hughner & Kleine, 2004; Idler et al., 1999; Rakowski & Cryan, 1990). Borawski et al. (1996) termed this cognitive bias “health transcendence” (p. S162)—or the capacity of some individuals to acknowledge they have problems in various domains of health but transcend these concerns when rating their health. Other studies have supported this notion of health transcendence and found evidence that individuals may reframe objective impairments in a way that allows them to rate their overall health more positively (Borwaski et al., 1996; Hughner & Kleine, 2004; Idler et al., 1999; Rakowski & Cryan, 1990).

**Age as a Health Variable**

In addition to more clearly defining the elements that comprise the construct of health, a related line of research has sought to better understand if the lens through which various subgroups of the population view health is unique or shared. As such, examination of how distinctive features—such as demographic variables—influence subjective ratings and conceptualizations of health has become a central theme in research on health-as-construct (e.g., Banerjee et al., 2010; Breidablik et al., 2008; Galenkamp et al., 2012; Jylha, 1994; Lee, 2000; Leinonen et al., 2002; Mechanic & Hansell, 1987; Peersman et al., 2012; Piko, 2000; Vingilis, Wade, & Adlaf, 1998). Within this domain of study, researchers have examined the effect of age
on health ratings, with a primary focus of exploring the relations between mortality and ratings/perceptions of health in aging populations (Banerjee et al., 2010; Galenkamp et al., 2012; Jylha, 1994; Lee, 2000; Leinonen et al., 2002). Research on young adult populations has been largely overlooked, due, in part, to the general opinion that this group harbors relatively fewer health concerns (Boardman, 2006; Breidablik et al., 2008). Even fewer studies have explored how views of health may change across the lifespan, as individuals move through the various developmental stages of adulthood.

**Developmental Considerations**

According to developmental theory, both young adulthood and older adulthood are stages of life during which significant physical and psychosocial changes occur (Erikson, 1959; Mechanic & Hansell, 1987; Peck, 1968; Piko, 2000). As a result, these developmental periods have the potential to produce distinct conceptualizations of health. Peck (1968), an early developmental theorist, posited that older adults (OA) face two key developmental tensions: “body transcendence vs. body preoccupation” (p. 90) and “ego transcendence vs. ego preoccupation” (p. 91). Peck’s theory suggests that within the stage of older adulthood, some individuals are able to alter their conception of health in order to accommodate a more favorable view of their own health (Borawski et al., 1996). This process is thought to be facilitated by deemphasizing the declines in physical and daily functioning that typically accompany the aging process (Banerjee et al., 2010). Thus, some OA are able to transcend corporeal concerns and diminishing functional capacity in favor of placing increased value on personal characteristics, such as their outlook on life or spiritual qualities. This process of transforming one’s perceptions of what it means to be healthy has been viewed by some as an integral component of successful aging (Leinonen et al., 2002). Similarly, adolescents and young adults face significant changes
during this transitional phase of life, including accelerated physical growth and psychosocial development (Mechanic & Hansell, 1987; Piko, 2000). Erikson (1959) characterized the internal conflict between developing one’s identity and confusion over one’s role in the world as the defining feature of this period.

**Health Comparisons by Age Cohort**

Developmental considerations help to contextualize age as a health variable while also underscoring its inherent complexity. Prior study of SRH ratings and health perceptions has reliably revealed differences in the ways that young and older adults rate and view health (Giron, 2010; Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Peersman et al., 2012; Roberts, 1999; Shoostari, Menc, & Tate, 2007; Wolff et al, 2012). However, the directionality and nature of these differences has not proven to be consistent, leading to confusion over how conceptualizations of health change across the lifespan (Bardage et al., 2005; French et al., 2012; Liang et al., 2010; Lindeboom & Van Doorschaler, 2004; Ongaro & Salvini, 1995; Van Doorschaler & Gerdtham, 2003). For example, researchers have found contradictory patterns in SRH over the lifespan with some studies finding that OA rate their health less positively due to associated physical and functional limitations (French et al., 2012; Liang et al., 2010). However, others have found that young adults report poorer health ratings due to a more restricted, narrow view of health (Lindeboom & Van Doorschaler, 2004; Van Doorschaler & Gerdtham, 2003), while OA’s SRH may increase as individuals age due to a sense of health transcendence (Bardage et al., 2005; Ongaro & Salvini, 1995). Thus, prior research supports the notion that health across the lifespan is complex, requiring further study.
Present Study

The present study sought to further clarify these differences. Although prior research has utilized both qualitative and quantitative methods to identify the most central determinants of health, what remains less clear is the relative importance or value that people assign to each domain and how this may vary across the lifespan. Although past qualitative efforts to measure health perceptions have provided the opportunity for participants to elaborate on their unique perspectives on health, this methodology has failed to determine which elements are most central to both individuals and groups as a whole. As such, although research has established which aspects of health are cited most frequently, questions remain as to what people weigh most heavily when defining health. In order to address this issue, the present study set out to ask college-aged adults (CA) and older adults (OA) to first rate, and then rank, the importance the primary five person-centered health determinants. We hypothesized that significant differences would emerge between the two subgroups in terms of both the absolute and relative importance placed on each domain. Specifically, we hypothesized that OA would weigh physical, functional, and spiritual aspects of health more heavily when rating the importance of each domain to their health conceptualization, while CA would rate attitudinal and behavioral as significantly more important the OA subgroup.

Additionally, given the past contradictory findings on SRH across age cohorts, we compared the two subgroups’ subjective and objective health ratings. We hypothesized that OA would report significantly lower SRH ratings than CA, as well as poorer objective physical health. Further, due to the developmental features of aging, as well as the possible presence of increased health transcendence and/or cognitive bias in OA, we posited that CA’s SRH would be more congruent with their physical health status. As such, we hypothesized that OA would
produce higher SRH ratings than expected in light of diminished physical health. Finally, we hypothesized OA held a more complex and varied conception of health as compared to CA, which would be reflected by their generating a broader range of health aspects and attributes when asked to reflect and write on the meaning of health.

Method

Participants

A total of 225 participants representing two distinct age groups were recruited: college-aged adults (CA) and older adults (OA). The CA participants were 113 students (mean age = 20; range = 18-22), obtained from an undergraduate student participant pool at a midsize Midwestern university’s School of Psychology. The OA subsample were 112 community dwelling adults (mean age = 73; range = 65-98), recruited through a university-affiliated continuing education enrichment program in a Midwestern city. (See Table 1 for demographic characteristics.) A total of 164 OA were recruited and provided with study materials, resulting in a response rate of 68%.

Measures

Demographics. Participants completed a demographic questionnaire, specific to their sample age group, developed for the current study. The questionnaire for both age groups gathered information about sex, age, ethnic background, religion, relationships status, household composition, employment status, and total household income. In addition, the CA questionnaire included questions about college major and class standing, and the OA questionnaire gathered information about education level.

General health conceptualization. Developed specifically for the present study, this measure was used to capture participants’ overall concept of the construct of health in a manner that allowed for a full range of participant responses and did not limit responses to researcher-
identified health domains. The following four qualitative, open-ended questions related to perceptions of the construct of health were presented to each participant in a written format: (1) “To you, what makes up the concept of ‘health?’ List as many aspects as you can about how you define ‘health’ and what ‘health’ means to you;” (2) “Please describe the characteristics of someone who is in good health;” (3) “Please describe the characteristics of someone who is in poor health;” and (4) “Please describe your own health status in your own words.”

Once collected, the qualitative data was processed as follows. A team of four coders (three research assistants and the study PI) analyzed participants’ qualitative responses; the PI provided direct oversight. The same five theoretically derived health domains assessed by the HIRS (physical, functional, attitudinal, behavioral, and spiritual) were used as the initial category framework. The PI created a rubric for the coders, which defined and provided examples from relevant scientific literature of each domain (Appendix A). For instance, the physical domain was defined as “physical manifestations of health” with examples including, “presence/absence of illness, pain, appetite.” An “other” category was also added for any response not represented by the five domains. Over the course of coding, two additional categories emerged and were added: social and wellbeing (Appendix B). Coders were provided a brief overview of the purpose of the study but were not made aware of the study’s hypotheses in order to prevent possible bias. Coders completed a training process that included reviewing and collaboratively coding 13 participant protocols. In order to test inter-rater reliability, 25 protocols (representing a ratio of approximately 10% of data collected) were coded by the entire team. Results indicated that of 184 items identified, team members coded 90.5% of items consistently, representing an inter-rater reliability of $\kappa = .91$. The team’s coding results were aggregated and frequency counts
for each domain were calculated separately for the OA and CA subgroups for use in quantitative analyses.

**Short Form (36) Health Survey** (SF-36; Ware & Sherbourne, 1992). The SF-36 was used to obtain a broad-based, quantitative measure of overall health. The SF-36 is a 36-item, self-report, multi-purpose, comprehensive health survey designed for adults 18 and older (Ware & Sherbourne, 1992). The SF-36 consists of three key sections. The first section is a general SRH question: “In general, would you say your health is: excellent, very good, good, fair, or poor?” The second section asks individuals to rate how their current health compares to their health status one year ago. The third section contains 34 items using both binary and Likert-type scales in order to assess eight health domains (i.e., Physical Functioning; Role-Physical; Bodily Pain; General Health; Vitality; Mental Health; Social Functioning; and Role-Emotional), which are aggregated into two summary scales: Physical Health and Mental Health. The SF-36 has demonstrated good psychometric properties in past studies. In the current sample, the SF-36’s reliability in the total sample for the physical health domain ($\alpha = .92$) and mental health domain ($\alpha = .95$) was very good. Within OA subsample, the physical domain was $\alpha = .94$ and the mental health domain was $\alpha = .92$. The CA subsample showed similar results: physical domain $\alpha = .90$ and mental health domain $\alpha = .94$.

**Current medical conditions and medications.** Participants were asked to list all current medical conditions and current medications (including frequency) in order to collect additional data on objective health status.

**Health Importance Rating Scale (HIRS).** The HIRS is a theoretically derived scale created for this study based on prior research on perceptions of SRH (Benyamini, Leventhal, & Leventhal, 1999; Benyamini et al., 2003; Borawski et al., 1996; Idler et al., 1999; Jylha, 1994;
Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Manderbacka, 1998; Simon et al., 2005; Van Dalen et al., 1994). Five primary person-centered health domains were identified: (1) physical; (2) functional; (3) attitudinal; (4) behavioral; and (5) spiritual. A total of 30 items were created to sensitively index the target domains. As the focus was on person-centered variables, externally-focused domains, such as social support, were excluded. Respondents rated each item using a 4-point Likert-type scale (1=Not important; 2=Somewhat important; 3=Important; 4=Very important). The five identified domains are: (1) physical (8 items); a sample item is: amount of aches and pains; (2) functional (7 items); a sample item is: the ability to perform well at work; (3) attitudinal (7 items); a sample item is: level of energy; (4) behavioral (4 items); a sample item is: a healthy diet; and (5) spiritual (4 items); a sample item is: a sense of peace and harmony. The measure was designed to produce five subscale scores as opposed to a total summary score. Subscale scores could range from 1 to 4 and were calculated by summing the items in each domain and calculating the average score.

Prior to conducting formal analyses, the psychometric properties of the HIRS were investigated. Each subscale was individually totaled and assessed for reliability. Four of the five subscales demonstrated good internal consistency in the full sample. Results for the overall sample were as follows: physical, $\alpha = .74$; functional, $\alpha = .75$; attitudinal, $\alpha = .79$; spiritual, $\alpha = .70$. In contrast, the behavioral subscale showed only moderate internal consistency, $\alpha = .57$. Analyses were also conducted in each subgroup separately. Results for the OA subsample were as follows: physical, $\alpha = .77$; functional, $\alpha = .72$; attitudinal, $\alpha = .82$; behavioral, $\alpha = .60$; and spiritual, $\alpha = .74$. Results for the CA subsample were as follows: physical, $\alpha = .70$; functional, $\alpha = .77$; attitudinal, $\alpha = .76$; behavioral, $\alpha = .55$; and spiritual, $\alpha = .60$. Thus, all domains showed good internal consistency except for the behavioral domain in both subsamples and the spiritual
domain within the CA sample. Examination of the subscale’s inter-item correlations and the
contribution of each item to total $\alpha$ indicated that removal of any item from the behavioral
subscale resulted in reduced, not improved, internal consistency. As such, the behavioral
subscale was left intact but results obtained with this subscale should be interpreted with caution.

**Health domain rankings.** The relative importance of the five domains assessed by the
HIRS was assessed to determine which aspect(s) of health were most and least central to
participants’ conceptualization of health. Participants were asked to rank-order the five
identified domains (physical, functional, behavioral, attitudinal, and spiritual), from 1 to 5, with
1 being most important and 5 being least important.

**Procedure**

Prior to data collection, the host university’s Institutional Review Board (IRB) reviewed
the project and granted study approval (Appendix C).

The CA subsample was recruited through the student participant pool and were provided
with research participation credit in exchange for their time. Once assembled at the study
administration site, participants completed an informed consent process and all study measures.
The OA subsample was recruited from an enrichment program at a local university. Study
personnel worked with program representatives to identify highly-attended educational
events. Two-person teams of study personnel visited the targeted events in either the first or last
5-10 minutes of the event to recruit participants. OA participants were not incentivized in any
way. The researchers distributed study packets to each OA present; after completing an
informed consent process, a brief overview of the study’s purpose and how to complete and
return the measures was provided. Participants were asked to return the study packets within two
weeks via a self-addressed stamped envelope provided by the researcher.
Results

Descriptive and summary statistics were calculated for all primary variables. The means and standard deviations of each HIRS subscale are reported in Table 2. Table 3 contains the ranks of the HIRS domains. Table 4 contains the means and standard deviations of the SF-36 Total Score, Physical Health Total Score, and Mental Health Total Score. Additionally, the number of current medications and medical conditions reported by each subsample are also summarized in Table 5.

Primary Hypotheses

Two primary hypotheses were tested. The first primary hypothesis (H1) predicted that significant differences would be found between OA and CA ratings of the five distinct person-centered health domains identified by prior research. A series of five sub-hypotheses was tested using a series of independent samples t-tests; alpha was set at .01 through use of the Bonferroni method in order to control for escalation of alpha. The following specific hypotheses were tested:

H1a: It was hypothesized that OA would rate physical aspects of health as significantly more important than CA.

The hypothesis was not supported. Results indicated that OA ratings (M = 2.98) and CA ratings (M = 2.88) of the physical aspects of health did not significantly differ and showed a small effect size: t(220) = -1.56; p = .12; d = .21.

H1b: It was hypothesized that OA would rate functional aspects of health as significantly more important than CA.
The hypothesis was not supported. Results indicated that OA ratings ($M = 3.32$) and CA ratings ($M = 3.29$) of the functional aspects of health did not significantly differ and showed a small effect size: $t(220) = -.45; \ p = .65; \ d = .06$.

H1c: It was hypothesized that CA would rate behavioral aspects of health as significantly more important than OA.

The hypothesis was not supported. Results indicated that OA ratings ($M = 3.27$) and CA ratings ($M = 3.31$) of the behavioral aspects of health did not significantly differ and showed a small effect size: $t(220) = .62; \ p = .54; \ d = -.08$.

H1d: It was hypothesized that CA would rate attitudinal aspects of health as significantly more important than OA.

The hypothesis was not supported. Results indicated that OA ratings ($M =3.39$) and CA ratings ($M = 3.25$) did not significantly differ and showed a small effect size: $t(220) = -2.19; \ p = .03; \ d = .29$.

H1e: It was hypothesized that OA would rate spiritual aspects as significantly more important than CA.

Results supported this hypothesis, showing that there were significant differences between OA ratings ($M = 2.47$) and CA ratings ($M = 2.13$) for spiritual aspects of health: $t(220)= -3.93; \ p < .001$; the OA group rated these items significantly higher; the effect size was medium, $d = .52$. 
The second primary hypothesis (H2) included sub-hypotheses predicting that OA and CA would differ in overall SRH scores (H2a), objective physical health status (H2b) and mental health status (H2c), with the OA sample reporting lower scores on all dimensions.

To determine the acceptability of using a single MANOVA to test all three predictions, the relations between the three SF-36 component scores (SRH rating, Physical Health Summary Score, Mental Health Summary Score) were assessed. Correlational analyses of the three SF-36 domain variables revealed small-to-moderate relations between the three variables. (See Appendix D). Due to the absence of multicollinearity or complete independence among these variables, a single MANOVA was utilized to test hypotheses H2a-c. Results of the overall MANOVA showed that significant differences were found between cohorts on the three outcome measures: Wilk’s $\Lambda = .53$, $F(3, 219) = 63.59$, $p < .001$, $\eta^2 = .47$. Separate analyses of variances (ANOVA) for each outcome variable were used to test the following formal hypotheses; a Bonferroni corrected $p$-value of $<.016$ was used to control for escalation of alpha.

H2a: It was hypothesized that OA would have significantly lower self-reported health ratings compared to CA.

The hypothesis was not supported. ANOVA results revealed the opposite pattern as SRH ratings of the CA subsample ($M = 3.27$) were significantly lower than those of the OA subsample ($M = 3.68$): $F(1, 221) = 11.39; p = .001; \eta^2 = .05$. The effect size was small.

H2b: It was hypothesized that OA would have significantly lower objective physical health ratings compared to CA.
The hypothesis was supported. ANOVA results indicated that OA ratings of physical health ($M = 49.00$) were significantly lower than those of the CA subsample ($M = 55.10$): $F(1, 221) = 40.86$, $p < .001$ $\eta^2 = .16$; the effect size was large.

**H2c:** It was hypothesized that OA would have significantly lower objective mental health ratings compared to CA.

The hypothesis was not supported. ANOVA results revealed the opposite pattern as OA ratings of mental health ($M = 56.47$) were significantly higher than those of the CA subsample ($M = 43.67$): $F(1, 221) = 111.57$, $p < .001$; $\eta^2 = .34$. The effect size was very large.

**H2d:** It was hypothesized that CA will show a significantly more congruent relationship between self-reported health ratings and objective physical health ratings compared to OA.

H2d was tested by first assessing the relation between SRH rating and Physical Health Summary Score within each subsample. Bi-variate correlational analyses indicated a medium, positive relation for the CA subgroup, $r = .41$, $n = 112$, $p = < .001$, and a very large, positive correlation for the OA subgroup, $r = .78$, $n = 111$, $p < .001$. A Fisher’s r to z transformation indicated that this difference was statistically significant, $z = -4.49$, $p < .001$. Contrary to prediction, the OA subgroup evidenced a more strongly correlated and congruent relationship between subjective health ratings and physical health status than the CA subgroup.

Although a formal hypothesis regarding the relationship between SRH rating and Mental Health Summary Score was not original to the present study, the correlation between these two variables was calculated. Bi-variate correlational analyses indicated a medium, positive relation for the CA subgroup, $r = .45$, $n = 112$, $p < .001$, and a small, positive correlation for the OA
subgroup, $r = .198, n = 112, p = .04$. A Fisher’s $r$ to $z$ transformation indicated that this difference was statistically significant, $z = 2.10, p = .04$. Thus, the CA subgroup produced a more strongly correlated and congruent relationship between subjective health ratings and mental health status than the OA subgroup.

### Qualitative Content Analysis

In order to supplement and enrich the data collected, participants were asked to complete open-ended questions regarding how they define health. The study’s secondary hypothesis (SH1) related to analysis of these qualitative responses.

**SH1**: It was hypothesized that OA qualitative responses on the various health questions would reflect significantly more variation and complexity compared to CA.

SH1 was not supported. Results indicated that the number of thematic categories generated was identical for OA and CA, with eight domains identified by each group: physical, functional, attitudinal, behavioral, spiritual, other, social, and well-being. Two-way contingency analyses were conducted to evaluate if the frequency of responses within each category significantly differed. Of the eight identified domains, two showed a significant difference between subgroups after applying a Bonferroni correction and setting alpha at $p < .016$: functional and behavioral. OA cited functional aspects significantly more frequently than CA, $\chi^2(1, N = 223) = 25.75, p < .001$; CA cited behavioral aspects more frequently, $\chi^2(1, N = 223) = 21.64, p < .001$, than OA. A summary of this data is shown in Table 6; sample qualitative responses are also provided.
**Exploratory Analyses**

Lastly, two prediction models incorporating demographic variables and the five theoretically derived health domains were built to identify which aspects were most associated with SRH among each subgroup. Both models were built using the same process. Multivariate linear regression was used to build the formal models. First, all multi-category variables were recoded as dichotomous variables based on visual review of the data and identification of natural clustering points. (See Appendix E for transformed variables.) Second, a series of univariate regressions was conducted on the demographic variables to assess the relation of each with SRH. A relaxed rejection criterion of .20 was used to retain variables for subsequent model building (Cohen & Swerdlik, 2010). Table 7 contains the results of the univariate tests. Next, all retained demographic and the five theoretical variables (five HIRS domain scores) were entered as a set. Predictors were then removed in an iterative manner until only significant predictors remained.

**CA Model**

Based on univariate tests, the initial model included the following demographic variables: age, ethnicity, living situation—as well as the five key health domains (i.e., physical, functional, attitudinal, behavioral, and spiritual). Systematic variable removal indicated that no variable accounted for significant variance in SRH; the last variable in the model was age, $\beta = .14$, $p = .14$, but the model was not significant, $R^2 = .02$.

**OA Model**

Based on univariate tests, education level was the only demographic variable retained for model building. Age and the five theoretical variables were entered on the same step. Systematic variable removal resulted in a final model that contained only the attitudinal domain, $\beta = .34$, $p < .001$, and accounted for a modest amount of variance, $R^2 = .12$. 
Discussion

The purpose of the present study was to better understand how people define the construct of health, how they view their own health, and the ways perceptions of health may vary across the lifespan by comparing CA and OA populations. Although considerable study of these health-related topics has been done (e.g., Benyamini et al., 1999; Benyamini et al., 2003; Borawski et al., 1996; Van Dalen et al., 1994; Idler et al., 1999; Jylha, 1994; Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Manderbacka, 1998; Simon et al., 2005), few researchers have devoted attention to directly comparing different age cohorts. Further, the limited research focused on age cohort differences has produced inconsistent results (Giron, 2010; Krause & Jay, 1994; Peersman et al., 2012; Roberts, 1999; Shoostari et al., 2007; Simon et al., 2005; Wolff et al., 2012), indicating more work is needed in this area. The present study sought to extend past research by implementing a broader methodological approach, using both quantitative and qualitative measures, in order to more fully investigate each group’s distinct perspective.

Self-Reported Health & Objective Health Ratings

Overall, both age cohorts rated their health as generally good, falling between 3 (good) and 4 (very good) on the 5-point scale for subjective health ratings. However, OA rated their subjective health significantly more positively than CA. This was contrary to prediction and somewhat surprising given that prior studies, using several different methodologies, have found that younger adults tend to rate their health more positively than do OA (French et al., 2012; Giron, 2010; Liang et al., 2010; Roberts, 1999; Shoostari et al., 2007). Such findings have been attributed to the physical and functional declines generally experienced later in life. Findings from the present study support the notion of diminishing physical health in OA. As hypothesized, OA reported significantly poorer objective physical health than CA, as well as
considerably more medical conditions and medications. This, however, did not translate into a subjective sense of poor health among the OA sample; instead, OA appeared to acknowledge physical markers of health but then dismiss or discount them. Clearly, some factor other than physical status was accounting for OA health ratings; however, this factor does not appear to be psychological functioning. Although—contrary to prediction—OA reported significantly better mental health than CA, this was only minimally associated with the SRH ratings in the OA sample. Overall, mental health was both worse and more influential in the CA sample.

In an effort to understand the role of physical ailments and malfunction in SRH, the congruence between each group’s evaluations of SRH and their physical and mental health ratings was assessed and compared. It was expected that CA would show greater congruence as well as reporting both fewer medical problems and better SRH, as compared to OA. However, this did not emerge. CA reported better physical health but worse SRH, and OA reported worse physical health but better SRH. Regarding mental health, the CA sample showed greater congruence between SRH and mental health indices, as increased mental health scores were associated with increased SRH; among the OA, there was minimal relation between mental health and SRH. In summary, physical and mental health indices operated differently in the two age cohorts. Among the CA, mental health was influential for SRH; among the OA it was not. As such, CA evidenced a tendency to more strongly consider mental aspects of their health in the self-evaluation process, while OA were inclined to weigh physical aspects more heavily.

**Perceptions of Health**

A second focus of this study was to identify how definitions of health may vary across time and if older and younger adults hold similar or different conceptualizations of health-as-construct. This was done in two ways: (1) qualitatively, by asking participants to provide a
narrative description of what health means to them, which was coded for thematic content; and (2) quantitatively, by asking participants to indicate how important various aspects of health, representing five theoretically derived health domains, were to their conceptualization of health. The five health domains were physical, functional, attitudinal, behavioral, and spiritual.

**Physical.** Results regarding the importance of physical symptoms to definitions of health suggest the relation between physical symptoms and health is complicated and nuanced. First, although it had been anticipated that OA as a group would rate physical symptoms as more important to the definition of health than would CA, due to the increased salience that physical symptoms hold in their own lives, no difference emerged. Instead, the importance placed on the physical domain when defining health was similar for CA and OA, with mean scores indicating both groups rated physical symptoms as “important”—although not “very important.” Similarly, examination of the narrative results revealed that both CA and OA cited aspects within the physical domain most often, consistent with previous findings that physical aspects are deemed fundamental when defining health, regardless of age (Borwaski et al., 1996; Hughner & Kleine, 2004; Krause & Jay, 1994; Manderbacka, 1998). Additionally, the CA and OA groups spontaneously reported physical markers of health with equal frequency, with about 75% of each group citing items related to physical health. This finding runs contrary to previous research, which has found that OA cite physical components of health significantly more frequently (Krause & Jay, 1994; Peersman et al., 2012; Simon et al., 2005), with one study noting that 92% of an OA sample mentioned items related to physical health as compared to 50% of a younger adult sample (Simon et al., 2005). However, of note, is that when asked to rank order the five domains, the physical domain was not ranked first most frequently by either OA or CA samples; it placed third for both the OA and CA subgroups. These findings call into question the
widespread view that individuals find physical aspects most central to health (Borwaski et al., 1996; Hughner & Kleine, 2004; Krause & Jay, 1994; Manderbacka, 1998).

**Functional.** In contrast to physical symptoms, the importance of functional capacity in conceptualizing health showed some difference across the age groups. Although, contrary to prediction, quantitative ratings of the importance of functional capacity to health did not significantly differ between OA and CA, examination of their narrative descriptions of health suggested that functional capacity is more salient to OA. OA included elements of the functional domain more frequently (50% percent compared to 19% percent) than CA when asked to describe health, and the domain emerged as second in order of importance to their health conceptualization; in contrast, functional capacity placed fourth in order of importance in the CA subsample. These findings are consistent with the notion that due to the declines in functional capability that OA typically experience, this domain increases in importance with age and strongly influences OA notions of health. As people age, their ability to complete the tasks of daily living (e.g., taking care of one's household) are often affected by the increased physical, and possibly psychological, limitations that accompany the aging process. In contrast, CA typically do not experience such functional deficits and do not think about them as associated with health until directly asked. Once this aspect of health is made salient to CA, as shown through the quantitative results, they view it as important to health but, as seen through their narrative descriptions, it is not central to their understanding and is much less likely to emerge unprompted. As such, among OA functionality is more salient; OA are more likely to spontaneously consider the capacity for self-care and maintaining independence when conceptualizing health. This finding parallels past research that revealed functional aspects of health as central to OA (Borawski et al., 1996). This finding is also significant in that it
challenges the narrow view that physical, biomedical concerns most clearly define health (Jylha, 1994).

**Attitudinal.** When considering the attitudinal domain, mixed findings emerged. Overall, both CA and OA ranked this domain as central to their understanding of health; it placed second in the CA importance rankings and first in the OA rankings. This finding is important as it reveals that both subgroups view psychological wellbeing as key to their global conceptualization of health. Results of the remaining analyses produced contradictory outcomes. First, no significant differences emerged between CA and OA in terms of their ratings of the importance of the attitudinal domain. However, in their narrative descriptions of health, the CA sample cited attitudinal items concerning psychological and mental health significantly more frequently than did the OA (73% versus 59%). These findings suggest that although attitudinal aspects of health may be more salient to CA, as they appeared with more frequency in CA narrative descriptions, CA and OA appear to view these aspects similarly in terms of their importance to a full understanding of health. According to the limited research on age difference in attitudinal aspects of health, young adults tend to focus heavily on their level of psychological wellbeing when conceptualizing personal health (Mechanic & Hansell, 1987; Piko, 2000)—a result also seen in this sample. Prior research has theorized that this increased emphasis is largely related to the developmental stage of young adulthood, which is typically characterized by internal conflict over identity as well as role confusion (Arnett, 2000; Erikson, 1959), along with good functional capacity and limited physical symptoms. As such, young adults may tend to shift their focus inward when defining health. As a result, when thinking about health, they use themselves as a reference and this domain spontaneously emerges; however, when other aspects of health are made salient (e.g., physical, functional), CA shift their focus from what is
true for them to what is true in general and rate attitudinal aspects as less important for health overall. The finding that OA show the opposite pattern may be explained, in part, by the existence of a positive cognitive bias in which OA may shift the focus of their ideas on health away from physical health status toward attitudinal factors. This notion aligns with both developmental theory regarding bodily transcendence (Peck, 1968), as well as the present study’s finding that OA rated their psychological health as significantly better than CA.

**Behavioral.** Within the behavioral domain, CA appeared to view health behaviors—such as diet and exercise—as more integral to their understanding of health than did OA. Similar to what was seen for functional aspects of health, although the OA and CA quantitative ratings of the importance of behaviors to health did not differ, the salience of this aspect in their narrative health descriptions did. CA cited behavioral items significantly more frequently in their narrative descriptions of health, with 73% of CA participants listing a related item compared to only 42% of OA. Additionally, among the CA sample, the behavioral domain was ranked as most important for health by the largest proportion of the sample (31.5%), compared with only 16% of OA ranking it as most central to health. Taken together, these findings are largely consistent with what the majority of research has found: younger adults tend to emphasize positive (e.g., nutrition and exercise) and negative (e.g., smoking) health behaviors when asked to define or rate health (Krause & Jay, 1994; Mechanic & Hansell, 1987; Peersman et al., 2012; Piko, 2000). When viewed through a developmental lens, the greater importance placed on health behaviors by CA also aligns with the notion that OA may tend to de-emphasize this domain as it may not strengthen their health self-evaluations to the same degree as other domains.
Spiritual. Finally, results were mixed for the spiritual domain, with some, but not all, findings indicating that spiritual aspects of health were more central to OA, as compared to CA, in their conceptualizations of health. When asked to rank the five health domains, both the OA and CA subsamples placed spiritual aspects fifth. Upon being prompted to spontaneously list aspects of health, no differences were found, with only 8% of both the CA and OA samples included items being related to spirituality or religious activities. However, the OA ratings of the importance of spiritual aspects to understanding health were significantly higher than those of the CA. This finding is interesting in light of how spiritual items were generally absent from qualitative descriptions. The majority of past research that has identified a spiritual dimension to health conceptualizations has been qualitative in nature but has also tended to de-emphasize these aspects of health (Hughner & Kleine, 2004). Thus, this finding suggests that, similar to how the functional domain operated in the CA subsample, spiritual aspects may not be salient enough to OA to spontaneously emerge but are readily acknowledged once made manifest.

Social & Wellbeing. In addition, through content analysis of qualitative data, two additional health domains emerged: social and wellbeing. These domains were identified in both subsamples, but no significant differences in frequency were found. Previous research has cited these two domains, albeit less frequently (Borawski et al., 1996; Idler et al., 1999; Simon et al., 2005). Results from the present study were consistent with such prior findings, showing that items related to social aspects and wellbeing emerged much less frequently than the key, theoretically derived domains, with the exception of the spiritual domain. Thus, analysis confirmed that physical, functional, behavioral, and attitudinal domains constituted the most central themes related to health conceptualizations within the study sample. It had been hypothesized that OA’s qualitative responses would contain more health–related concepts and
represent a larger, more diverse set of health domains. Results did not support this prediction; the same number of domains emerged for both OA and CA. This finding is helpful because it denotes that regardless of developmental stage, participants’ broad, fundamental ideas on health did not significantly vary.

**Prediction Models**

Finally, the ability of demographic factors and the five theoretical health domains to predict SRH in both the CA and OA samples was investigated. Results revealed limited associations within both subsamples as the few relations that emerged were modest in nature and accounted for limited variance in SRH. Within the OA cohort, the only variable predictive of SRH was the attitudinal health domain; this accounted for about 12% of the variance. OA who believed that psychological health and optimism were more important to health showed higher SRH. Interestingly, no demographic variables were related to SRH. For this particular sample, marital status and income were unrelated to SRH. This may be due to the nature of the OA sample and how they were recruited. These were relatively healthy individuals who were engaged in the world around them, as illustrated by their taking personal growth/educational classes. Findings for the CA subgroup indicated that no demographic or theoretical variable was associated with SRH.

The failure to find associations between the importance ratings of the theoretical health domains and SRH was unexpected. However, participants were asked to rate the domains for their intrinsic importance to the construct of health, not how important the domain was to judging their personal health. An additional, and likely more important, reason for the lack of association is not that the domains are unimportant to SRH but, rather, the importance placed on a domain lacks predictive power. In other words, it may be that application of the domain is key.
For example, some individuals who rated the physical domain as highly important may have many physical concerns and use these as a reason to generate a low SRH rating; in contrast, other individuals who rated the physical domain as highly important may have few physical concerns and use this as a reason to generate a high SRH rating. In both cases, the person uses the physical domain as the basis of their SRH rating but, based on their personal situation, the domain generates ratings opposite in direction.

**Limitations and Future Research Directions**

The results from this study should be understood within context and with an awareness of their limitations. First, the generalizability of these findings to the general population should be done with great caution due to the homogeneity of both subsamples. Although the CA and OA groups were very comparable to one another in their demographic profiles, neither was representative of the broader U.S. population. More specifically, both subsamples were predominantly White, middle to upper-middle class, and had a higher education level than the general population. Thus, these findings may not apply to more diverse groups. Future study could include further investigation with more varied samples and explore the influence of demographic variables on health perceptions across age cohorts. Second, the OA cohort was an active, community dwelling engaged cohort that was recruited through a university-based adult enrichment program. A random sample of OA may have produced very different results. Third, although this study included a qualitative component, it was less extensive than in previous research within this field of study. Follow-up individual interviews were not conducted, which would have allowed for further clarification of participants’ conceptualizations of health. An extension of this study could include a more comprehensive qualitative component. Lastly, given that some of the qualitative and quantitative results conflicted, future investigation could
investigate these differences and seek to identify if how methodology may have influenced results.

**Implications**

Although the purpose of the present study was to more fully investigate SRH and health conceptualizations, these results could have implications for general health practices, above and beyond increased theoretical understanding. Given its strong correlation to mortality, SRH continues to be a valuable measure of health; subjective health ratings have proven to positively correlate with increased longevity. As such, integrating subjective health ratings into common health care practice could provide a richer understanding of patients’ health. Further, as previously mentioned, “health” is often viewed primarily through the lens of physical aspects of health by researchers and healthcare providers alike. Results of the present study indicate that people’s understanding of health is complex. In particular, aspects related to functionality, psychological health, and health behaviors may be central in subjective ratings and conceptualizations of health. As such, an oversimplified perspective on the construct of health may limit the efficacy of efforts to promote and effect positive changes. The implementation of a brief rating scale regarding conceptualizations could help to better tailor efforts to improve health. For example, the present findings suggest that CA highly value health behaviors while OA highly value functionality. Thus, health promotion efforts may be more effective if configured to address each population’s unique views of health.

**Conclusions**

Overall, results from the present study help to further inform investigation into the construct of health and could have broader applications as to how health is viewed and promoted. Gaining a better understanding of the theoretical underpinnings of health is an important step in
improving how people perceive their own health and, consequently, how this positively impacts their longevity. In addition, developing a framework for health conceptualization among specific subgroups within the greater population could provide health care researchers and providers with scientific data in order to inform targeted health investigation and provision of services.
References


Table 1.

*Participant Demographic Information*

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<th>Demographic variables</th>
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<th>Older adults (n=112)</th>
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Table 1. (cont.)

**Participant Demographic Information**

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<td>40</td>
<td>36.0</td>
</tr>
<tr>
<td>Professional degree</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.8</td>
</tr>
</tbody>
</table>
Table 2.

*HIRS Domain Summary Scores*

<table>
<thead>
<tr>
<th>HIRS Domain</th>
<th>College adults</th>
<th>Older adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Physical</td>
<td>2.88</td>
<td>.47</td>
</tr>
<tr>
<td>Functional</td>
<td>3.29</td>
<td>.46</td>
</tr>
<tr>
<td>Behavioral</td>
<td>3.25</td>
<td>.44</td>
</tr>
<tr>
<td>Attitudinal</td>
<td>3.31</td>
<td>.45</td>
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<tr>
<td>Spiritual</td>
<td>2.13*</td>
<td>.58</td>
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</table>

* $p < .01$ (two-tailed)
Table 3.

Rankings of Domain Importance

<table>
<thead>
<tr>
<th>Domain</th>
<th>Order</th>
<th>%</th>
<th>n</th>
<th>Order</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral*</td>
<td>1</td>
<td>31.5</td>
<td>35</td>
<td>4</td>
<td>16.0</td>
<td>18</td>
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<tr>
<td>Attitudinal</td>
<td>2</td>
<td>25.2</td>
<td>28</td>
<td>1</td>
<td>30.4</td>
<td>34</td>
</tr>
<tr>
<td>Physical</td>
<td>3</td>
<td>19.8</td>
<td>22</td>
<td>3</td>
<td>22.3</td>
<td>25</td>
</tr>
<tr>
<td>Functional*</td>
<td>4</td>
<td>18.9</td>
<td>21</td>
<td>2</td>
<td>26.8</td>
<td>30</td>
</tr>
<tr>
<td>Spiritual</td>
<td>5</td>
<td>4.5</td>
<td>5</td>
<td>5</td>
<td>4.5</td>
<td>5</td>
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</tbody>
</table>

*p < .01; Order = Frequency of domain being ranked as most important
Table 4.

*SRH and SF-36 Summary Scores*

<table>
<thead>
<tr>
<th>Rating/Summary Score</th>
<th>College adults</th>
<th></th>
<th></th>
<th>Older adults</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td></td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>Self-Reported Health</td>
<td>112</td>
<td>3.27*</td>
<td>.89</td>
<td></td>
<td>112</td>
<td>3.70*</td>
</tr>
<tr>
<td>Physical Health</td>
<td>113</td>
<td>54.98*</td>
<td>5.81</td>
<td></td>
<td>111</td>
<td>49.00*</td>
</tr>
<tr>
<td>Mental Health</td>
<td>111</td>
<td>43.74*</td>
<td>11.14</td>
<td></td>
<td>111</td>
<td>56.47*</td>
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</table>

*p < .016
Table 5.

Summary of Current Medical Conditions and Medications

<table>
<thead>
<tr>
<th></th>
<th>College adults</th>
<th></th>
<th>Older adults</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>M</td>
<td>SD</td>
<td>Total</td>
</tr>
<tr>
<td>Medical Conditions</td>
<td>116</td>
<td>1.03*</td>
<td>1.44</td>
<td>318</td>
</tr>
<tr>
<td>Medications</td>
<td>107</td>
<td>0.96*</td>
<td>1.4</td>
<td>444</td>
</tr>
</tbody>
</table>

*p < .001
Table 6.

*Frequency of Items Identified within Domain & Sample Responses*

<table>
<thead>
<tr>
<th>Domains</th>
<th>Frequency Count (N = 223)</th>
<th>Sample Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College adults</td>
<td>Older adults</td>
</tr>
</tbody>
</table>
| Physical  | 85            | 84           | "General state and performance of the body."
              |              | "Lack of aches and pains."
              |              | "Anything one would find on a doctor's physical assessment."
| Functional| 21*           | 56*          | "Being able to complete tasks."
              |              | "The ability to do what I have always done."
              |              | "Able to take part in everyday living."
| Attitudinal| 82            | 65           | "Emotional and mental stability."
              |              | "The ability to mentally cope with stress."
              |              | "Health means taking care of your mind."
| Behavioral| 83*           | 47*          | "Awareness of body needs: good foods, sleep, exercise."
              |              | "Respecting the body's needs for exercise and appropriate nutrition."
              |              | "Health is affected by lifestyle decisions, such as diet and activity level."
| Spiritual | 9             | 9            | "Harmony within your life."
              |              | "Asking for divine intervention."
              |              | "Deep religious belief & affiliation."
| Other     | 20            | 24           | "Charitable donations and endeavors."
              |              | "Financial position."
              |              | "Political interest."
| Social    | 20            | 19           | "Maintaining my close personal relationships."
              |              | "Connectedness, family, friends, positive groups, community, neighbors."
              |              | "Interest in others; enjoys company & companionship with a variety of people."
| Wellbeing | 21            | 14           | "Health is good vitality."
              |              | "Having a balanced lifestyle between work, play, and leisure."
              |              | "Sense of well-being; maintaining every area of your life."

*Difference is significant at the .016 level (two-tailed)*
Table 7.

*Univariate Regression Analyses for Demographic Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>College adults</th>
<th>Older adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R^2$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Age</td>
<td>.02</td>
<td>.14</td>
</tr>
<tr>
<td>Sex</td>
<td>.00</td>
<td>-.06</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>.03</td>
<td>-.18</td>
</tr>
<tr>
<td>Relationship Status</td>
<td>.00</td>
<td>-.02</td>
</tr>
<tr>
<td>Living Situation</td>
<td>.03</td>
<td>-.16</td>
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<tr>
<td>Employment</td>
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<td>.03</td>
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<tr>
<td>Income Level</td>
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<td>.10</td>
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<tr>
<td>Education Level</td>
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<td></td>
</tr>
</tbody>
</table>

* Retained for modeling, $p < .20$
Appendix A

Qualitative Coding Rubric

QUALITATIVE CODING RUBRIC
Below is a brief rubric for qualitative coding. Each domain is briefly defined and relevant examples from the scientific literature are included. (Note: Each item should be assigned ONLY ONE of these six domains.)

1. PHYSICAL
   a. Defined: Physical manifestations of health
   b. Key Examples: Presence/absence of illness, pain, appetite, contact with the medical community, medications prescribed, and strength/robustness.

2. FUNCTIONAL
   a. Defined: Level of daily functioning
   b. Key Examples: The ability to attend work consistently, take care of one's household, ease of physical mobility, and level of independence.

3. ATTITUDINAL
   a. Defined: Psychological and mental health
   b. Key Examples: Self-reported levels of depression, anxiety, happiness, energy, coping and general mental attitude or mood.

4. BEHAVIORAL
   a. Defined: Lifestyle factors and general health behaviors
   b. Key Examples: General self-care, regular medical care, diet, weight, exercise, cholesterol, amount of rest, level of activity, and alcohol/drug consumption (including smoking).

5. SPIRITUAL
   a. Defined: Spiritual contentment
   b. Key Examples: Equilibrium, meditation, prayer, religious or supernatural explanations, and spiritual rituals (e.g., religious services).

6. OTHER
   a. Defined: Any item that does not fall within these five domains should be coded as “other.”
Based on results of the initial coding process, the following two domains were identified by a sufficient number of participants as key to their understanding of health such that they are being assigned their own unique coding categories (Domains 7 and 8). See below for a brief description of each domain along with relevant examples from the scientific literature.

7. **SOCIAL**
   a. **Defined**: Social relations and/or social support
   b. **Key Examples**: Presence of social relationships (e.g., family, friends), membership in groups (e.g., associations, clubs), perceived support from others

8. **WELL-BEING**
   a. **Defined**: Generally judging life positively
      **Key Examples**: Feeling good, life satisfaction, balanced lifestyle
Appendix C

Approval Letter from Xavier IRB

January 12, 2015

Amanda Trice
833 Maple Ave. #1
Newport, KY 41071

Re: Protocol #14-049, Self-Reported Health and Perceptions of Health across Age Cohorts

Dear Ms. Trice:

The IRB has reviewed the materials regarding your study, referenced above, and has determined that it meets the criteria for the Exempt from Review category under Federal Regulation 45CFR46. Your protocol is approved as exempt research, and therefore requires no further oversight by the IRB. We appreciate your thorough treatment of the issues raised and your timely response.

If you wish to modify your study, including the addition of data collection sites, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

Please contact our office if you have any questions. We wish you success with your project!

Sincerely,

Morell E. Mullins, Jr., Ph.D.
Chair, Institutional Review Board
Xavier University

MEM/sb
Appendix D

Summary of Correlational Analysis between SRH and SF-36 Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-Reported Health Question</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. SF-36 Physical Health Summary Score</td>
<td>.48*</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>3. SF-36 Mental Health Summary Score</td>
<td>.40*</td>
<td>-.19*</td>
<td>--</td>
</tr>
</tbody>
</table>

*p < .001
Appendix E

Summary of Transformed Demographic Variables

In order to complete the regression analyses, categorical demographic variables were converted to a binary format as follows:

Ethnicity: White/ non-White. The vast majority of participants were White (94.6% for OA; 71.7% for CA).

Relationship status: Partnered/ un-partnered. The key consideration was whether a participant was involved in committed relationship or alone.

Living situation: Alone/ with others. The key consideration was if solitary or with others.

Employment: employed /unemployed. The key consideration was any level of work versus no work.

Income: $0 to $90,000/ $90,001 or more. This appeared the natural breaking point in the distribution as low income was not highly represented.

Education: Bachelors or Less/ More than Bachelors. This was based on the sample demographics and best separated the sample in into more highly and less highly educated.
Summary

Title: Self-Reported Health Status and Perceptions of Health Across Age Cohorts

Problem: Although research on health-related questions is prevalent in scientific literature, questions remain regarding the underpinnings of health as a construct. Prior study has often utilized a single-item self-reported health (SRH) measure, asking people to rate their health on a Likert-type scale (e.g., 1=poor, 5=excellent; Idler & Kasl, 1991; Jylha, 2009; Kaplan & Baron-Epel, 2003; Krause & Jay, 1994; Manderbacka, 1998). These SRH measures have been used as a springboard for follow-up qualitative analyses that have consistently identified four key health domains as most central to health conceptualizations: physical, functional, psychological, and behavioral (Borawski, Kinney, & Kahana, 1996; French, Sargeant-Cox, & Luszcz, 2012; Idler, Hudson, & Leventhal, 1999; Krause & Jay, 1994; Manderbacka, 1998; Manderbacka, Lundberg, & Martikainen 1999; Pinquart, 2001); additionally, spiritual aspects have more recently emerged (Hughner & Kleine, 2004). However, limited research has targeted how people’s understanding of health-as-construct evolves as they advance in age, highlighting a need to better understand how the developmental changes that accompany age may affect health perceptions. The current study sought to shed light on this issue by examining differences between college adults (CA) and older adults (OA) in terms of SRH ratings and the value each subgroup places on various aspects of health. We hypothesized that, as compared to OA, CA would report better objective physical and mental health as well as more positive SRH ratings and that physical status would be more tightly coupled to SRH for CA. Further, we predicted that CA and OA would differ in terms of the importance they placed on the key health domains, with OA rating physical, functional and spiritual as more important and CA rating attitudinal and behavioral as more important.

Method: Data was collected from 113 CA (age 18-22; M = 20) from a Midwestern university and 112 older adults (age 65 and older; M = 73) recruited from a university-affiliated continuing education program. Each participant completed: (1) the Short Form (36) Health Survey, Version 2 (SF-36v2), which included a SRH item; (2) the Health Importance Ratings Scale (HIRS), a quantitative measure of the perceived importance of the five health domains; (3) a rank order of the five health domains in importance, and (4) four qualitative questions assessing health conceptualization.

Findings: Contrary to prediction, OA rated their health significantly more positively than CA ($F[1, 221] = 11.39; p = .001$), despite reporting worse objective physical health ($F(1, 221) = 40.86, p < .001$) and more physical ailments. Further, also contrary to what was hypothesized, OA reported significantly better mental health ($F[1, 221] = 111.57, p < .001$). These findings were particularly interesting as, contrary to prediction, the CA SRH ratings were more highly influenced by psychological aspects of health, whereas the OA relied more heavily on physical of aspects when rating their health. Findings on health perceptions revealed that although physical aspects of health proved to be central in narrative responses, they were not ranked as most important most frequently by either OA or CA samples. More specifically, results showed that psychological aspects of health were key to health conceptualizations; OA ranked this domain first most frequently and it was second among CA rankings. Other differences also
emerged, with OA tending to highly value daily functioning capabilities (e.g., ability to do household tasks), which placed second in the rankings and spontaneously emerged in half of the health narratives; in contrast, CA weighed behavioral aspects of health (e.g., diet, exercise) more heavily, ranking it as most important most frequently and including it in 73% of their health narratives.

Implications: Utilizing both quantitative and qualitative methodologies to expand upon previous findings, the present study lends support to the notion that people’s understanding of health is complex, while also offering new data on how perceptions of what health means vary across the lifespan. Physical health indices did not emerge as most important to either group; instead attitudinal aspects were seen as more important. This deeper understanding of how CA and OA view health could assist in promoting health and effecting positive health outcomes through tailoring efforts to improve health based on each group’s unique health perceptions.