

Improvement, Maintenance, or Decline:

Exploring the Quality of Health-Related Possible Selves in an Aging Population

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SUMMARY: It's not surprising that the hopes and fears of older adults are filled with concerns over the future of their health status. This project set out to understand the scope of these health concerns within an older population in order to determine the outlook most people have towards health past middle-age. We found that current health was related to people's outlook for the future, with those in good health mentioning health more. The experience of specific declines in health, such as experiences of pain or changes in physical ability, appear to mediate the optimism older adults have for their health.

As a student in the undergraduate psychology program, I became interested in gerontological research working as both a research assistant in the Everyday Memory Clinic with Dr. Robin West, and as a volunteer at the psychiatric in-patient unit at Shands working primarily with older adults. I went on to complete a minor in the Gerontology program, studying the psychosocial aspects of aging. I gained further research experience with older adults in Dr. Keith Berg's lab studying working memory load on a cognitively challenging task. My experiences taught me that the changes we can expect to occur with aging are often misunderstood, which can result in several problems related to ageism. I feel that Gerontological Studies are important in order to demystify aging and provide people with a realistic outlook for their futures as they age.

This research project was completed as part of a senior thesis project in the Fall of 2006 with Dr. Robin West as the supervisor. The project was a secondary analysis of data that I helped to collect for another student's master's thesis. This project focused solely on hopes and fears for health in older adults. We looked at how young-old and old-old varied with respect to both an emphasis on health in their projected goals for the future and feelings of personal control to achieve health goals. Since older adults are typically more health conscious than younger people, we wanted to understand how their concerns for their health were related to current health and health behaviors. We also wanted to classify the way these health concerns were being expressed in late life, as concerns for one's health might differ over the years. Aging individuals may be more health conscious in the face of potential health problems associated with age-related declines and so this research was carried out in order to investigate whether optimism and effortful striving for certain types of health goals over others would be associated with more health benefits.

Abstract

This study investigated the quality of future hopes and fears for personal health (called health-related possible selves) in older adults, comparing young-old and old-old community dwelling adults. An open-ended questionnaire elucidated how possible self health types (improving, maintaining or declining in health), and active efforts to achieve one's health goals, might be related to current health status. Age differences were found, as the young-old perceived greater capability to achieve their health hopes and reported engaging in more health activities than the old-old. Pain and activities of daily living (ADLs) affected types of health concerns. High ADL skill and low pain was associated with having more health hopes, but the opposite pattern occurred for older adults reporting that they had unpreventable fears. These results reveal that health selves reflect current health status in late life.

Understanding the factors that contribute to successful performance of health-promoting behaviors is a primary concern to most health care providers, especially those working with older adults. Pinpointing the factors that determine whether a person will actively pursue a healthy lifestyle would allow physicians to better understand how to motivate their patients to maintain or improve their health status. The best motivators are often found among the personal concerns of the individual, particularly those concerns that are primary or central to the self. A proposed construct for determining personally relevant motivators is the set of possible selves or the central hopes and fears of an individual. Because they are projections into the future, examining possible selves illuminates behaviors engaged in currently in order to pursue future goals. The purpose of this research is to examine the relationship of past and current conceptions of the self to beliefs about the self in the future, looking specifically at personal health concerns of older adults.

Possible selves are the self-described hopes and fears for the self in the future; they are considered central to the identity of the individual and as such, help organize behaviors that will aid the individual to achieve these goals or avoid dreaded fears (Markus & Nurius, 1986). Because possible selves represent the person one hopes or fears to become in the future, it is assumed that one will be motivated to achieve the hopes or avoid the fears related to that projected person. Whether certain activities are undertaken depends not only on the possible self, but on whether the person feels that the self is something he or she is capable of achieving. Hence, it is expected that a person might plan several attainable goal-oriented activities for a self that is easily within reach of the individual.

Possible selves form the internal motivations for current behaviors; whether the person desires to gain new characteristics, preserve current ones, or shed unwanted ones. The idea is that the individual is evaluating the current self in relation to imagined future selves. Beyond present identity, possible selves are constructed in relation to the contexts in which they are formed, affected by external influences such as social comparisons, and internal influences like comparisons of the past self to the present self (Markus & Nurius, 1986). As such, they are constantly evolving throughout the lifespan. For instance, at different

points in the lifespan, health may emerge or subside in the possible self repertoire of a single individual or remain salient over time as an ever-present personal concern, reflecting a lifetime of constant striving.

The connection between health-related possible selves and health behaviors is a long-standing one in prior research. Health-related possible selves were better predictors of health behaviors than health values (Hooker & Kaus, 1992); were found to be one of the motivating factors in whether patients will take advantage of health screenings (Black, Stein, & Loveland-Cherry, 2001); and were related to increases in exercise behavior after participants were induced to write about exercise possible selves (Ouellette, Hessling, Gibbons, Reis-Bergan, & Gerrard, 2005).

Prior research has consistently found that health-related selves become more salient over time as the likelihood of reporting a health self increases with age, especially with fears in the domain of health becoming more likely as a person gets older (Hooker, 1992; Hooker & Kaus, 1994; Hooker, 1999; Frazier, Hooker, Johnson, & Kaus, 2000; Frazier, Johnson, Gonzalez, & Kafka, 2002; Smith & Freund, 2002). Determining the point at which health becomes more central to the average individual has led researchers to examine and compare several age ranges. A pattern of increasing importance of health, over time, was found in a study comparing health behaviors and possible selves of young and middle-aged adults (Hooker, 1994). Interestingly, both groups demonstrated greater likelihood of having health-related fears than health-related hopes for the future (Hooker, 1994). However, comparing older adults and college students has revealed the greatest disparity between age groups with regards to the importance of health for the individual. Research has shown that older adults score higher on health value scales than younger adults do; and older adults are overwhelmingly more likely to mention a health-related possible self and to indicate it as their most important possible self as well (Hooker, 1992).

Differences between age groups also emerged when comparing possible selves, self-regulatory mechanisms, and actual performance of health behaviors. Self-regulatory mechanisms include self-efficacy (SE), or the feeling that the individual is capable of achieving a certain goal, and outcome expectancy, which is the predicted likelihood that something will occur. In previous possible self research, participants were asked to rate statements such as “How capable do you feel of accomplishing

this possible self?" (which measures SE) and "How likely do you think it is for this possible self to come true?" (which measures outcome expectancy) in order to gather data on self-regulatory mechanisms for the selves identified by a participant (Hooker, 1992). Reported SE was not significantly different between college students and older adults in the domain of health, showing that possible selves remain durable as motivators for change across the lifespan. At the same time, the expectancy that one can avoid dreaded selves, in particular, was lower for older adults (Hooker, 1992). Comparing young and middle-aged adults, possible selves, goal-oriented activities, and SE were found to be predictors of performance of health-promoting behaviors, whereas outcome expectancy was not (Hooker, 1994). When studying self-regulatory variables, it is important to note that there are instances where the individual feels powerless to effect change; perhaps the self is dreaded because it is perceived as unpreventable, leaving the individual completely vulnerable to an undesired future. Since age is seen as the impetus for declining health and nobody can halt aging, hence health-related fears may be perceived as uncontrollable for middle-aged adults and older adults.

Looking more specifically at late life, health-related selves increase with advancing age from young-old age (ages 55-65) through old-old age (ages 85 and above), but do not predominate lists of possible selves until well into the 80's, a time when health begins to significantly decline (Frazier, et. al, 2002). Declining health alone may not be driving this increase in health-related possible selves, however, as males in better general health and with fewer physical limitations reported the most health-related selves (Frazier, et. al, 2002). Factors beyond simple age-related increases in illness, like participation rates in physically demanding leisure activities (which would be higher for active men), may influence the type and amount of health selves generated. Emergence of health problems alone may not be the major contributing factor for the appearance of health-related possible selves in late life. In fact, the possible selves of Alzheimer's and Parkinson's disease patients show no differences in the number of domains generated, but reported selves were infused with themes of illness across many domains (Frazier, Cotrell, & Hooker, 2003). Instead of merely listing several hopes or fears for health alone, the patient groups had hopes and fears related to their health impacting other domains such as social relationships, work,

independence, and leisure activities. Their listing of possible selves included hopes to be well enough to engage in social relationships or life-long hobbies, not just simply wishing to be well for the sake of health alone (Frazier, et. al, 2003; Cotrell & Hooker, 2005). Rather than directly impacting health-related selves, being ill tended to increase concerns of independence and social relationships (Frazier, et. al, 2003; Cotrell & Hooker, 2005). These selves reflected how overall health can impact all aspects of life and do so increasingly with age.

Longitudinal studies of possible selves in the older age groups have demonstrated that mature self concepts are more likely to stay focused on preserving the current self rather than striving for new selves. Frazier, Hooker, Johnson and Kaus (2000) found that the possible selves of older adults were relatively stable over a five-year period, demonstrating maintenance strategies for the self in late life. Also, having hopes along with matching fears in the same domain (often referred to as being balanced in terms of possible selves) increased with age; further indicating a commitment, as we age, to strive for a select set of selves and maintain them (Frazier, et. al, 2000; Smith & Freund, 2002). Maintenance of balanced selves over time was related to poorer life satisfaction, however, as this may be an indication of not meeting a set goal for many years (Smith & Freund, 2002). Despite stability across most possible selves, health-related selves were the most likely to fluctuate over time, with declines in subjective health and life satisfaction related to having fewer possible selves in the health domain over a time period of just a few years (Smith & Freund, 2002). Hence, health-related possible selves are dynamic with increasing age, and these fluctuations have significant implications for both the health and life satisfaction of the individual.

Possible selves illuminate personal concerns, but they also highlight the types of behaviors one engages in to strive for a goal. In the health domain, one's possible selves indicate personal striving to have good health, which often implies doing everything possible to stay healthy. For instance, women who reported a feared health-related possible self and who had high SE to avoid that feared self were more likely to get a mammogram; even if that feared self had nothing to do with cancer, per se (Black, et al., 2001). In another study, self-described exercisers had higher SE to achieve exercise possible selves

and reported performing more exercise behaviors than self-described non-exercisers (Harju & Reed, 2003). Similar results were found when participants were told to write about exerciser or non-exerciser possible selves. Compared to those who did not have an exercise possible self, those who had been instructed to imagine themselves as exercisers were more likely to report exercising and using recreational facilities three weeks later (Ouellette, et. al, 2005). Having a health-related possible self was a predictor of engaging in health behaviors in older adults; but only when there was a high rating in outcome expectancy for that self to occur (Hooker & Kaus, 1992). Health-related possible selves do impact health outcomes, but are most beneficial when they represent achievable goals and avoidable fears, meaning they are considered to be attainable selves once certain actions are taken to ensure them. Failing to mention health as a possible self was not related to lower rates of health behaviors, however, as older adults who did not mention health were more likely to be younger and had selves related to domains other than health (Hooker & Kaus, 1992). It seems as though the impact of possible selves on health behaviors is most salient in later years, when specific health activities can have the greatest impact on perceived health.

This study aims to investigate the contributions of possible selves as motivators for current behaviors and as factors that may drive health outcomes in older adults. To allow the participants to point out those goals that are most salient and personally relevant, possible selves were evaluated using open-ended responses (e.g., “list your hoped-for possible selves”). Of those selves listed, health-related responses were further categorized based on health type, that is, whether an individual’s health-related selves indicated expectations for improvement, maintenance or decline in health. The open-ended questionnaire also asked participants to list health activities (goal-oriented activities), and to rate their SE and expectancy for achieving their hoped-for selves or managing to avoid their feared selves.

Hypotheses were formulated based on age differences, health status, reported health activities, and possible self health type. In line with past research findings, age should impact the quality of reported health; overall current health status should be worse for the old-old group compared to the young-old group. Also, current health status should be higher for those who mentioned a health-related

possible self, especially as their most important self, and health status should be higher for those who had more goal-oriented activities in the health domain. New hypotheses in this research were related to the effects of different types of health selves. 1) The *type* of health self should vary with current health status. Those who anticipated improvement were expected to have the best current health in relation to those focused on either maintenance or decline. 2) Due to age differences in perceived health, frequencies of health types in the possible selves repertoire should vary by age group. Young-old were expected to be healthier and thus, to report more improvement and less decline anticipated for the future than old-old. The old-old group should report more unpreventable fears as well as report being less healthy than young-old, lacking the motivation and perceived ability to change their health status. 3) Age was expected to impact the reported SE and outcome expectancy ratings for health selves, as age should be closely related to current health status. Younger, healthier individuals should feel more in control of their current health than those experiencing decline, and should expect more control over their health goals for the future. In sum, lower SE to achieve a hoped-for self (or to avoid a dreaded self) and high outcome expectancy for health-related fears, especially unpreventable fears, was expected for the older age group in comparison to the young-old.

Methods

Participants

The sample included 107 community-dwelling older adults ranging in age from 52 to 88 ($M = 70.5$ years, $SD = 7.7$), who were divided into a young-old group of 56 participants, age 52 to 70 ($M = 64.4$, $SD = 5.0$), and an old-old group of 51 participants, age 71 to 88 ($M = 76.5$, $SD = 4.6$). Overall, the sample was predominantly white (98.1 %) and female (67.3 %). For the total sample, mean number of years of education was 14.3 years, and the general perceived health was good, based on self-ratings on a Likert scale from 1 (*excellent health*) to 5 (*poor health*), ($M = 3.4$, $SD = 1.0$). The young-old and old-old groups were reasonably well matched, with no differences in ratings of health, $F(1, 102) < 1.0$, $p > .10$, although the young-old group had significantly more years of education than the old-old group, $F(1, 105) = 14.5$, $p < .01$.

Measures

Possible selves measures. The open-ended possible self questionnaire was adapted from Cross and Markus (1991). First, the concept of hoped-for possible selves was briefly explained and then participants were asked to write down any hoped-for possible selves. From that open-ended list of possible selves, participants were asked to identify their most important hoped-for self and any goal-oriented activities they had recently done to achieve that possible self. Participants then rated self-regulatory mechanisms for their most important hoped-for self by responding to a self-efficacy (SE) item, “How capable do you feel of accomplishing this hoped-for possible self?” and an outcome expectancy item, “How likely do you think it is for this possible self to come true?” both on 7-point Likert scales. Similarly, for feared possible selves, participants were given a brief description, asked to give open-ended responses and then identify the most important feared self and any goal-oriented activities, and finally rate SE and outcome expectancy for that most important feared self.

Scoring for the possible selves questionnaire involved categorizing each possible self first as health-related or non-health-related. For health-related possible selves, participants mentioned something about general health, illness or disease, injury, longevity, personal mortality (not the death of a spouse or family member), vitality, fitness, weight, physical ability, mental and/or psychological health, memory disorders (i.e., Alzheimer’s, dementia, or senility), athletic activity, or physical disability. Possible selves that are often the result of health changes were also counted as health selves, including ending up in a nursing home, losing the ability to drive, becoming dependent on the care of another person, losing memory, or facing death.

All health-related possible selves were then scored further to determine whether they pertained to improvement, maintenance, or decline in health status for the future self. These categorizations are referred to as *health types* throughout the rest of the paper. Improvement selves were those where the participant made specific mention of changing their current health status for the better, while decline selves mentioned a change in health status for the worse. All other health-related selves were scored as maintenance if the participants’ description mentioned continuing or maintaining current status, or if no

specific change in health status was reported. Finally, for health-related feared selves only, possible selves were scored as either preventable or non-preventable to separate out those that participants could actively avoid from those they could not. The non-preventable category encompassed accidental injuries, illnesses with no known cause or cure (such as Alzheimer's disease or stroke) and death in general. For all other fears, active pursuit of health behaviors could reduce the likelihood of that feared event, for example, one might start an exercise regime including daily walks if loss of mobility is a health concern. There was no similar scoring for hoped-for selves (i.e., attainable versus non-attainable) as non-attainable hopes would be virtually impossible to achieve and no selves of this type were found among the open-ended hoped-for health selves. The selves were categorized by two independent raters with acceptable agreement rates ranging from 79.3% to 94.8% for the different categories scored (see Table 1).

SF36 assessment of current health. Current self-reported health status was assessed with the SF36 which is a reliable and valid scale often used to measure health in medical research (Ware & Sherbourne, 1992). Data from five of the nine subscales was utilized for this research, with higher scores indicating better health. 1) The general health subscale was used, consisting of 4 general health items and a question rating health from 1 (*excellent*) to 5 (*poor*). 2) The 10-item physical functioning subscale was comparable to an assessment of activities of daily living (ADLs), measuring whether participants had been limited in performing certain physical activities, ranging from strenuous activity to bathing or dressing. 3) The role-physical subscale assessed level of difficulty in performing normal daily activities, to evaluate overall physical performance. 4) The bodily pain subscale included 2 items to determine level of bodily pain and interference of pain with normal activities. 5), The health transition subscale included one item that inquired about current health status compared to one year earlier. Finally, we combined the physical functioning and role-physical subscales to conceptually capture overall performance of ADLs since neither scale seemed to encapsulate the concept fully.

Other measures. Demographic information for each participant was gathered, such as date of birth, gender, marital status, race, current job status, primary occupation, years of education, and highest degree. The survey packet also included other subscales of the SF-36, a closed-ended possible selves

questionnaire for rating specific hopes and fears (Cross & Markus, 1991), a 4-item general memory self-evaluation (GME) questionnaire (West, Thorn, & Bagwell, 2003), and a 48-item version of the Metamemory in Adulthood (MIA) questionnaire including the locus of control, anxiety, and achievement subscales (Dixon, Hultsch, & Hertzog, 1988). These measures were not relevant to the purposes of this study and will not be considered further.

Procedure

Participants completed the survey packets in groups ranging in size from 3 to 20 people with experimenters present to answer any questions. No time limits were imposed, to give participants ample time to reflect on their possible selves and complete all measures. All participants received the questions in the same order, starting with the open-ended possible selves questionnaire for hoped-for, then feared possible selves, followed by the closed-ended selves questionnaires, other questionnaires, and demographic information form. The SF36 was completed one week later by mail.

Results

The analyses tested the effects of age and self-concept on current health status and health activities. The effects on health outcomes of number and type of possible selves were tested (hypothesis 1), as well as the effects of age on health type (hypothesis 2) and on self-regulation (hypothesis 3).

Open-Ended Possible Selves Questionnaire

A majority of participants spontaneously mentioned health as a concern for the future, with 105 of 107 participants mentioning at least one health self on the open-ended questionnaire (total health selves $M = 4.05$, $SD = 2.01$). Fifty-five young-old and 50 old-old participants listed health selves. Participants of both age groups reported more health fears ($M = 2.42$, $SD = 1.49$) than hopes ($M = 1.62$, $SD = 1.13$), $F(1, 105) = 228.93$, $p < .001$, $\eta^2 = .69$. More importantly, most participants reported that health was a major concern, as 104 people in the sample reported a most important hoped for or dreaded possible self in the health domain. Spontaneous reporting of health activities occurred in 90 participants in the total sample with 51 young-old and 39 old-old expressing current involvement in health related activities (see Table 2).

As expected, the total number of open-ended possible selves listed decreased with advancing age, $r = -.34$, with fewer total number of fears listed, $r = -.30$, and fewer total number of hopes listed, $r = -.27$, with increasing age. In order to investigate whether there were any age differences in the number of health-related possible selves spontaneously listed as a *most important* hoped-for or most dreaded feared self on the open-ended questionnaire, analyses of variance were conducted to compare old-old to young-old. No significant differences between age groups were found for total number of health-related most important selves (both health hopes and fears), $F(1, 103) < 1, p > .05$. Thus, young-old and old-old listed comparable numbers of health hopes and fears as being personally relevant. However, the young-old age group reported significantly more activities related to health than the old-old group, $F(1, 89) = 6.05, p < .05, \eta^2 = .064$.

SE and outcome expectancy for possible selves in the health domain were analyzed between age groups with analysis of variance. Significant differences in SE ratings to achieve a most important health-related *hoped-for* self were found between age groups, $F(1, 45) = 4.12, p < .05, \eta^2 = .086$, with young-old reporting greater SE, or perceived capability to achieve this goal ($M = 5.65, SD = 0.88$), than the old-old age group ($M = 4.91, SD = 1.50$). There were no significant age differences, however, for SE for a most important health *fear* between age groups; both young-old and old-old perceived equal capability of preventing their significant health-related fears. Also, there were no age differences in perceptions of likelihood (outcome expectancy) for either achieving a hope for personal health or preventing a fear for personal health.

Scores on the SF36 subscales were reported for 104 participants since this measure was missing for 3 people. SF36 scores differed by age group on the role-physical subscale, $F(5, 98) = 13.8, p < .001, \eta^2 = .119$, with the young-old group reporting better functioning. Also, age effects approaching significance were found for the physical functioning scale, $F(5, 98) = 3.29, p = .07, \eta^2 = .031$. Correlations between age and the five SF36 subscales revealed some significant relationships between age and reported health status (see Table 3). Age was negatively correlated with certain subscales of the SF36; advanced age was related both to lower scores (worse reported overall health) on the general health

subscale and the role-physical subscale (worse functioning). The role-physical and physical functioning scales were combined to represent overall functioning in activities of daily living. This combined scale showed worse ADL functioning with advancing age), as shown in Table 3.

Beyond the most important selves listed, the impact of type of health possible selves on health behaviors and outcomes was examined. Recall that the health possible selves were coded into health types, showing improvement, maintenance, or decline relative to current health status. Listing greater health *hopes* was related to higher scores on the physical functioning subscale, $r = .24$ (better physical functioning), as well as higher scores on the combined ADL subscales, $r = .23$ (better overall ADL functioning). The total number of health selves was also examined; listing more *improvement* in health-related possible selves was related to higher scores on the general health subscale (better reported overall health), $r = .26$, while listing more *maintenance* health-related possible selves was related to lower scores on the bodily pain scale (more reported bodily pain), $r = -.20$.

There was no significant relationship between total number of fears listed and SF36 subscale scores. Feared declines were further coded into health types, as preventable or not preventable in the future. A positive relationship was found between number of preventable fears and total number of current health activities, $r = .21$. However, no significant relationship was found between total spontaneous health activities listed and SF36 subscale scores. Despite the connection between fear type and reported activities, there was no impact of preventable fears on current health because there was no significant relationship between spontaneous report of any health activities and scores on any of the SF36 subscales.

Multivariate analyses with SF36 subscales explored the effects of improvement, maintenance, and decline health types on reported current health status. The dependent variables were the five separate SF36 subscales along with the combined ADL subscale. Since there was only one participant who mentioned a health-related hoped-for decline, and no participants listed either maintenance- or improvement-related fears, three multivariate analyses were conducted, one comparing individuals who focused on improvement and those who did not mention improvement, a second comparing individuals

with maintenance selves with those having no maintenance selves, and one comparing individuals with preventable fears and those with non-preventable fears about declining health.

There were no significant differences on current reported health status between participants listing any health improvement selves or not, although the effect of having an improvement self on the general health subscale approached significance, $F(5, 97) = 2.79, p = .098, \eta^2 = .027$. In that case, a trend emerged – listing an improvement in health as a hope for the future was related to higher scores on the general health subscale (better reported general health).

As for maintenance, there was a significant difference found on the bodily pain subscale for reporting health maintenance selves, $F(5, 97) = 5.65, p < .05, \eta^2 = .053$; reporting maintenance of health status for the future was related to lower scores (more reported bodily pain). Also, group differences for the reported health transition subscale approached significance, $F(5, 97) = 2.78, p = .099, \eta^2 = .027$, with participants tending to report lower scores (improved health from the previous year) if they mentioned a maintenance goal for a health related hope.

Turning now to health fears, most participants listed a health decline fear of some kind, with 94 of 102 participants reporting decline fears as possible selves. These individuals were divided into preventable and unpreventable groups based on whether the participant listed more preventable fears than unpreventable. Multivariate analyses of variance investigated group differences on SF36 scores. Significant differences were found on both the bodily pain, $F(5, 96) = 8.74, p < .05, \eta^2 = .080$, and role-physical subscales, $F(5, 96) = 4.51, p < .05, \eta^2 = .043$. Effects on health varied, as listing more non-preventable fears than preventable fears was related to higher scores on bodily pain (less reported bodily pain) yet lower scores on the role-physical subscale (worse reported physical functioning).

Because ADL functioning appeared to be a significant determinant of health selves and health activities, further exploratory analyses were conducted to predict health outcomes. A regression analysis was conducted in order to predict ADL functioning by using indicators of general current health status (general health and health transition subscale scores) and total number of health selves and health activities spontaneously listed, as well as gender, age, and total years of education. This regression was

significant, $R = .46$, $F(7, 80) = 3.01$, $p < .01$, adjusted $R^2 = .14$. Those factors significantly related to current ADL functioning were age, $\beta = -.24$, $p < .05$, gender, $\beta = -.24$, $p < .05$, and the general health subscale score, $\beta = -.29$, $p < .01$.

Discussion

Previous research has found several trends in the possible selves of older adults that relate to health, and this study set out to further elucidate what types of health selves older adults mentioned as relevant to their self-concept. It is not enough to simply know that health becomes more salient with age, or that there are greater numbers of health fears associated with late life, but it is important to understand whether the *quality* of these selves is also changing with advancing years.

Because there are more concerns related to health reported with increasing age, it is crucial to understand what forms these health goals are taking. It has not been shown whether the quality of health selves change significantly with age. If more fears in the health domain are associated with increasing age, then whether there is also a corresponding qualitative difference in the *types* of health fears reported is relevant to understand how health expectations evolve across the lifespan. Since older adults are faced with impending physical declines it could be expected that they would report more fears for their own health. Furthermore, it makes sense to assume that with growing health concerns over the years, the types of fears reported by older adults may be increasingly more difficult to overcome as health continues to deteriorate and hopes for health in the future may become more conservative and less ambitious if any are reported at all.

Expected age differences in current health status followed the findings from previous research (Hooker, 1992; Frazier, et al, 2000; Frazier, et al., 2002). With increasing age, we found reports of worse general health, worse physical functioning, more trouble performing ADLs, and more trouble overall performing physical activity. The young-old group reported better physical functioning in physical tasks that varied in level of difficulty from strenuous exercise to being able to bathe and dress oneself. The hypothesis that health would be more salient in the possible selves repertoire of the old-old group was not supported, as no age differences were found in the likelihood of reporting health as a most important

possible self. However, young-old listed more health activities related to their most important self than the old-old group, demonstrating greater competency on the part of the young-old to achieve their goals for their own health. According to past research, goal-oriented activities for health selves were related to health behaviors (Hooker & Kaus, 1994).

To further study findings of decreasing willingness to strive for health goals, participants were asked to make self-efficacy (SE) and outcome expectancy ratings for their most important hoped-for and most dreaded possible selves. We hypothesized that with increasing age, SE for a health-related possible self would decline and outcome expectancy for health would decrease specifically for health fears. Our results supported the former claim as young-old had higher SE for health selves than old-old, but no differences were found in outcome expectancy for hopes or fears. Both age groups felt fairly confident that their hopes would occur and that their fears would be avoided in the health domain. These results confirmed a previous study comparing three cohorts of older adults, where older adults over the age of 80 attributed changes in health to chance or powerful others more than those in their 60s and 70s did, demonstrating lower SE with age (Frazier, et al., 2002). Our results, however, contradicted the findings from other previous research where older adults reported as much SE for health hopes and fears as college students, but had higher expectations that their health fears would still occur (Hooker, 1992). Thus, there is more support for the claim that SE does indeed decrease into old age based on this current project.

There was no evidence to support the main hypothesis that independent of age, listing more health selves would be related to better health outcomes or spontaneously reporting more health behaviors. Further, there were no differences in health outcomes or behaviors as a function of whether participants were listing health fears or hopes. Hence, there was no evidence to show that people who mention more health selves are concerned about their current health enough to report engaging in more health activities in their current routines. Surprisingly, listing health activities was unrelated to reported current health status; people who mentioned that they were engaged in health activities at the time they filled out the survey were not found to be any healthier than those who failed to mention any participation in activities associated with a healthy lifestyle. The regression analysis further showed how health selves

and spontaneous mentioning of activities had little to do with current physical performance when compared to the effects of age, gender, and health in general. This is inconsistent with past research of health-related possible selves that found relationships between the number health selves and health behaviors (Hooker & Kaus, 1992). There are several possible explanations for the lack of continuity with past research. First of all, there is often little variance to be found in the number of possible selves listed by participants when only older adults are evaluated. It is often the case that older adults list only a few selves, and this sample did not prove to be an exception. Keeping in mind that groups with ‘many’ selves differed only slightly in total number of selves from those groups listing ‘few’ selves, it makes sense that there should be little difference in health behaviors and current health status for listing many possible selves; the groups are simply difficult to distinguish from each other by total number of selves alone.

Prior research has shown that the possible selves spontaneously listed by adults are central to the self-concepts of those individuals and as such, should be indicative of what each individual is personally striving towards (Markus & Nurius, 1986). It is reasonable to assume then, that people who are making more effort to become a certain type of person would be enjoying greater success in the relevant domain. Again, spontaneous listing of activities in a certain domain has been linked to more effortful striving to achieve the hoped-for possible self or to avoid a dreaded self in that domain (Hooker, 1999; Hooker & Kaus, 1992), and so we expected to find better health for those who mentioned health as personally relevant. If health was important to someone, then we assumed that the person would be doing more to preserve personal health and would hence enjoy better health status than those who are not as concerned about their health and who engage in fewer health activities because they lack personally relevant health goals. Our findings here do not appear to support that claim; instead the future health selves and goal-oriented activities appear to be influenced by current health status. If health is at all important for the individual, the *types* of health selves reported for the future are related to current health status.

Once the possible selves were categorized by health type, differences were found in current health outcomes. Independent of age, the more health hopes participants listed, the better their overall physical function and reported ability to perform ADLs. The specific type of health hope was analyzed in

order to further investigate these results in current health status. More spontaneous mention of health improvements as hopes for the future was related to having better perceived general health, while more hopes to maintain health in the future was related to more reported bodily pain. These patterns illustrate that the type of hope reveals the current condition of one's health. For those who are generally healthy in late life, improvements in health still seem attainable and worthy aspirations; but for those who have begun to notice declines and who are beginning to physically suffer from bodily pain, they hope instead for their health not to decline any further in their advancing age. These findings suggest that reported possible selves are influenced by the current health of the individual rather than the reverse. We hypothesized that possible selves influenced the current health status by organizing health behaviors to promote both current and future health, but the data did not show that health activities were related to current health status. The confidence that a person has in his or her own current health and whether current health will remain steady into the future may impact the future conceptions of the self as either 'healthy and able' or 'resilient to change.' Further research is needed to determine how both health activities and health selves are formed, to understand how these factors influence each other.

Most health fears fell into the category of anticipated decline for health in the future. Because nearly all participants listed a health fear of some kind, there was no difference found in current health status for those reporting or not reporting a health fear. Classifying each decline into either unpreventable or preventable categories, however, revealed some interesting findings. Most fears were related to outcomes that they could prevent through adopting a healthy lifestyle, regardless of age, and they were able to back up the claim that the fear was in fact preventable by listing more health activities for every preventable fear mentioned. Total number of preventable health fears was associated with more health activities spontaneously mentioned, even though neither total number of health selves nor total health hopes were good indicators of how many healthy activities people reported. One interpretation of this is that revealing a fear for one's health is more threatening to the individual than describing a hope for personal health. This might motivate the individual to generate evidence that he or she is working to avoid that dreaded self. It makes little difference that one does not meet a health goal to be in *better* health, but

facing a possible decline would engender more action to ensure health is at least maintained. Remember that listing more health activities was not related to current health status. It may be that participants were listing health activities to reassure themselves that they were taking necessary actions to prevent decline, whether or not they were objectively doing more for their health than anybody else. Further research is needed to identify objective differences in the number of health behaviors people actually engage in; spontaneous subjective reporting of activities may not prove to be a reliable measure of a person's actual health activities.

It is not enough to simply say that current health status appeared to motivate the type of health one was pursuing for the future, but particular aspects of health were more influential than others. For example, the experiences of pain and difficulties performing daily tasks that require physical effort emerged as significant factors in the types of health selves that older adults of both age groups had reported. Mentioning more unpreventable fears was associated with less bodily pain but greater difficulty in performing ADLs; this pattern is in direct contradiction for the pattern observed for health hopes. Experiencing pain or not seems to mediate the type of health-related possible self reported. If a person is currently experiencing a lot of pain, then more health hopes encompassing goals to maintain health are reported; but if the person is experiencing little pain and reports problems in performing physically in day-to-day tasks, then more unpreventable fears are reported. These two physical symptoms have opposing impact on the outlook for one's health. The experience of bodily pain can be construed as a common signal that health is not as good as it used to be and that one is aging. Pain on its own can perhaps be seen as the first indication that health is beginning to decline, but if pain is experienced without impacting daily activities, it may be perceived as more manageable. Difficulty in daily tasks, however, signals that *abilities are deteriorating because of health*. This realization creates a more pessimistic outlook, and these people report more fears that no one can reasonably prevent such as being diagnosed with an illness like Alzheimer's or Parkinson's disease for which no known preventative measures exist. When poor health interferes with daily functioning, people begin to worry that declines will not only continue, but also begin to perceive that they may be helpless to avoid them.

Our coding system created some possible limitations in this research. In order for a possible self to be classified as improving, the participant had to make specific mention of changing from the current status to a more desirable one. Many selves were classified as “maintaining” because the respondent provided only a general health hope (“good health”) or fear (“poor health”). This system of coding may have biased the sample to include more maintenance goals. Subsequent research should require that participants themselves indicate whether their goal is to improve or maintain or if they consider a fear to be preventable or not. It would also be useful, in future research, to include checklists or some more objective way to define health activities. Responses to the items concerning goal-oriented activities were often vague such as “eat right and exercise” (by far the most common response among participants), without providing sufficient detail about the time and extent of personal commitment to these activities.

Based on the findings of this study, the possible self repertoires of older adults are sensitive to current health status, especially where pain and physical ability are concerned. Health goals appear to become more conservative with increasing age, as a focus on improvements is replaced by goals to maintain health, and health activities motivated by health fears begin to predominate. This research showed that health concerns in late life are multidimensional, with specific health problems related to differences in the ways that people think about their health and their ability to change it in the future. However, the interaction of possible self health type and current health status should be studied further to determine the direction of the relationship between possible self and current success in a particular domain. Theoretically, it is believed that health selves are the motivating determinant of health activities. However, the direction of the influence between health selves and health status is not fully revealed here, or in past research. Future longitudinal research should examine the link between health goals and perceived decline over time, determining if this strategy is actually helping to maintain health status or if older adults are simply giving up on feeling healthy into late life and have adapted their goals accordingly.

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Table 1
Percentage of Agreement between Independent Raters

Type of Possible Self	Percentage agreement
Hoped-for	79.3%
Most Important Hope	82.0%
Goal-oriented Activities for Hope	88.1%
Feared	80.3%
Most Important Fear	83.9%
Goal-oriented Activities for Fear	89.7%
Fear Preventable or not	94.8%

Table 2
Mean Number of Open-Ended Health Selves by Age Group

Possible Self Type	Young-old			Old-old		
	Mean	Std. Dev.	<i>n</i>	Mean	Std. Dev.	<i>n</i>
Total Health	4.53	2.12	56	3.52	1.76	50
Health Hopes	1.73	1.15	56	1.50	1.09	50
Improvement	0.73	0.92	56	0.32	0.62	50
Maintenance	1.00	0.95	56	1.18	1.06	50
Health Fears	2.78	1.52	55	2.02	1.35	50
Preventable	2.42	1.33	55	1.78	1.30	50
Unpreventable	0.36	0.62	55	0.24	0.48	50
		Young-old			Old-old	
Health Activities	Mean	Std. Dev.	<i>n</i>	Mean	Std. Dev.	<i>n</i>
Total	3.20	2.64	51	2.00	1.72	39

Table 3

Intercorrelations between SF36 Subscales and Age

Variables	1.	2.	3.	4.	5.	6.	7.
1. Physical Functioning	—	-.23*	-.28**	-.17	.35**	.97**	-.16
2. Bodily Pain		—	.60**	.33**	-.40**	-.30**	-.03
3. General Health			—	.17	-.07	-.27**	-.23*
4. Reported Health Transition				—	-.18	-.19*	-.09
5. Role-Physical					—	-.57**	-.36**
6. Combined ADL						—	-.23*
7. Age							—

* $p < .05$, ** $p < .01$.