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Falls efficacy and self-rated health in older African American adults

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Abstract

Fear of falling and mobility restrictions have a significant negative impact on the quality of life of older adults. Because older African American adults are at increased risk for various modifiable health problems, understanding potential constraints on their overall health and mobility is critical in this population. The current study investigated this issue by analyzing a dataset of 449 older African American adults (mean age = 72.3 years) living in Detroit. We characterized and investigated the relationships among the following falls- and health-related variables: previous falls, falls efficacy, mobility, self-rated health (SRH), and depression and well-being. As a whole, participants reported moderate health and well-being, little depression, few mobility problems (mean = 8.4/40), and very high falls efficacy (mean = 94.9/100) despite the fact that a quarter of the sample experienced a fall within the past year. Correlation results indicated that previous falls, falls efficacy, mobility, SRH and depression and well-being were all inter-related. Regression analyses revealed that higher falls efficacy was more closely associated with better SRH than was having previously fallen. Findings suggest that improving falls efficacy in older African American adults may be beneficial to their mobility and overall health and well-being. Further, by asking a single-item SRH question, clinicians may be able to quickly identify older African American adults who have low falls efficacy and are at high risk for falling.

Keywords

Older adults; African Americans; Falls efficacy; Mobility; Health

1. Introduction

Older adults face numerous limitations as they age that negatively impact their overall health and quality of life. While mobility limitations are a frequent concern, issues, such as low falls efficacy are relatively underappreciated, particularly in older community-dwelling

adults. Previous research has demonstrated that seniors who live independently in their communities report a greater fear of falling compared to older adults who live in senior housing (Wert, Talkowski, Brach, & Van Swearingen, 2010). For older adults living in urban or disadvantaged areas, low falls efficacy and mobility difficulties may take on an even greater importance. Huang (2005) found that urban living conditions were associated with increased falls in older adults. Similarly, Clarke, Ailshire, and Lantz (2009) demonstrated that mobility disability was compounded in older adults who lived in urban areas with poor accessibility. Despite the aforementioned findings, little is known regarding falls efficacy and its associations with mobility difficulties and health in older African American adults living in urban, disadvantaged areas. It is imperative to understand such issues in this population, given the public health concern over falls in older adults and the well-documented, yet modifiable, health problems (e.g., high blood pressure, diabetes) in African American adults (e.g., Brancati, Kao, Folsom, Watson, & Szklo, 2000) that could be mitigated, at least to some extent, through enhanced mobility.

Falls are a leading cause of health problems (e.g., hip fractures) and early death (Evitt & Quigley, 2004; Moore & Ellis, 2008; Tennstedt et al., 1998; Tinetti, 2003). Fear of falling is frequently operationalized by *falls efficacy*, i.e., self-perception of one's ability to avoid falling (Schepens, Sen, Painter, & Murphy, 2012; Tinetti, Richmond, & Powell, 1990), which is modifiable through intervention (Zijlstra et al., 2007). As a result, substantial research has focused on understanding factors that influence falls and falls efficacy. For example, Friedman and colleagues developed a longitudinal prediction model for falls and falls efficacy. Their study highlighted two important findings (Friedman, Munz, West, Rubin, & Fried, 2002). First, the relationship between falls and fear of falls was circular, such that previous falls predicted subsequent fear of falling and fear of falling was, in turn, indicative of a future fall. Second, general health was predictive of fear of falling. Others have also observed a relationship between fear of falling and health and well-being. For example, social well-being (e.g., increased social embarrassment, decreased social contact) has been linked to fear of falling in older adults (Legters, 2002; Yardley & Smith, 2002). Kempen demonstrated that self-rated health (SRH) and depression were among the key factors related to fear of falling in community-dwelling adults over the age of 70 (Kempen, van Haastregt, McKee, Delbaere, & Zijlstra, 2009).

Examining the relationship between fear of falling and SRH in older African American adults could be extremely valuable. SRH is a very efficient clinical measure of overall health ("Would you say your health is excellent, very good, good, fair, or poor?") (Idler & Benyamini, 1997; Mossey & Shapiro, 1982). It also reflects the continuum of a person's perceived health by eliciting thoughts on previous, current, and future health (Ayyagari et al., 2012; Idler & Benyamini, 1997). Therefore, for individuals who have a rich history filled with unique experiences and circumstances, such as older African American adults, SRH may be a more appropriate indicator of holistic health than reports of the number/presence of health conditions or objective appraisals of physical health. Further, the subjective nature of the SRH question taps into the psychology of the individual, which could be increasingly relevant when examining issues, such as falls efficacy or balance confidence. Finally, previous research has shown associations between SRH and many other issues associated

with falls, including functional ability (Idler & Kasl, 1995), hospital visits (Kennedy, Kasl, & Vaccarino, 2001), and mortality (Idler & Benyamini, 1997).

To the best of our knowledge, the relationship between falls efficacy and SRH has not been investigated in older African American adults. Data on falls and falls efficacy in the African American community is primarily limited to the African American Health (AAH) cohort study, which focused on middle-aged African American adults (49–65 years). In one AAH publication, Andresen et al. (2006) examined risk factors for falls and low falls efficacy in African Americans living in St. Louis (mean age = 56.8 years). Though they did not assess SRH, they found that depression, lower body functional limitations, activities of daily living, and certain health conditions (e.g., diabetes) were significantly associated with falls efficacy. However, only depression and lower body functional limitations were associated with previous falls. Further, less than 20% of their sample indicated falls efficacy scores below 90% (i.e., scores below 90 out of an optimal efficacy score of 100) (Andresen et al., 2006). Prior to the 2006 study, the same research group used the AAH data to examine the associations among falls, fear of falling, and activity restriction (Wilson et al., 2005). Interestingly, this earlier study showed that low falls efficacy was related to decreased activity and lower quality of life even in the absence of a fall, suggesting that having a fear of falling by itself can be disruptive to one's daily living.

The aforementioned studies indicate the overwhelming health and social burdens that falls and fear of falling pose to community-dwelling older adults, but also illustrate the paucity of research in these areas with respect to older African American adults. Though the work of Andresen and others made important contributions to the literature on falls efficacy and mobility in African Americans, older African American adults remain understudied. The current study addressed this issue by investigating falls efficacy, mobility, and health and well-being in a large sample of older African American adults living in Detroit. Our objectives were twofold: first, to describe falls efficacy, previous falls, mobility difficulties, SRH, and well-being and depression in this population; and second, to investigate the relationships among these variables. Specifically, we were interested in examining how falls efficacy and having a previous fall relate to mobility, SRH, and well-being. Consistent with previous findings from the literature on middle-aged African American adults, we hypothesized that the current sample would report relatively high degrees of falls efficacy. We also expected to find that prior falls and falls efficacy would be significantly associated with mobility, health, and well-being, with falls efficacy being the stronger predictor.

2. Materials and methods

2.1. Participants and procedures

To address the study questions, analysis of a secondary dataset was performed. The dataset resulted from the Lifespan Investigation of Family, Health, and Environment (LIFHE) project at Wayne State University in 2011. Participants were recruited from volunteers in the Healthier Black Elders Center (HBEC), a joint collaboration between WSU's Institute of Gerontology and University of Michigan's Institute of Social Research (Chadiha et al., 2011). All eligible members of the HBEC were given an opportunity to participate in the LIFHE study. To be eligible for the LIFHE project, individuals needed to self-identify as an

African American above the age of 55. Individuals who met these requirements but had conditions preventing them from completing the survey (e.g., extensive hearing difficulties, inability to speak English, cognitive difficulties) were excluded from participation. Data collection consisted of a telephone survey where information on health and daily functioning, family life, and civic engagement was obtained. In the current study, variables related to socio-demographics, health, falls, and mobility were selected from the LIFHE dataset for analysis. Because we were interested in examining older adults, only data from individuals ages 60 years and over were included for analysis ($N = 449$). Besides the 449 participants who completed the interview, 55 additional HBEC volunteers were invited to participate. Of this group, 37 were not available after 4 call-backs, 10 were “not interested” or refused to participate, 3 telephone numbers were disconnected, and 2 were not sufficiently cognizant to understand the interview questions. Three participants did not complete the interview. Each participant who completed an interview was mailed a \$15 CVS gift card for their time. All procedures pertaining to the LIFHE project were approved by the Institutional Review Board at Wayne State University.

2.2. Survey outcome measures

2.2.1. Falls, falls efficacy, and mobility—Participants reported whether or not they experienced a fall within the past year. They were also questioned about their falls efficacy. The efficacy questions required participants to report their confidence in not falling with respect to performing various activities of daily living, such as getting in and out of bed or answering the door or telephone. All efficacy items were scored on a scale of 1–10, with “1” being not confident at all and “10” being extremely confident in one's ability to perform the task without falling. Similar scoring criteria have been utilized to examine falls efficacy in previous studies (e.g., Hill, Schwarz, Kalogeropoulos, & Gibson, 1996). To investigate efficacy, the Falls Efficacy Scale (FES) (Tinetti et al., 1990) was adapted. The FES items “light housekeeping” and “simple shopping” were replaced with “personal grooming” and “getting on and off of the toilet”. The latter two items were listed by therapists, nurses, and physicians as two of the top ten most challenging activities and previously included by Tinetti et al. (1990). Falls efficacy items in the current study demonstrated good internal consistency (Cronbach's $\alpha = 0.944$).

Participants were also asked to rate their ability to perform eight mobility-related activities: (1) performing heavy housework; (2) traversing stairs; (3) walking a $\frac{1}{2}$ mile; (4) moving large objects; (5) stooping, crouching, or kneeling; (6) lifting heavy objects; (7) reaching or extending your arms above your shoulder; and (8) handling small objects. The items were adapted from the physical functioning questions of the Established Populations for the Epidemiologic Studies of the Elderly project (Smith et al., 1990) and have been used subsequently in other studies (e.g., Alexander et al., 2000). We were particularly interested in the item “walking a $\frac{1}{2}$ mile” because, unlike most of the other mobility items, this activity is not an item in the FES. Each mobility item was rated as “0” = no difficulty, “1” = little difficulty, “2” = some difficulty, “3” = lot of difficulty, and “4” = unable to perform. The sum of scores on these eight items resulted in a score for total mobility problems ranging from 0 to 32 with higher scores indicating more difficulty performing the mobility activities.

Participants were also asked whether or not they currently drove a motor vehicle and used any mobility aids or specialized equipment in their homes.

2.2.2. Health and well-being—Three health-related variables were investigated. First, SRH was scored as “1” = poor, “2” = fair, “3” = good, “4” = very good, or “5” = excellent. Second, participants were asked about depression, i.e., “feeling down or blue”, in accordance with the following scale six-point scale: “0” = none of the time; “1” = a little of the time; “2” = some of the time; “3” = a good bit of the time; “4” = most of the time; or “5” = all of the time. This single question has been used previously to measure depression in geriatric studies of older African Americans (Yochim, Kerkar, & Lichtenberg, 2006). Third, well-being was assessed using the Social Production Function Instrument for the Level of Well-Being (SPF-IL) (Nieboer, Lindenberg, Boomsma, & Van Bruggen, 2005). This 15-item measure of well-being asks individuals questions related to five different areas: affection, behavioral confirmation, status, comfort, and stimulation. Items are scored on a scale from 0 to 3 (0 = never, 1 = sometimes, 2 = often, 3 = always), resulting in an optimal well-being score of 45. In the current study, Cronbach's alpha for the SPF-IL was 0.852.

2.3. Data analysis

Descriptive statistics were conducted on variables related to socio-demographics (e.g., age, gender, education), falls and falls efficacy, mobility, and health and well-being. To determine internal consistencies of the various measures, Cronbach's alpha coefficients were calculated. Bivariate associations among falls, falls efficacy, mobility, and health were analyzed using spearman rho correlations. Nonparametric methods were employed because initial examination of the data revealed that the efficacy and mobility scores did not follow a normal distribution. For the falls data (Y/N), Mann–Whitney *U* or gamma statistics tests were employed depending on the type of dependent variable (continuous vs. categorical). Two additional analyses were conducted to further explore the relationships of falls and falls efficacy with SRH. First, analysis of the binomial proportions by falling status (fallers vs. non-fallers) was conducted within each SRH group. Second, a Kruskal–Wallis test with post hoc comparisons was performed to examine whether group differences in falls efficacy scores existed among the five SRH groups.

Logistic regression models were estimated to investigate the relationships of falls efficacy and previous falls to measures of health and mobility, controlling for several socio-demographic factors (age, gender, education, marital status). We chose logistic regression because several of the dependent variables were quite skewed (SRH, depression, total mobility problems). SRH was dichotomized into “excellent”, “very good” and “good” vs. “fair” and “poor”. Depression was coded as “none of the time” and “a little of the time” vs. “some of the time”, “a good bit of the time”, “most of the time”, and “all of the time”. The total mobility score was dichotomized at the median score of 7. Even though the SPF-IL was not skewed, for consistency we also created a binary variable splitting the scores at the median value of 32. For analysis purposes, education was categorized as “high school or less”, “some college or tech training”, and “4-yr. degree or more”. Marital status was divided into “married” vs. “other”. Alpha was set at $p < 0.05$ for all statistical analysis. SPSS 17 was used for all data analysis (SPSS, 2007).

3. Results

3.1. Descriptive statistics

3.1.1. Socio-demographics (Table 1)—The sample consisted of 449 older African Americans between the ages of 60 and 97 years (mean age = 72.3 years). The group was predominately female (87.5%). Less than half of the participants lived alone (44%) and almost all were retired (93%). As a whole, the sample was relatively well-educated with nearly 70% of study participants reporting some form of post-high school education.

3.1.2. Falls, falls efficacy, and mobility (Table 2)—One-quarter of the sample (24.5%) indicated that they had fallen in the past year. Despite this finding, the sample as a whole reported very high falls efficacy (mean efficacy score = 94.9 out of a possible 100, range = 10–100) and relatively little difficulty performing mobility-related activities (mean mobility problems score = 8.4 out of 40, range = 0–32). In addition, a small percentage (8.1%) was unable to walk a ½ mile. Approximately one-third (35.4%) to one-quarter (26.5%) of the participants reported having safety equipment in the home and using mobility aids, respectively. Over three-quarters (78.3%) of the sample were drivers.

3.1.3. Health and well-being (Table 2)—The sample reported relatively good levels of health overall, evidenced by the fact that only 27% of the participants rated their health as either poor (4.7%) or fair (22.6%). The sample also indicated moderate well-being (mean = 30.7 out of a possible 45). Similarly, less than one-third (29.4%) stated that they felt down or blue at least some of the time.

3.2. Correlations among falls, falls efficacy, mobility, and health

Spearman rho correlations were conducted to investigate associations among falls, falls efficacy, mobility, and health (Table 3). Results revealed that falls efficacy was significantly correlated with total mobility problems ($r = -0.550, p < 0.001$) and difficulty walking a half-mile ($r = -0.444, p < 0.001$). A significant, though less meaningful, correlation was observed between falls efficacy and previous falls ($r = -0.238, p < 0.001$). Having a previous fall was also associated with mobility problems and difficulty walking a half-mile, although the magnitude of these correlations were relatively small ($r = 0.171, p < 0.001$ and $r = 0.115, p = 0.015$, respectively). Similarly, weak, but significant, correlations were observed for previous falls with SRH ($r = -0.195, p < 0.001$), well-being ($r = -0.195, p < 0.001$), and depression ($r = 0.144, p = 0.002$). However, the associations between health variables and falls efficacy were roughly twice as strong as those observed with previous falls. Specifically, correlation coefficients for falls efficacy and SRH, well-being, and depression were 0.512, 0.336, and -0.204 , respectively ($p < 0.001$ in all instances). SRH was also strongly associated with mobility problems ($r = -0.555, p < 0.001$). Direction of the correlations indicates that better health corresponded to higher falls efficacy and less difficulty performing mobility-related activities. Finally, walking a half-mile and total mobility problems were highly correlated ($r = 0.774, p < 0.001$), which was to be expected because walking a half-mile was an item included in the total score for mobility problems.

3.3. SRH groups by falling status and falls efficacy

To further understand the association between health and falling, the proportion of fallers vs. non-fallers within each of the five SRH groups (poor, fair, good, very good, excellent) was investigated. Fig. 1 shows that the proportion of fallers and non-fallers was significantly different in all of the SRH groups with the exception of 'poor'. In general, at higher levels of SRH, the percentage of fallers is lower. Specifically, the percentage of fallers was observed to be 48%, 32%, 26%, 11%, and 14% for poor, fair, good, very good, and excellent health ratings, respectively.

Falls efficacy by SRH group was also assessed (Fig. 2). Results from a Kruskal–Wallis test indicated significant group differences in falls efficacy, Chi-square ($df = 4$) = 123.0, $p < 0.001$. Visual inspection of Fig. 2 shows that falls efficacy scores for the higher-rated health groups, i.e., 'very good', 'excellent', appear to be higher than in the other groups. Post hoc comparisons (Mann–Whitney U) indicated that the 'very good' and 'excellent' health groups had significantly higher efficacy scores than the bottom three groups ($p < 0.001$). In addition, the 'fair' group had significantly lower efficacy scores than the 'good' group ($p < 0.001$) whereas the 'poor' group showed significantly lower efficacy scores than both the 'good' ($p < 0.001$) and 'fair' ($p < 0.001$) groups.

3.4. Logistic regression models

To investigate the association of falls and falls efficacy with our health and mobility measures (dependent variables: SRH, mobility, depression, social well-being), we estimated four regression models, controlling for several socio-demographic variables (age, gender, education, marital status). The results are presented in Table 4A–C.

The logistic regression models revealed that when a previous fall and falls efficacy are included separately as independent variables (Table 4A and B) each is significantly related to all of the health and mobility dependent variables. However, having had a fall accounts for little of the variance in SRH or in mobility problems (Nagelkerke R -square ~ 0.09) whereas falls efficacy accounts for a substantial portion of the variance (Nagelkerke R -square ~ 0.30). Including both previous falls and falls efficacy in the model (Table 4C) shows that having had a previous fall adds very little to the relationship with SRH or mobility problems beyond that explained by falls efficacy. Neither a previous fall nor falls efficacy accounted for much of the variance in depression or well-being, but here too falls efficacy was more strongly related to both of these variables than was a previous fall. For comparison, we estimated several linear regression models with the same set of independent variables and SRH, total mobility problems, depression, and well-being as dependent variables. The results were quite similar (data not shown).

4. Discussion

Falls and mobility problems are major public health concerns facing older adults. Because older African American adults demonstrate elevated risks for various modifiable health problems, it is imperative to understand factors that may contribute to overall health and well-being in this population, such as falls efficacy and previous falls. The current study investigated falls, falls efficacy, mobility, and health in a sample of 449, predominately

female, older African Americans living in the city of Detroit and the surrounding area. Three major findings emerged in support of our hypotheses. First, on average, participants reported very high levels of falls efficacy, few mobility problems, and moderate levels of health. Second, falls efficacy, previous falls, mobility, and health were related to one another. Finally, although SRH was closely associated with previous falls and falls efficacy in unadjusted analyses, previous falls was not a significant factor after adjusting for several socio-economic variables.

As a whole, the sample reported high falls efficacy. The mean efficacy score was 94.9 out of a possible 100, indicating that the current sample of older African Americans felt very confident in their abilities to perform a variety of daily activities without falling. Therefore, it was not surprising to also find that participants, on average, indicated little difficulty performing mobility-related activities. Mean score for mobility problems was 8.4 out of a possible 40. Further, approximately 2/3 of the sample indicated little to no difficulty walking a half-mile, with only 8% of these 60-to 97-year-olds unable to perform this task. Findings of high falls efficacy in African Americans are in agreement with past research. For example, Wilson et al. (2005) suggested that fear for falling may present differently in middle-aged African Americans compared to other racial or ethnic groups. In addition, Rosengren found that older African American women demonstrate higher falls efficacy than age- and activity-matched white women despite demonstrating the same degree of balance and slower walking speeds (Rosengren, McAuley, Woods, & Mihalko, 2000).

Although participants in the current study indicated high efficacy values overall, a small subsample (approximately 10%) reported efficacy scores below 80% and several individuals scored below 50%. Combined with the fact that 25% of the sample reported a fall in the past year, our results illustrate that the association between falling and experiencing low falls efficacy are not inconsequential in this population. In fact, having fallen or displaying little confidence in one's ability to remain upright could have important implications for the affected individuals. According to Friedman et al. (2002), falls and falls efficacy are predictive of one another, leading to a "...vicious cycle of falls, fear of falling, and the many adverse outcomes that can result, such as functional decline, a decrease in quality of life, and institutionalization" (Friedman et al., 2002, p. 1334). Though we did not measure prospective falls or functional decline, per se, it is certainly plausible that Friedman's argument would hold in our sample, at least to some extent. First, we observed a significant correlation between previous falls and falls efficacy, although the magnitude of the correlation was not large ($r = -0.238$). Second, and perhaps more relevant to Friedman's model, is the implication from our data that low efficacy is associated with poorer health and decreased mobility. Significant and meaningful correlations were observed for falls efficacy with SRH ($r = 0.512$), well-being ($r = 0.336$), and mobility problems ($r = -0.550$), all of which were stronger than the correlations we observed for previous falls with health, well-being, and mobility. Logistic regression models confirmed that falls efficacy was more strongly related to measures of health and mobility than previous falls was in the current sample.

While we recognize the substantial health problems that can result from falling (e.g., hip fractures, increased risk of early death) (Evitt & Quigley, 2004; Tennstedt et al., 1998;

Tinetti, 2003), our data argue that falls efficacy may be just as important, if not more so, than actually experiencing a fall in terms of how older adults rate their mobility and well-being. Therefore, regardless of an older African American adult's history of falls, it may be one's *confidence* about not falling that affects a person's willingness to remain active and her or his overall quality of life as opposed to whether or not the person experienced a fall in the past. Again, this is not to say that falling does not play an important role in health and well-being. Fig. 1 clearly shows a pattern where the ratio of fallers to non-fallers drastically decreases as SRH improves. Fig. 2 demonstrates similar patterns involving falls efficacy and SRH, reiterating the value of having high falls efficacy to one's general health. Given the overarching importance of falls efficacy we observed, the current findings support federal recommendations, such as those from the 2008 Physical Activity Guidelines for Americans (HHS, 2008), which include prioritizing balance-enhancing activity for older adults. Fear of falling may also be addressed through the use of cognitive-behavioral modification training, a technique found useful in the treating of depression in older adults (Lysack, Lichtenberg, & Schneider, 2011). Our results suggest that these types of recommendations should be inclusive of older African Americans living in urban environments.

In addition to supporting policy measures, the current study may have important clinical significance. Previous studies indicate that health-related variables appear to be among the most prevalent correlates to falls and falls efficacy (Kempen et al., 2009; Yardley & Smith, 2002). While some studies have included specific health conditions, such as Parkinson's disease, others have used general health scores or SRH. Our results indicate that previous falls and falls efficacy, in particular, are related to SRH in older African American adults. These findings could have important clinical implications given the need to reduce falls and improve one's confidence in performing activities without a fear of falling. We agree with current research that supports the use of the Activities-specific Balance Confidence Scale-Short version (ABC-6) in rehabilitation settings (Peretz, Herman, Hausdorff, & Giladi, 2006; Schepens, Goldberg, & Wallace, 2010). However, we propose that clinicians and other health professionals may also be able to rapidly identify older adults who pose an elevated risk for falling and low falls efficacy by asking a simple, five-point question on SRH. Thus, the SRH question might be of clinical utility as an initial screening measure in some contexts, which could then suggest when comprehensive measures of balance and gait might be warranted. SRH responses may provide other relevant clinical information about African American patients, such as stressors related to social inequality. From a policy perspective, identifying likely "fallers" early on through the use of such a minimally time- and cost-effective means could allow for interventions to reduce falls-related injuries. Such prevention programs may enhance not only mobility and physical health in older adults, but also socio-emotional health. Our correlation results show that falls efficacy was significantly associated with well-being and depression. As a result, intervention programs targeting older adults with low falls efficacy may prove to have meaningful impacts on overall health and well-being, too. However, a prospective study examining the relationships among health, falls efficacy, and falls is needed in order to substantiate any of the aforementioned propositions.

While the current study provides important findings on efficacy, mobility, and health in older African Americans, several limitations need to be addressed. First, we collected minimal data with respect to the participants' falls. Regrettably, we do not know *how many falls* occurred in the past year. Participants were simply asked to report whether or not they experienced a fall. In addition, a “fall” was not defined so it is possible that participants were only reporting “falls to the ground”. Further, previous research suggests that older adults have difficulty recalling falls accurately (Peel, 2000). Therefore, it is plausible that falls were underreported in our dataset. As previously described, it would be beneficial to examine prospective falls in older African American adults. Second, participants in the LIFHE project had opportunities to participate in future community education events related to aging, and many did so. As a result, these older adults may be unique in some other unmeasured but important ways, and thus we must be cautious about generalizing our findings beyond the current sample. Finally, the cross-sectional study design does not allow us to infer causality with regard to the relationships we observed among falls, falls efficacy, mobility, and health. Future studies should not only consider these limitations but also investigate the relationship between falls efficacy, including outdoors efficacy, and physical activity in older African Americans, particularly for those living in disadvantaged areas. Consequently, additional research is also needed to identify other potential correlates to falls and falls efficacy in this population, such as neighborhood safety and accessibility.

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Fig. 1.

Percentage of fallers and non-fallers within each SRH category. Asterisks denote that percentage of fallers vs. non-fallers was significantly different for the categories of fair, good, very good, and excellent as indicated by analyses of binomial proportions ($p < 0.001$ in all cases).

Fig. 2.

Means (indicated by solid bars) and standard deviations (indicated by lines) for fall efficacy scores within each SRH category. Falls efficacy is higher at higher levels of SRH ($p < 0.001$). Results from Mann–Whitney U tests indicate that all SRH groups differed from one another ($p < 0.001$) with the exception of very good vs. excellent.

Table 1Participant characteristics ($N = 449$).

Age	Mean ($\pm$ s.d.)	72.3 $\pm$ 7.7
Gender	Freq (%)	393 (87.5) females, 56 (12.5) males
Education	Freq (%)	HS grad or less = 136 (30.4)
		Some college or tech school = 186 (41.5)
		4 yr. college degree or more = 126 (28.1)
Live alone	Freq (%)	No = 199 (44.3), yes = 250 (55.7)
Retired	Freq (%)	No = 28 (6.3), yes = 418 (93.3)

Table 2

Falls, mobility, and health.

Fell in last year	Freq (%)	No = 339 (75.5), yes = 110 (24.5)
Falls efficacy score	Mean ($\pm$ s.d.)	94.9 $\pm$ 12.0
Total mobility problems	Mean ($\pm$ s.d.)	8.4 $\pm$ 7.4
Walking a ½ mile	Freq (%)	No difficulty = 243 (54.4) Little difficulty = 51 (11.4) Some difficulty = 75 (16.8) Lot of difficulty = 42 (9.4) Unable = 36 (8.1)
Mobility aids	Freq (%)	No = 330 (73.5), yes = 119 (26.5)
Safety equipment	Freq (%)	No = 228 (64.6), yes = 158 (35.4)
Drive	Freq (%)	No = 97 (21.7), yes = 351 (78.3)
Self-rated health	Freq (%)	Poor = 21 (4.7) Fair = 101 (22.6) Good = 201 (45.1) Very good = 88 (19.7) Excellent = 35 (7.8)
Depression	Freq (%)	None of the time = 173 (38.5) A little of the time = 144 (32.1) Some of the time = 103 (22.9) A good bit of the time = 20 (4.5) Most of the time = 7 (1.6) All of the time = 2 (0.4)
Well-being (SPF-IL total)	Mean ($\pm$ s.d.)	30.7 $\pm$ 7.2

Table 3

Correlations among falls, falls efficacy, mobility, and health.

	Falls efficacy score	Total mobility problems	Difficulty walking a ½ mile	Self-rated health	Depression	Well-being
Previous fall	-.238*** ^a	0.171*** ^a	0.115* ^b	-.195*** ^b	0.144** ^b	-.0175*** ^a
Falls efficacy score	–	–0.550***	–0.444***	0.512***	–0.204***	0.336***
Total mobility problems	–	–	0.774***	–0.555***	0.192***	–0.280***
Difficulty walking a ½ mile	–	–	–	–0.454***	0.125**	–0.174***
Self-rated health	–	–	–	–	–0.267***	0.365***

*
 $p < 0.05$.**
 $p < 0.01$.***
 $p < 0.001$.

^a Mann–Whitney U performed (falls efficacy, Mann–Whitney $U = 13403.5$, $Z = -5.02$, $p < 0.001$; total mobility problems, Mann–Whitney $U = 14220.0$, $Z = -3.60$, $p < 0.001$; well-being, Mann–Whitney $U = 13904.0$, $Z = -3.70$, $p < 0.001$).

^b Gamma statistic calculated (difficulty walking a ½ mile, Gamma = .206, $t = 2.40$, $p = 0.016$; self-rated health, Gamma = –0.352, $t = -4.25$, $p < 0.001$; depression, Gamma = .257, $t = 3.08$, $p = 0.002$).

Table 4

Logistic regression models.

	Self-rated health		Total mobility problems		Depression		Well-being	
	Exp(B)	p-Value	Exp(B)	p-Value	Exp(B)	p-Value	Exp(B)	p-Value
<i>A. Relationship of previous fall to mobility and health variables</i>								
Previous fall (ref. = no fall)	1.917	0.007	0.520	0.006	0.593	0.028	1.910	0.006
Age	0.995	0.728	1.007	0.575	0.981	0.166	1.009	0.501
Gender (ref. = female)	0.821	0.598	1.116	0.723	1.484	0.281	1.034	0.913
Education (ref. = 4 yr. or more)								
HS or less	0.384	0.002	1.837	<0.001	1.057	0.842	0.532	0.014
Some post HS training	0.457	0.009	1.116	0.012	0.875	0.614	0.806	0.370
Marital status (ref. = married)	1.738	0.054	0.638	0.060	0.527	0.021	1.365	0.183
Model Nagelkerke R-square		0.082		0.089		0.054		0.055
<i>B. Relationship of falls efficacy to mobility and health variables</i>								
Falls efficacy score	1.133	<0.001	0.802	<0.001	0.971	0.001	1.035	0.002
Age	0.994	0.703	1.003	0.813	0.980	0.144	1.012	0.344
Gender (ref. = female)	0.743	0.502	1.051	0.884	1.712	0.158	0.909	0.761
Education (ref. = 4 yr. or more)								
HS or less	0.430	0.015	2.529	0.001	0.920	0.770	0.598	0.047
Some post HS training	0.451	0.015	1.755	0.035	0.812	0.433	0.854	0.513
Marital status (ref. = married)	1.359	0.330	0.763	0.293	0.563	0.040	1.320	0.238
Model Nagelkerke R-square		0.298		0.298		0.070		0.066
<i>C. Relationship of previous fall and falls efficacy to mobility and health variables</i>								
Previous fall (ref. = no fall)	1.280	0.384	0.827	0.482	0.669	0.102	1.712	0.024
Falls efficacy score	1.129	<0.001	0.806	<0.001	0.973	0.002	1.031	0.005
Age	0.993	0.657	1.004	0.786	0.981	0.167	1.011	0.407
Gender (ref. = female)	0.752	0.519	1.042	0.902	1.630	0.200	0.945	0.858
Education (ref. = 4 yr. or more)								
HS or less	0.434	0.016	2.519	0.001	0.917	0.760	0.605	0.054
Some post HS training	0.453	0.016	1.747	0.036	0.801	0.406	0.871	0.570
Marital status (ref. = married)	1.341	0.351	0.767	0.303	0.571	0.046	1.295	0.276

	Self-rated health		Total mobility problems		Depression		Well-being	
	Exp(B)	p-Value	Exp(B)	p-Value	Exp(B)	p-Value	Exp(B)	p-Value
Model Nagelkerke R-square		0.300		0.299		0.079		0.081

Self-rated health reference group is "fair" or "poor" health; mobility reference category is less than 7 (median) problems; depression reference group is "none" or "a little"; well-being reference group is a score of less than 32 (median).