ORIGINAL PAPER

# Living Alone and Fall Risk Factors in Community-Dwelling Middle Age and Older Adults

Sharon Elliott · Jane Painter · Suzanne Hudson

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**Abstract** As part of a larger study on fall-related risk factors, this study investigated the relationship between living alone status and fall-related variables among community-dwelling adults who lived in a rural county in eastern North Carolina. A convenience sample of 666 community-dwelling adults ages 50 and over participated in this 4-year study and completed a fall questionnaire. Significant findings were found in relation to living alone status and experiencing a fall, who they informed about their fall, injuries, safety equipment, ambulatory devices, and personal emergency response system usage. Three hundred thirty-eight participants stated they lived alone, compared to 300 who lived with others. The percentage reporting a fall was appreciably larger for those living alone (52%) than for those living with others (48%) in both genders in all age groups except for the 61-70 year old adults where the percentage was less. Findings from this research enhance knowledge about the prevalence and contributing fall-related factors in adults who live alone compared to those who live with others. Insights gained from this research will assist community and public health leaders and health care professionals in developing more

S. Elliott

Therapeutic Life Center, P.O. Box 2163, Greenville, NC 27836, USA

J. Painter (🖂)

Occupational Therapy Department, College of Allied Health Sciences, East Carolina University, 3305F Health Sciences, Greenville, NC 27858, USA e-mail: painterj@ecu.edu

#### S. Hudson

Biostatistics Department, College of Allied Health Sciences, East Carolina University, 2435 B Health Sciences, Greenville, NC 27858, USA efficacious intervention strategies to prevent or reduce falls, and associated psychological and physical consequences.

**Keywords** Prevention · Home safety · Occupational therapy · Alone status

## Introduction

Falls occur in approximately 33% of older adults ages 65 and over, are the sixth leading cause of death, and are estimated to cost over \$20 billion dollars annually [1–7]. For this paper, a fall is described as someone who unintentionally comes to rest on some type of lower surface or the ground, which is unrelated to a sudden medical condition or an external object/force [8]. With the expected tsunami of the Baby boomers over the next 10 years, it is anticipated community, local, state, and federal agencies, and health care systems will be inundated by adults and caregivers of older adults who have fallen [9]. Thus, it is imperative that health care professionals address this escalating problem of falls among adults and associated consequences.

#### Factors Affecting Falls

Literature regarding falls and living alone status was limited at the time this paper was written. Fall-related risk factors include polypharmacy (four or more medications), balance deficits, living arrangement, history of previous falls, difficulties with ambulation, visual impairments, age, gender, living arrangement, having multiple risk factors, as well as certain chronic diseases [10–14]. In 2003, approximately 10.5 million non-institutionalized seniors, or 30.8%, lived alone (74% women, 26% men) and half of older women over the age of 75 lived alone [5, 9, 15]. An older person who lives alone is 2–2.25% times more likely to experience a fall [12, 16–18] and has a higher risk of multiple falls [12, 17, 18]. Often times, those living alone have less social support and are more likely to use one or more community health services (i.e., home health providers, social workers, case managers, aides) [19]. Individuals who live alone are more likely to live in poverty (18.6%) than those who are living with family members (5.8%) [5]. In addition, the highest poverty rates (40.8%) are experienced among women who live alone and are Hispanic [5].

## Location and Time of Fall

Though, the literature reviewed did not differentiate whether adults lived alone or with others, falls occurred in various locations inside and outside the home environment. One study determined middle-aged and older adults who have more leisure time and are engaged in physical activities have a higher risk for sustaining outdoor falls while those who were not as healthy had a greater risk for indoor falls [20]. Many studies reviewed found 50–60% of falls take place inside the home with the most frequent locations occurring in the kitchen, bedroom, living room, and bathroom [21–23]. A limited number of studies, which examined the time of day falls occurred, noted the most common time for falls was late morning or early afternoon while approximately 20% of falls occurred between 9:00 p. m. and 7:00 a. m. [23–25].

#### Activities Engaged in When the Fall Occurred

The literature reviewed did not discriminate whether the adults lived alone or with others in relation to activities they were engaged in when the fall occurred. Generally, activities people were performing when they fell included stumbling, tripping, slipping, walking, transferring, and going up or down the stairs [12, 20, 26–28]. Helbostad and associates found that physical fatigue may cause gait changes in older adults and increase the risk of falling [29]. Other activities associated with the fall event were working in the yard or around the home, involvement in leisure activities, sleeping, eating, cooking, and resting [12].

## **Psychosocial Factors**

Fear of falling (FOF), a psychological symptom related to falls, is prevalent among 22–54% of community-living adults whether or not they have fallen [30]. Older adults who live alone tend to have a greater FOF than those who live with others [31, 32]. Murphy, Williams, and Gill conducted a study with over 1,000 community-dwelling

older adults and determined 57% were unafraid of falling, 24% reported a FOF while no one else was at home, and 19% reported limiting their activities due to a FOF [33]. Zijlstra and associates found that 54.3% displayed a FOF (54.3%) and of those 37.9% restricted their activities due to this fear [34]. In addition, those living alone were more fearful of falling (lives alone: 62.2%; lives with others: 48%) and restricted activities more often than those living with others (lives alone: 44.5%; lives with others: 32.8%) [34].

An association exists between the risk of social isolation and depressed mood in individuals who live alone [19]. Past studies discovered people living alone reported fair-topoor health, were at risk for social isolation, and frequently had no one to rely on in an emergency [9, 17, 35]. Social support may reduce the risk of falls and FOF among community-dwelling adults, and lessen the likelihood of adults withdrawing from activities due to this FOF [36, 37].

#### Injuries Associated with Falls

Falls are the primary cause of severe non-fatal injuries, and the most common reason for hospital admissions among adults who live alone or with others [10, 13]. Adults over the age of 65 incur the majority of unintentional fall-related injuries (23%) compared to adults between 35 and 54 years of age (10%) and those 55–64 years of age (8%) [10]. Unless there is action now, there will be an even higher prevalence of falls among the oldest of old. Stevens suggested the current rate of fall-related injuries among older adults 85 years and over were four-to-five times higher than adults 65–74 years of age [13]. Further, from 2010 to 2020, it is projected that seniors over 85 years of age will increase by 44% [9].

Single older women, who lived alone, had significantly more fall-related injuries and increased risk of complications from falls than seniors who lived with a spouse or others [16, 18]. While over 50% of falls result in injuries, approximately 24% result in serious injuries, [38, 39] and fractures tend to be the most frequent type of injury [13]. Approximately 250,000 hip fractures occur yearly in individuals over the age of 65, and about 25% of individuals who sustain a fall-related hip fracture die within 6 months after the injury [40, 41].

## **Preventing Falls**

Ambulatory Devices and Safety Equipment

At the time this paper was written, limited literature on living alone status and usage of ambulatory devices, safety equipment, or personal emergency response systems (PERS) were available. Walking and balance deficits, a frequent cause of falling in middle-aged and older adults, may cause them to rely on an ambulatory device to bear weight and improve balance [27, 42]. However, when an adult has a lateral loss of balance, ambulatory devices may interfere with compensatory stepping strategies, and may increase the risk of falling, or hinder the ability to maintain postural stability [43, 44]. Edwards and Jones's study of 500 community-dwelling older adults in South Wales found that mobility aids varied by the type of living arrangement; those living with others had a higher percentage of ownership of wheelchairs and walkers than those living alone [45].

Less than 50% of older adults have safety equipment in the bathroom, and the most commonly owned bathroom equipment were non-slip bath mats (55%) and bathroom grab grabs (24%) [45, 46]. Seniors living with others used portable commodes more often, while those living alone owned more bathroom grab bars [45]. PERS may be used by adults for a variety of reasons. Mann, Belchoir, Tomita, and Kemp surveyed more than 600 adults over 60 years of age and found that 40% used PERS due to a FOF, and 75% used the devices to help them feel safer [47]. Lee and associates, however, found that PERS did not decrease the FOF or anxiety in older people discharged from the emergency room [48].

#### Purpose of Study

As part of a larger study on fall-related risk factors, the purpose of this component of the study was to determine if living alone versus living with others affected contributing fall-related factors among community-dwelling adults in a rural eastern North Carolina county.

## Methodology

Over a 4-year period, the researchers collected data from a convenience sample consisting of 666 community-dwelling adults ages 50 to over 90 years old that lived in eastern North Carolina. The participants voluntarily completed an adapted fall questionnaire at one fall prevention education session held during regular meetings at senior centers, churches, or clubs, in which researchers spoke from 15 min to 1 h [49].

Demographic data collected from the fall questionnaire included gender, age range, whether a participant lived alone or with others, and working status (including volunteer work). Participants were also asked whether they felt like were at risk for falling or had fallen. Those who reported a fall completed part two of the questionnaire which focused on fall-related factors [50]. Those that fell were also asked whether they used an ambulatory device, whether they had safety equipment, and whether they used an emergency calling system [50].

Participants who needed assistance to complete the questionnaire due to illiteracy or physical challenges received help from the group leader, another participant, or one of the researchers. Participants' names were not included on the questionnaires to ensure confidentiality. Data were analyzed using the SPSS, version 13.0, to determine frequency of responses and to obtain descriptive statistics. The statistical significance level was at the 0.05 level.

#### Results

Demographics and Number of Falls

A total of 663 of the 666 questionnaires were used in the data analyzes; three of the questionnaires were omitted due to having significantly incomplete data. Several respondents left one or more questions blank and informed researchers they were unable to recall details from the fall, but were included in the data [50]. The counts and percentages given in this paper are for participants who answered the question(s) involved. Ninety-four males and 457 females ranging in age from 50 to over 90 years old answered the questionnaires. The total number of falls exceeded 934.

This component of the larger study compared whether a person lived alone or with others to several fall-related variables: age, gender, number of falls, use of ambulatory equipment and safety devices, activities people were performing when the fall occurred, injuries from falls, and fear of falling [50]. Three hundred thirty-eight participants stated they lived alone, while 300 stated they lived with others (25 people left the question blank). The association between gender and living alone was highly significant (chi-square P-value < 0.005). The percentage of women living alone increased with each subsequent age group, whereas the percentage of men living alone decreased until the 81 and over age group (in which the percentage increased (to 41%). Living alone was also strongly associated with experiencing a fall (chi square P-value = 0.005). However, when age and gender were controlled for, the association became much weaker and was not significant [50] (Table 1).

Age ranges within genders were compared to falls. For each age group, the percentage of men who indicated they had fallen was similar between those living alone or with others (Tables 1, 2). The percentage of respondents who fell in the 51–60 year old group was surprisingly higher compared to the other age groups, especially for women.

Table 1 Living alone compared to age and gender

Age	Men livir	ng alone	Women living alone		
	Number	Lives alone (%)	Number	Lives alone (%)	
50-60 years	13	39	35	37	
61-70 years	19	26	115	41	
71-80 years	42	17	188	63	
81 years or older	17	41	100	72	

For subjects ages 61 years and over, the percentage that experienced a fall increased with age for men living alone or with others, and for women living alone, but not for women living with others (Tables 2, 3).

## Notifying Others About Falls

The percentage notifying others about their fall was appreciably larger for those living alone than for those living with others in both genders in all age groups except for the 61–70 year old group in which the percentage was smaller. Most individuals informed another person about their fall, whether they lived alone (92%) or with others (93%). A major difference was that those living with others were more likely to tell a relative (lives with others: 74%; lives alone: 57%). There was a significant association between living alone status and who they notified about their fall (chi square *P*-value = 0.012) since those living alone were more likely to tell a friend (lives alone: 22%: lives with others: 9%) (Tables 1, 2).

#### Location and Time of Fall

There was not a significant association between living alone and the location of the fall. However, those living alone fell more often in the kitchen (11%), living room/den (10%), and bedroom (12%) while those living with others fell more outside (48%) (Table 4). No significant associations were found when comparing adults who lived alone

or with others to the time of day the fall occurred. The most common times in which falls were noted by participants included the morning (lives alone: 28%; lives with others: 28%) and early afternoon (lives alone: 32%; lives with others: 29%). The least number of falls happened in the early evening (lives alone: 6%; lives with others: 7%) (Table 4).

#### Activities Engaged in When the Fall Occurred

Living alone status was compared to the activity people were engaged in when the fall occurred and a significant association was not found. It is interesting to note, though, that those living with others fell more often while reaching for an object (lives with others: 19%: lives alone: 12%), and those living alone fell more often while walking inside (lives alone: 27%; lives with others: 23%). A variety of other activities participants reported they were engaged in 1% or less of the time during the fall included working on a roof, cutting branches from a tree, cleaning the gutters, etc. (Table 5).

#### **Psychosocial Factors**

Though, FOF was not statistically significant, it was viewed through several perspectives. Among the participants, in the study, who had experienced a fall, almost half (48.8%) had a FOF [50]. Respondents living alone were more afraid of falling (51%) compared to those living with others (45%). More than half of the female population compared to about one-third of the male participants, who had fallen, indicated a FOF. Approximately 75 (19.5%), respondents stated they reduced their activity level due to a FOF [50]. Participants who lived alone had a greater risk of limiting engagement in activities, due to a FOF (21%), than those who lived with others (17%). When participants were asked how they felt after a fall, a majority of people stated they felt embarrassed or worried about falling again (lives alone: 62%; lives with others: 70%). The percents were similar in emotional feelings expressed for those who lived

Table 2 Living alone compared to number of falls, age, and gender

Live	Males	Males				Females			
	Lives alone	Lives alone		Lives with others		Lives alone		Lives with others	
	Number	Fell (%)	Number	Fell (%)	Number	Fell (%)	Number	Fell (%)	
50-60 years	5	60	8	50	13	85	22	77	
61-70 years	5	20	14	36	47	51	68	56	
71-80 years	7	43	35	37	118	71	70	60	
81 years and over	7	71	10	70	72	78	28	57	

Table 3 Number of times fallen

Number of times fallen	Lives alone $(N = 209)$ (%)	Lives with others $(N = 150)$ (%)		
1	35	37		
2	25	25		
3	16	19		
4	8	5		
5	3	3		
6 or more	12	9		

alone and those who lived with others and were not significant.

#### Injuries Associated with Falls

There was a significant association between participants who were living alone and injuries incurred as a result of the fall (chi square P-value = 0.023). Those living with others were more likely to be uninjured or only have cuts and bruises (33%), as a result of the fall, compared to those living alone (25%). Those living alone reported more serious injuries including head injuries (lives alone: 7%; lives with others: 3%). However, those living with others sustained more fractures (hip fractures: 9%; wrist fractures: 6%) compared to those who lived alone (hip fractures: 1%; wrist fractures: 3%).

## Ambulatory Devices and Safety Equipment

There was a significant association between living alone and the use of ambulatory devices (chi square P-value = 0.011), safety equipment (chi square *P*-value = 0.000), and PERS (chi square P-value = 0.000). Those living alone were more likely to use ambulatory devices (i.e., walkers and canes) and safety equipment (i.e., grab bars, tub seats, and commodes) than those living with others. Approximately 54% of those who lived alone indicated they used ambulatory devices compared to 31% of those

Activity	Lives alone $(N = 198)$ (%)	Lives with others $(N = 149)$ (%)
Walking inside	27	23
Walking outside	28	28
Bathing	2	1
Reaching for an object	12	19
Toileting	3	2
Other	29	27

who lived with others. Twenty-five percent of those who lived alone used safety equipment compared to 14% of those who lived with others. In addition, more individuals who lived alone used a PERS (13%) compared to those who lived with others (2%).

#### Discussion

This component of a larger study, explored the relationship between living alone status and other fall-related variables among community-dwelling adults who lived in rural eastern North Carolina. Although past research was limited, the studies reviewed did not consistently investigate the contributing factors associated with falls in the same manner as the current study, significant associations were found between living alone status and experiencing a fall, who was notified about the fall, injuries, ambulatory devices, safety equipment, and PERS usage. Further, the current study provides additional insights about fall-related factors in relation to living arrangements since it focused on adults ages 50 and older compared to past research that examined these factors among those 65 years or older. Though not statistically significant, other findings of interest include activities performed during the fall, location and time of day the falls occurred, fear of falling, and activity withdrawal due to a fear of falling.

Table 4 Time and location   of fall Image: Control of the second	Location of fall	Lives alone		Time of fall	Lives alone	
		Yes (N = 216) (%)	No (N = 155) (%)		Yes (N = 208) (%)	No (N = 155) (%)
	Outside	38	48	Early morning	7	12
	Kitchen	11	7	Morning	28	28
	Bathroom	6	7	Early afternoon	32	29
	Living room/den	10	6	Late afternoon	15	15
	Bedroom	12	8	Early evening	6	7
	Stairs	4	6	Night time	12	9
	Between rooms	3	2			
	Other	17	17			

#### Number of Falls Compared to Age and Gender

This study found that community-dwelling adults, 50 years of age or older, experienced considerably more falls (62.1%) compared to the national average (33%) [2, 3, 5, 50]. The percentage of respondents ages 51–60 who fell was surprisingly higher than any other age groups, especially for females (80.6%), though the sample size in this age group was relatively small. Conversely, Talbot's study ascertained that falls increase with age since 18.5% of young adults fell, compared to 21% of middle-aged adults, and 35% of older adults [27]. Further, respondents, in the current study, living alone were more likely to notify a friend they had fallen compared to those living with others who informed a relative.

Comparable to past investigations, the present study found a larger proportion of women (57%) live alone compared to men (26%) [9, 15, 51]. Both the current study and past research determined women have a higher prevalence of falls compared to men whether they live alone or with others [13, 16, 22, 38, 52, 53]. However, men may underreport the number of falls they have experienced [54].

#### Location and Time of Fall

New insights to where a person falls were found in the present study since past studies did not consider living arrangements. Even though, there was not a statistically significant association between living alone and the location of the fall, it was found that adults living alone, in this study, fell more often in the kitchen, living room/den, and bedroom, while adults living with others fell more frequently outside. Generally, most participants in the current study reported approximately the same number of falls inside the home (41.5%) as outside (41.8%), [50] which is comparable to past research (50–60%) [12, 22, 55]. Most respondents fell in the morning and early afternoon while the fewest falls occurred in the early evening in both the current study as well as past studies [23, 24].

## Activities Engaged in When the Fall Occurred

As in past studies, the majority of respondents in the current study stated they were walking when they fell (53.8%) [20, 27, 50]. An interesting finding from the present study found those living with others fell more often when reaching for an object compared to walking inside for those living alone.

## **Psychosocial Factors**

The prevalence of FOF among adults in this study (48.8%) [50] is similar to past studies (22-54.3%) [30, 34, 55, 56].

However, research is limited in examining FOF to living alone status. Subjects living alone, in this present study, were more afraid of falling (51%) than those living with others (45%) which is similar to Zijlstra who found 62.2% of older adults living alone were afraid of falling compared to 48% of those who lived with others [34]. It also compares to Austin's study who found FOF among women was independently associated with living alone [31].

Additionally, those living alone, in the present study, had a higher level of activity reduction due to the FOF (21%) compared to those who were living with others (17%), which agrees with Zijlstra's study (lives alone 44.5%; lives with others 32.8%) [34]. Perhaps participants living with others, in the current study, had more social support making them less fearful of falling. This idea is supported by Howland's study which determined adults, who participated in social activities such as talking to friends and relying on others, were less likely to restrict their activities due to a fear of falling [37].

#### Injuries Associated with Falls

Participants in the current study had a substantially higher number of fall-related injuries (80%) compared to past studies which found fall-related injuries occur in about 50% of older adults [38, 39, 50]. Though, Stevens noted that fractures are the most common fall-related injury among older adults, the current study found that respondents reported more cuts and bruises (26.7%) than fractures (10.5%) [13, 50].

Those living alone (83%), in the present study, reported more fall-related injuries than those living with others (76%). These results are similar to Fallon who also found those living alone (74.1%) had more injuries as a result of a fall than those living with others (60.9%) [16]. More importantly, as in Fallon's study, there was a higher prevalence of serious injuries among those living alone, in the present study, compared to adults living with others [16].

Ambulatory Devices and Safety Equipment

Due to limited investigations, few comparisons were made in this section between the current study and past research. The largest users of mobility devices (66%) are individuals 65 years and over [57]. Edwards and Jones found an increase in mobility device usage as one ages since 22% of adults under 75 years used canes compared to 39% for those over 75 years of age [45]. The results in the current study were mixed regarding ambulatory device usage since the oldest group (81 years or older) (42%) and the youngest group (50–60 years) (26%) utilized these devices the most, while the 71–80 year old group (12%) and 61–70 year old group (4%) reported using the devices the least [50]. Participants living alone in the present study seemed to be safety conscious by using ambulatory devices more often than those living with others. This finding differs from Edwards and Jones's study who found that usage of walkers and wheelchairs was higher among those living with others [45].

Individuals in the current study, whether they were living alone or with others, responded they were walking when the fall occurred. Rubenstein found that impairments in gait as well as weakness are common precipitating causes for falls (10-25%) [58]. Ambulatory devices, such as canes and walkers, may reduce the risk of falling if the correct device is dispensed based on the person's need, physical stature, and it is correctly adjusted and maintained [12, 44, 59].

Similar to Naik and Gill's study, less than 50% of the respondents in the present study, who had fallen, owned bathroom safety equipment such as grab bars or tub seats [46]. Participants in the current study, who were living alone, also were more inclined to use bathroom safety equipment than those who lived with others, making them more safety conscious. These results are similar to Edwards and Jones who reported that older adults living alone owned more grab bars in the bathroom, although individuals living with others owned a larger number of portable commodes [45]. Not surprisingly, adults, in the present study, who had safety equipment experienced fewer falls than those who did not have the equipment.

In the present study, approximately 8.1% of participants had a PERS [50]. It is not surprising that participants living alone were more likely to use a PERS (13%) compared to those living with others (2%). However, some adults, especially those on a fixed income or those who live alone, may not be able to financially afford a PERS or make minor or major home modifications which increase their risk for falling, especially in the bathroom [2, 11, 60].

## Implications for Community Agencies and Health Care Professionals

Findings from this study demonstrates the need for community agencies and health care professionals working with adults 50 years of age and older to consider their client's living situation when addressing the ramifications of falls and providing or developing efficacious fall prevention programs. Since those who living alone experienced the most falls, sustained a higher percentage of injuries, and incurred a larger percentage of serious injuries, it is crucial that community agencies and/or health care professionals determine the person's living situation. During the screening process, it is also important to consider PERS usage, whether the person reported the fall, and who was notified about the fall since those who live alone may have less social support and restrict their activities more often due to a FOF [31-34].

Adults who have fallen may benefit from a referral to an occupational and/or physical therapist to determine the reasons why they fell, and to obtain instructions on fall prevention strategies [58, 61, 62]. For example, an occupational therapist may assist the adult who has fallen due to decreased balance or an inability to reach while completing self-care tasks (i.e., putting on his or her pants or while bathing) through balance training, instruction in safety and adaptive equipment and compensatory techniques to help improve safety and reduce the adult's risk of falling [63]. If the adult had fallen due to a gait impairment or decreased leg strength, a physical therapist may be able to assess and train a person who requires an ambulatory device. They may also determine if the device helps improve the person's balance, ability to bear weight, and/or safely ambulate [42].

A home safety assessment would also be helpful by a skilled health care professional such as an occupational or physical therapist to assess the interior and exterior of the home for environmental fall risk factors [58, 61, 64]. Eliminating or reducing environmental hazards may decrease a person's risk of falling (i.e., reducing clutter on stairs and walking pathways) [1, 11, 60]. Since past research and current findings determined that falls occur approximately equally inside and outside the home, it is crucial that both areas be assessed during a home safety assessment. Providing education on types of safety equipment, where to obtain it, costs, and reimbursement or funding may reduce fall risk [60].

In addition, encouraging participation in communitybased multi-factorial fall risk reduction or screening programs may further reduce the risk for falling [65, 66]. Health professionals should also become cognizant of services provided by local community agencies to enhance the adult's health or fall prevention programs. Possible resources include the local council on aging, Area Agency on Aging, meals-on-wheels, public transportation options, and PERS. Other fall prevention recommendations health care professionals may provide to middle-aged and older adults include performing regular exercise, asking their physician to frequently review medications that increase risk for falls, obtaining annual eye exams, increasing the amount of lighting in the home, and reducing environmental hazards that may precipitate falls [55, 67].

## Summary

Findings from this study enhances the knowledge about the prevalence and contributing fall-related factors among falls in adults, 50 and over, who live alone compared to those who live with others. Significant findings included the

relationship between living alone status and experiencing a fall, who was informed about the fall, injuries, and safety equipment, ambulatory devices, and PERS usage. Participants who lived alone were more likely to use an ambulatory device, have safety equipment, and use a personal emergency response system. Fall-related factors that were investigated, but were not statistically significant included the relationship between living arrangement and activities participants were performing when the fall occurred, location and time of day of the fall, fear of falling, and activity withdrawal due to the fear of falling.

Limitations may have affected the utilization of the study results. First, a convenience sample was used and data were collected through the use of a broad self-report instrument which may decrease the accuracy of the participant's responses. Answers may have been be skewed for those that had difficulty remembering the specific details of their falls or needed assistance [50].

New research will further enhance the knowledge of fall-related risk factors to facilitate the development of more effective prevention and intervention strategies. Future research on falls and living situation among adults 50 years or older may include investigating the associated psychological consequences of falling, activity level, and usage of ambulatory devices, safety equipment, and PERS in various living environments. Additionally, including diverse adults in fall research is needed due to the rising population of various ethnic groups throughout the United States. Lastly, qualitative research on falls and living situation may provide new insights to community and public health leaders and health care professionals to develop more efficacious intervention strategies to reduce falls, near falls, and associated psychological and physical consequences. By being proactive, healthcare professionals can assist community agencies as well as provide an evidencebased multi-faceted treatment approach for fall prevention that addresses the needs of community-dwelling adults and reduces the consequences that occur as a result of these falls.

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