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## Title Page

**Manuscript title:** Perceptions of Older People Living in the Community About Their Fear of Falling.

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## **ABSTRACT**

### Purpose:

Fear of falls is a widespread phenomenon amongst older Australians. It increases the risk of falls and can lead to restriction of activity. The aim of this study was to gain insight into the precursors of a fear of falls and the experiences associated with this fear.

### Method:

Using a qualitative, phenomenological method, individual, semi-structured interviews were conducted with nine community-based participants who reported moderate to high levels of fear of falling.

### Results:

Most participants did not fear falling until they had experienced a fall themselves. The fear of falls was described as a negative experience, often linked with incapacitation, fear of dependence and having to leave their home. Participants chose to avoid falls by 'taking care'. Five themes emerged from data analysis: activity levels; view of the future; perceptions of fall experiences; fall avoidance and development of fear of falls.

### Conclusions:

Study results indicated that other factors impacted on restriction of activities for these participants therefore it cannot be assumed that fear of falls alone, results in reduction of activity. Therefore, fear of falls in combination with other potential issues that could restrict activities should be taken into account in the development of falls prevention programs to ensure clients' needs are being met.

Fear of falls has a considerable impact on the health of older people. Fear of falls can predispose older people to future falls as well as develop as a consequence of falls, therefore it is important to understand the nature of older people's fear of falling and how this may impact on preventing future falls. In prospective studies, those with a self-identified fear of falling were more likely to have both future falls [1], and falls requiring medical attention [2]. Conversely, even for those who suffer minimal physical complications as a result of a fall, fear of falling can be a consequence of the fall [3]. As falls are associated with a higher mortality rate and a greater chance of being admitted into residential care, and are relatively common events for one third of people over 65 living in the community each year [4], fear of falls amongst older people is an important issue to investigate. There are also substantial costs to the community resulting from falls. With 12.5% of the total population currently aged over 65, and projections indicating this percentage will rise to 39% by 2021 [5], falls and fear of falling need to be minimised to ensure more of the elderly community are able to remain in their own homes longer, and to decrease the costs of health care for this group. Therefore, this study sought to explore the perceptions of older people who had self-reported a fear of falling, about their fall experiences.

### ***Fear of falls***

Fear of falls has been defined as “a lasting concern about falling” [6] and has been identified as a consequence of falls for many older people [2,7]. Self-efficacy, or the confidence an older person has about undertaking functional tasks without falling [8] is a term used in the literature to describe the fear of falling phenomenon from the opposite perspective, and is the basis of many assessment tools designed to measure

fear of falling [8-11]. For the purposes of this study, the term fear of falling was used, and participants identified their fear of falling by answering a survey item that asked how afraid they were of falling and hurting themselves within the next year [2].

There is evidence that older persons who have not experienced a fall also experience a fear of falling [12-14]. For instance, in one study, 23% of Australian, community-living elderly who had not had a fall reported this fear [1] and various international studies have found between 32% and 55% of community-dwelling older persons have a fear of falling [11,15,16]. For many older persons this is not an insignificant fear, with participants in one study rating the fear of falls above fear of robbery or financial difficulties [17]. Older people fear the consequences of falling, which may include any injuries, but will also extend to negative outcomes such as becoming more dependent on other people or the fall changing their future life experience [18].

Fear of falls has been established as an independent risk factor for falls [1] and has also been associated with a decreased quality of life [19,20], lower activity levels [2] and reduced functional capacity [21]. Those with a high fear of falls are likely to have fewer social contacts and are less likely to perform leisure activities [11], perform poorly during dynamic balance tests [22] and report reduced mobility function [21]. In addition, fear of falling is associated with institutionalisation and poorer health [1]. Howland et al [2] found a significant relationship between fear of falls and dizziness, vision problems, use of a walking aid, and lower self-perceived health. These concepts have been linked with reductions in activity due to fear of falls that can lead to functional decline and an increased risk of future falls [12,20].

### ***Current Intervention Strategies***

Fall prevention programs have begun to be developed by occupational therapists and other health professionals [23]. These programs cover a variety of topics but Walker and Howland [17] suggest the following components should be present in all programs: education, environmental safety, recognition of risky behaviours, assertiveness training and physical fitness. There is evidence to suggest that involvement in such a program may increase a person's responsiveness to recommendations for home modifications [24].

Knowledge about the development of a fear of falling and the consequences of it will allow better falls prevention and intervention programs to be established. The aim of this study was to explore the perceptions and perspectives of older people about fear of falling, including their perceptions of actual fall events they have experienced. The following research questions guided the study: "How do older people perceive fear of falls?" and "how does this fear develop?"

## **METHOD**

A qualitative method using a phenomenological approach was selected because of its focus on the lived experience of the participants [25], and the need to view their experience of fear of falling in the context of their life stories. Phenomenological qualitative research claims that only those who experience a phenomenon can properly interpret it [26]. This approach was appropriate to understand the interpretations that participants applied to their fear of falls by exploring the experiences that were associated with the feelings of fear, and the meanings that were assigned to these

experiences by participants. To allow participants to express their views freely, individual in-depth interviews were undertaken with each participant.

### ***Procedure***

Following ethical clearance from the University of Newcastle, participants were recruited from a community-based falls prevention program called the Fall Proofing Program [27], using volunteer convenience sampling [28]. Participants in the Fall Proofing Program identified themselves as being at risk of falls and responded to advertisements in local newspapers to join the program. For this study, participants were selected if they had reported a high or moderate level of fear of falling on the fear of falling item [2] which was part of a screening survey administered during the Fall Proofing Program. The fear of falling item was defined as “How afraid are you that you will fall and hurt yourself in the next year?” with responses of “very afraid”, “fairly afraid”, “a little afraid” and “not at all afraid.” High or moderate levels of fear of falling were defined as the “very afraid” or “fairly afraid” responses.

A research assistant from the Fall Proofing Program mailed an information letter and consent form to potential participants (n=19), inviting participation in this study and 12 consent forms were returned. Three people who returned consent forms were subsequently unavailable to participate. Once consent forms were received from participants the researcher contacted them to arrange a suitable time for an interview. All interviews were conducted in participant’s homes (n=9).

### ***Participants***

Of the nine participants one was male. The mean age of participants was 77.9 years, with a range of 73 to 82 years. Participants were living independently in the Hunter Region community. Table 1 shows the demographic characteristics of the participants. Please note that pseudonyms have been used to protect participant's confidentiality.

[Insert Table 1 here]

### ***Data Collection***

In-depth semi-structured interviews, containing mostly open-ended questions, were undertaken with each participant, and ranged in length from 30 to 75 minutes. All interviews were completed within a 3-week period. An interview schedule based on issues raised in the researcher's initial analysis of the existing literature was used in each interview (see appendix). This ensured that quality data were collected in a limited time and also assisted in the comparison of data among participants [29]. Probing questions were used to clarify information and gain supplementary data [29]. All interviews were taped with the participants' consent. Field notes were made prior to, during and after interviews, to record the context of the interview, and the researcher's observations of participant's body language and personal reflections on the interview.

### ***Data Analysis***

All interviews were transcribed verbatim and content analysis was carried out using an inductive approach, allowing themes to emerge from the data [29]. Codes were initially developed using line-by-line data analysis. The coding process involved a repeated review of transcripts until all had been coded using the finalised list of codes [26].



Following the completion of coding taxonomic analysis was performed. This involved identifying sub-themes, or sub-categories, and overarching themes, or categories [26]. The themes outlined in the results section were those identified in this process.

### ***Rigour***

Several strategies were used to increase the trustworthiness of the data. Field notes taken by the researcher were used to ensure data was not misinterpreted once taken out of its original setting. These notes also allowed reflexive analysis of any biases carried by the researcher [26]. Member checks were carried out with all participants by telephone once themes were identified to check the assumptions of the researcher with the participants [26,30]. Independent consensus coding was carried out by the researcher and supervisor (also a researcher) on one transcript and initial codes, sub-themes and themes were all reviewed by the researcher's supervisor in a process of peer review used to strengthen the findings of the study [26,30].

## **RESULTS AND DISCUSSION**

The participants in the current study talked widely about their perceptions and experiences of fear of falling. All participants had experienced a fall and their fear of falls was closely linked, for most of them, with fall experiences. Therefore, the fall events were also explored in detail. Five broad themes emerged from data analysis: activity levels; view of the future; perceptions of fall experiences; fall avoidance and development of fear of falls.

### ***Activity Levels***

All participants were independent in activities of daily living (ADL) and remained active in the community. A majority of participants also performed some form of gentle exercise on a regular basis. The activity levels of the participants does not lend itself to describing them as 'frail' and this challenges Vellas et al's [16] conclusion that *frail*, elderly women are more likely to fear falling than other parts of the population. Further, most of the group had a wide range of social contacts and full schedules. This differs from the findings of Lachman et al [11] that those with a fear of falling had fewer social contacts. Overall, participants reported satisfaction with the amount of activity they engaged in.

However, it was clear that the activities participants chose to engage in had changed over time, and all had begun a process of reducing their activities, but this was not only due to fall experiences or the development of a fear of falls. Other factors that impacted on changes in activities included altered health status, particularly sight deterioration, or the illness and subsequent death of a spouse. Increasing age was also a reason to decrease activity levels as Violet stated when she related feeling incredibly tired after a busy trip to visit family: "*...that makes me think, you know, hey girl you're getting older, you can't keep doing this!*"

This interdependence between reduction of activities and health and ageing means that care must be taken in attributing restriction in activity directly to a fear of falls [12,20]. Consideration should also be given to the degree of activity restriction being part of the ageing process and how this should be considered a risk to health.

### ***View of the Future***

While most participants were confident that they would receive support from friends and/or family if anything were to happen to them, they all indicated that they did not want to lose any of the independence they currently held. Violet stated:

*“while you’ve got a certain level of independence you feel you can cope with things and you take a different outlook on life and everything like that but I’d hate to lose the full independence that I have.”*

All participants felt that their health was better than some people their age, and the majority felt they had quite good health. Most participants felt that their friends or family did not view them as someone who worried a lot and only two participants acknowledged extended periods of feeling low or depressed. Only a small minority of participants considered themselves as risk-takers and when asked about their outlook on life they all gave positive responses.

The current sample did not conform to characteristics usually associated with a fear of falling. For instance Vetter & Ford [3] found that fallers were more anxious and depressed than non-fallers. Fear of falling has also been linked with poorer health status [31], lower perceptions of general health [2] and a decreased quality of life [19,20]. The participants in this study were all satisfied with their lives and had positive views of the future. Therefore this group presents an interesting contrast to the literature in that the fear of falls has been self identified without the presence of co-morbidities that might confound the analysis. It may be significant here, though, that the entire sample had experience of falls, whereas this was not the case in all of the literature cited. In

addition, the intensity of the fear was not assessed in this study and that may be positively associated with poor health status. It is also possible that the participants in past studies may have been less functionally independent and therefore had more reason to be anxious, depressed and perceive their health as poor, compared to the participants in this study.

### ***Perceptions of Fall Experiences***

All participants in this study had personal experience of falls and for all but one participant a fall had required medical or physiotherapy intervention. This is consistent with the findings of Howland et al [2] who found that those who have a fear of falls are more likely to have had falls requiring medical intervention. Most had experienced a fall within the past eighteen months although three participants had not had a fall for between four and eight years. This suggests that fear of falls is a long-lasting concern [32].

Apart from the physical consequences of falls, participants reported other outcomes of their falls. Some of these were obviously related to falls such as Alma's inability to kneel in her garden after undergoing a knee operation as a result of a fall. Other consequences were less directly related; several participants reported a loss of confidence after a fall, which lasted long after the physical injuries had resolved. Two participants reported a decrease in leisure activities as a result of their falls. Others reported depression, reduced frequency of walking outdoors, or unwillingness to leave the house unless accompanied. Those who reported depression stated it was a short-term effect, and usually most prevalent while they were dependent on others, during post-fall

rehabilitation. Depression and loss of confidence have been previously reported in older people with a fear of falls [19,31]. Participants generally felt that all of these outcomes had influenced the development of their fear of falls. Despite some moderate injuries reported on falls calendars used during the Fall Proofing Program, the fear of pain associated with a fall was not expressed by participants in this study.

All but one participant felt their own actions were responsible for their falls rather than their environment. Simpson, Darwin and Marsh [33] found a majority of fallers attributed their falls to personal behaviours. Many felt that they rushed, were impatient or did “silly” things. As Mary stated: *“I’ve broken my nose, I think I’ve hurt my arms and my hips, I’ve had some very nasty falls, all because I try to walk too quickly.”* If participants believe they are responsible for their own falls, this may make them less amenable to home modifications to reduce the risk of falls from their immediate environment. Other studies suggest that older people perceive their falls to be related to bad luck, or the incompetence of others [34]. This may explain the findings in other studies suggesting that home environmental falls risks are not perceived by older people as being relevant to them, and a more passive approach to making changes at home to reduce falls risk [35].

Other participants mentioned balance difficulties, missing steps or tripping. Joan felt many of her falls were simply unexplainable *“I just fall...it seems to happen without any warning”*. Non-personal factors perceived to be a cause of falls included uneven footpaths and hip and knee prostheses.

When developing interventions to help prevent falls and fear of falling, health professionals need to consider these personal behaviours as well as functional and environmental factors. If interventions are focussed only on observable, external factors, what older people believe puts them most at risk may not have been addressed.

### ***Fall Avoidance***

While all participants maintained an active lifestyle, they had all made concessions on some level in order to avoid falls. The changes participants made to their lifestyle took the form of structural and intuitive changes. Structural changes involved changes to the environment or their use of aids to decrease the likelihood of a fall. Changes included fitting rails, using walking aids and removing mats or cords from the floor. Two participants made changes to the bathroom. Two others mentioned they had changed the type of footwear they wore. Margaret arranged her furniture so that she did not have to use the stairs at night:

*“I’ve put a jug and things downstairs, and I’ve set up a cup and a little sugar and milk in the little fridge down there and I just...stay down there and not come up the stairs...when it’s dark.”*

As participants believed they had contributed to their own falls it is not surprising that the majority of changes made by participants were intuitive changes that seemed to occur naturally as their fear of falls developed. The one method all participants used to avoid falls was ‘taking care’, and it was mentioned by each of them several times. David, when asked, “What does the phrase fear of falling mean to you?” responded:

*“Be careful. Be careful and watch your footsteps.”*

While it is difficult to understand completely what ‘taking care’ meant to the participants it was associated in their statements with being aware of their own safety and avoiding perceived hazards such as spills or objects that could cause trips. Other adults and professionals apparently reinforced this construct to participants, as Margaret stated that even her doctor told her to “*be careful*”.

Another intuitive change was avoiding risks. While the majority of participants stated they did not take many risks when they were younger, all stated that they would take no risks now they are older. David stated: “*I shy at anything that [makes him feel at risk of a fall] I give myself the benefit of the doubt, I don’t take any risks.*”

These intuitive changes also involved phasing out activities that made participants feel as though they might fall. Joan, who never left her house unless accompanied by family, was also the person who had the most frequent falls. This may indicate that a higher expectation of falls is related to a greater reduction of activity. The activities stopped or avoided by participants varied widely and included travelling, using ladders or climbing onto stools, dancing, using stairs, walking for exercise and even walking out to the letterbox. Violet stated: “*I’m trying to cut out the activities that I do that might make me have a fall, even, like I don’t get talked into things easily now, I say ‘listen here, I’m not 50’.*”

Several participants also mentioned moderating the speed with which essential activities are performed, for instance, turning around slowly, taking time to get out of bed or

stand up and walking slower. Slowing down was seen as beneficial to some and frustrating to others, Mary said:

*“The doctor....said you want to slow down a bit. So I have slowed, I have, that’s why I don’t walk as quickly as I used to but I feel like I’m not walking at all I’m walking so slow.”*

The reduction in the participants’ activities is consistent with past studies which found that up to 56% of people who have a fear of falls, will reduce their activities due to this fear [2]. While the activities avoided are generally those involving more risk [14], there is little discussion of the precise activities avoided. The findings of this study suggest that it is the non-essential activities that are initially avoided while more essential activities tend to be undertaken at a slower pace, with care, if there is a risk of falling.

While all participants made changes to their activities, the degree of change varied greatly and did not appear consistent with fall rates. Most participants appeared to avoid activities that they felt put them at direct risk of falls. Restriction of activities may not be purely related to a fear of falls but tied up with other factors. Participants in the current study identified several reasons to curtail activities such as – personal health status, spouse’s health status, and ageing.

### ***Development of a Fear of Falling***

All but three of the participants in the current study stated that their fear of falling had developed after, and as a result of, a bad fall experience. The other three participants stated they had always been aware of falling and tried to avoid it from when they were



very young. *“Well I was always conscious of falling...that was always there, that I don’t wish to fall.”* (Alma). These observations indicate that in some instances fear of falling may predate an actual fall [1,2,15,16] and may explain the fear of falls in those who have not fallen.

While many participants had had friends experience bad falls, they did not feel this directly contributed to the initial development of their own fear, but rather added to their concerns after their own fear had developed. Even if the friend had fallen prior to the participant having a fall, these experiences did not seem to be assigned any significance until the participant had fallen. Janet gave one possible explanation for this:

*“I think we’re all inclined to think ‘that will never happen to me’ it always happens to the other fella, it probably gives you a bit of a shock and a wake-up if something does happen.”*

Howland et al [2] also found that others’ experience of falls does not impact on the development of a fear.

All participants described the fear of falling as a very negative emotion, and many participants stated that the thought of falling was constantly at the back of their mind. Mary stated: *“Horrible, it’s dreadful, oh no I couldn’t tell you, it’s a dreadful feeling”*. Although some participants did state they fear falls because of the physical injuries they had previously endured, this did not seem to be the most prominent fear. Perceived negative consequences of falls, other than injury, ranged from *“making a fool of myself”* (Joan) to *“I feel as if that’s it and I’ll have to go into a nursing home, you*

*know, every time I have a fall, I think I'll have to go.*" (Mary). One participant also expressed fears that repeated falls could lead to cancer. Yardley and Smith [36] reported the major fears associated with falling were physical harm, disability, loss of independence, social embarrassment and loss of confidence; which is consistent with the findings of the current study.

The most prominent fear associated with falls was that of incapacitation or loss of independence. When asked why she was afraid of falling Alma answered: *"Because I'll be incapacitated and I have nobody to look after me. What would happen if I fell? I'd be at the mercy of the public health system no doubt."* Ethel had previous, short-term experience with loss of independence and when asked what would happen if she lost some of her independence now, stated: *"I'd find it very hard to take, that's what I found when I first had my stroke - was depending on other people - I didn't like that."*

All participants who mentioned incapacitation and loss of independence linked these concepts with having to leave their home and go into care, whether or not they had earlier stated that they had good support networks. Janet stated:

*"...it's all...very nice all these people going into these retirement villages – I think they've got to mentally say to themselves 'this is wonderful' but I can't see that anyone would want to leave their own home I really don't."*

The participants' major fear – of incapacitation and having to leave their home – is justified, according to Cumming et al [1], who found that those with a fear of falls are more likely to be institutionalised.

### ***Limitations***

The study sample was small and predominantly female. As the study sought information on the personal perceptions and experiences of participants, the aim was to produce rich, descriptive information rather than generalisable data. Member checking was carried out by telephone, improving the reliability of the results. The participants in this study were recruited from another study, the Fall Proofing Program, and therefore volunteer bias is possible. The Fall Proofing program required attendance at sessions outside their home and thus the sample for the current study was always likely to be a more mobile and motivated group. The Fall Proofing program was designed to prevent older persons from falling, and it is possible that the current participants' fear of falls may have been altered by their involvement in the program. However, as the participants in this study did not attend all sessions of the program and some did not attend any sessions prior to their interview it is anticipated this effect would be small.

### ***Future Research***

The current study highlights three key areas for future research. As there were no participants in the current study who had not experienced a fall, the question of why people who have not fallen have a fear of falls has not been addressed. A comparison study targeting those with a fear of falls from the non-falling, elderly population is recommended.

The theme 'taking care' was laboured by participants in the current study and also strongly emphasised in a British study into fall avoidance amongst the elderly [33]. Further research needs to be conducted into what older people mean by 'taking care' so

that health professionals can develop intervention strategies that are relevant to the client group. Participation in fall prevention programs has been shown to positively influence people's acceptance of changes to their home environment [24]. It is highly important, therefore, that programs are developed that older people will want to attend in order to reduce their personal risk factors for falls, especially as evidence is available that fall prevention programs are effective in preventing falls [23].

It is possible that activity restriction and level of fear are positively associated, although this was outside of the scope of the present study to ascertain and represents an area for further research. Longitudinal studies of older people are needed to determine if their fear of falls and activity restrictions change over time are also needed.

## **CONCLUSION**

This study explored older faller's perceptions of their fear of falling through discussion of their experiences. Overall participants viewed fear of falls as a negative experience, linking it with incapacitation, dependence and having to leave their home. The majority of participants stated that they did not fear falls before they had had a personal experience of a fall, even if others close to them had experienced a bad fall. Those who feared falling before they had a fall themselves stated that they had always feared falling. This is the first step towards an understanding of why those who have not fallen fear falls. Participants revealed they believe they cause most of their falls themselves by being 'silly' or moving too quickly. Not surprisingly, then, their favoured method of avoiding falls or reducing their falls risk was to change their own behaviour, by 'taking care'.

All participants in this study had begun a process of reducing their activities. It appeared that the majority of participants avoided activities that were non-essential (not related to self-care) and were seen as a direct falls risk. Those activities seen as risky but essential to maintaining their independent lifestyle, such as turning around, getting out of bed or walking outdoors, were undertaken at a slower pace, with care. There is also evidence of other factors impacting on restriction of activities and it should no longer be assumed that fear of falls alone, can lead to curtailment of activity.

The results of this study should be taken into account in the development of any future falls prevention program to ensure clients' needs are being met. These findings should also be utilised by occupational therapists in geriatric settings, to help them better understand their clients, as up to 55% of the elderly will experience this fear [2,3,15]. Participant responses relating to why they chose to restrict their activities should be applied in health promotion settings to prevent older people from developing the disuse syndrome described by Lach [12] and Suzuki et al [20], whether from fear of falls or any other cause. Further research must be conducted with non-fallers who fear falls to contrast that group with the present one to ensure that the characteristics and experiences of all people who fear falls is understood.

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**Table 1. Demographic information of study participants**

<b>Participant</b>	<b>Gender</b>	<b>Age</b>	<b>Lives With</b>	<b>Falls Rates</b>	<b>Last Fall</b>
David	Male	82	Wife	< 1 per year	This year
Janet	Female	77	Husband	< 1 per year	8 years ago
Margaret	Female	80	Alone	< 1 per year	7 years ago
Ethel	Female	74	Husband	< Once month	This year
Violet	Female	73	Alone	< 1 per year	1 year ago
Mary	Female	82	Alone	Once a month	This Year
Alma	Female	82	Alone	< 1 per year	4 years ago
Joan	Female	76	Husband	Weekly	This year
Amy	Female	75	Husband & Grandson	< 1 per year	1 year ago

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## Appendix

### Interview Schedule

Interviews would explore issues under each of the following headings. The following would act as prompts for the interviewer but would not necessarily be quoted to the participants.

#### 1. Background

- Please describe your living arrangements (who do you live with, if you live alone how long have you lived alone?)
- How often do you see family and/or friends? (do they normally visit you or do you have to visit them?)
- Do you think you have a strong circle of support? (would friends or family be able to help quickly in a crisis?)
- When you were younger were you a very busy/active person?
- Do you see yourself as a healthy person?
- Would you describe yourself as depressed? (how about in the past?)

#### 2. Fear of Falling

- What does the phrase “fear of falling” mean to you?
- What is your personal falls history?
- Why do you fear falling? (Were there critical incidents involved, friends that fell etc.)
- When did this fear develop?
- Have you put in any safeguards against falls? (e.g Vitalcall, rails, non-slip mats)

#### 3. Risk Perception

- What do you see as the consequences of falling?
- What do you think your risk of falling is, in general?
- Are you generally a person who worries – please give some historical examples?
- Do your family/friends worry about you a lot? (does this make you worry more?)
- Were you ever a risk-taker? (please give examples)
- Do you see yourself as an optimistic or pessimistic person?

#### 4. Occupation/Activity

- How active are you?
- How independent do you think you are? (are you happy with this level of independence? What would happen if you lost some of that independence?)
- How often do you leave your house? (for what reason, by what means of transport?)

- Do you exercise at all? (what sort of exercise do you do, where)
- Did your levels of activity decrease before you realised you were afraid of falling?
- Have you decreased your occupations since you began to fear falling? (in what way, was this a conscious decision or just something that happened?)
- Were you encouraged to decrease your activity levels by family or friends?
- Do you participate in any activities during which you feel like you might fall?