

## Short Communication

# Assessing Falls Efficacy in Seniors: Important Insights in Hospital and Community Settings

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## Abstract

Falls efficacy is an important psychological construct in falls prevention and management. It refers to an individual's perceived physical ability to prevent and manage falls. Despite its significance, falls efficacy remains under-researched. This article highlights three findings to encourage clinical practitioners to integrate falls efficacy assessments into practice for hospitalised and community-dwelling seniors. Hospitalised seniors face reduced mobility and deconditioning, significantly lowering falls efficacy. Conversely, community-dwelling seniors exhibit higher falls efficacy due to greater functioning levels and independence, though some may lack the physical capacity to mitigate falls. Differentiating between domains of falls efficacy is crucial, as confidence expressed by individuals in their specific physical abilities may vary. Seniors displaying discordance between their confidence and actual falls risk may be more vulnerable to falls. Our analysis reveals that 45% of hospitalised seniors and 19% of community-dwelling seniors exhibited such discordance. Incorporating falls efficacy assessments into clinical practice can help identify at-risk individuals, enable personalised interventions, and facilitate safer transitions post-discharge. Understanding the interplay between psychological and physical dimensions of falls risk is essential for improving older adults' quality of life and independence.

**Keywords:** Balance confidence, Concerns about falling, Falls efficacy, Falls prevention, Older people

Falls among older adults remain a significant public health issue due to their association with increased morbidity, reduced independence, and higher healthcare costs<sup>1</sup>. Approximately one-third of older adults aged 65 and above experience falls annually, with higher prevalence among those with chronic conditions or functional impairments<sup>1</sup>. In hospital settings, falls occur more frequently. Incidence of hospital-related falls ranges from 3 to 20 falls per 1,000 patient days, with approximately 30-50% leading to injuries<sup>2,3</sup>. Contributing factors include acute illness, deconditioning, unfamiliar environments, and medication side effects<sup>4</sup>. Hospitalised seniors, especially those recovering from surgery or transitioning from bed rest to mobility, are particularly vulnerable due to compromised physical state.

This article emphasises the need for clinicians to address falls efficacy as part of a holistic falls prevention and

management approach. Derived from Bandura's self-efficacy theory<sup>5</sup>, falls efficacy reflects individuals' belief in their physical ability to prevent and manage falls<sup>6</sup>. This construct encompasses four domains<sup>6</sup>: (i) Balance Confidence - the perceived ability to perform activities steadily; (ii) Balance

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Recovery Confidence - the perceived ability to regain balance after perturbations such as slips, trips, or volitional movements; (iii) Safe-falling Confidence - the perceived ability to protect oneself during a fall; and (iv) Post-fall Recovery Confidence - the perceived ability to get up or seek help following a fall. The World Guidelines for Falls Prevention and Management for Older Adults have identified a fall as “*an event which results in a person coming to rest inadvertently on the ground or floor or other lower level*”<sup>7</sup>. Understanding these falls efficacy-related domains is critical, as confidence in different areas may vary due to age-related or illness-induced physiological changes. Discordance between perceived and actual abilities significantly heightens falls risk. Delbaere et al.<sup>8</sup> identified that one-third of community-dwelling seniors exhibited disparities between their perceived and actual risk of falling. Similarly, Lim et al.<sup>9</sup> reported that nearly 70% of hospitalised seniors had discordance. The findings emphasise the necessity of evaluating both perceived and actual risks to design effective, personalised interventions<sup>8,9</sup>.

Addressing falls efficacy extends beyond mitigating falls risks; it also reduces fears of falling, enhances physical functioning, and improves quality of life<sup>10,11</sup>. By focusing on falls efficacy, clinicians can foster both physical and psychological resilience among older adults. Despite its significance, falls efficacy assessments are not routinely incorporated into clinical settings. This article highlights our efforts to integrate such assessments and identify potential discordance between falls efficacy and actual fall risks. Future research should explore targeted interventions to bolster physical and psychological well-being, advancing falls management practice.

Between 1 September 2023 and 31 August 2024, we conducted two observational cross-sectional studies examining falls efficacy levels in deconditioned seniors from a community hospital and robust seniors living in the community. Based on data from 60 hospitalised seniors and 119 community-dwelling seniors, we present three key findings: (i) Comparison of falls efficacy levels between the two groups; (ii) Variations across falls efficacy-related domains; (iii) Discordance between falls efficacy and actual falls risk.

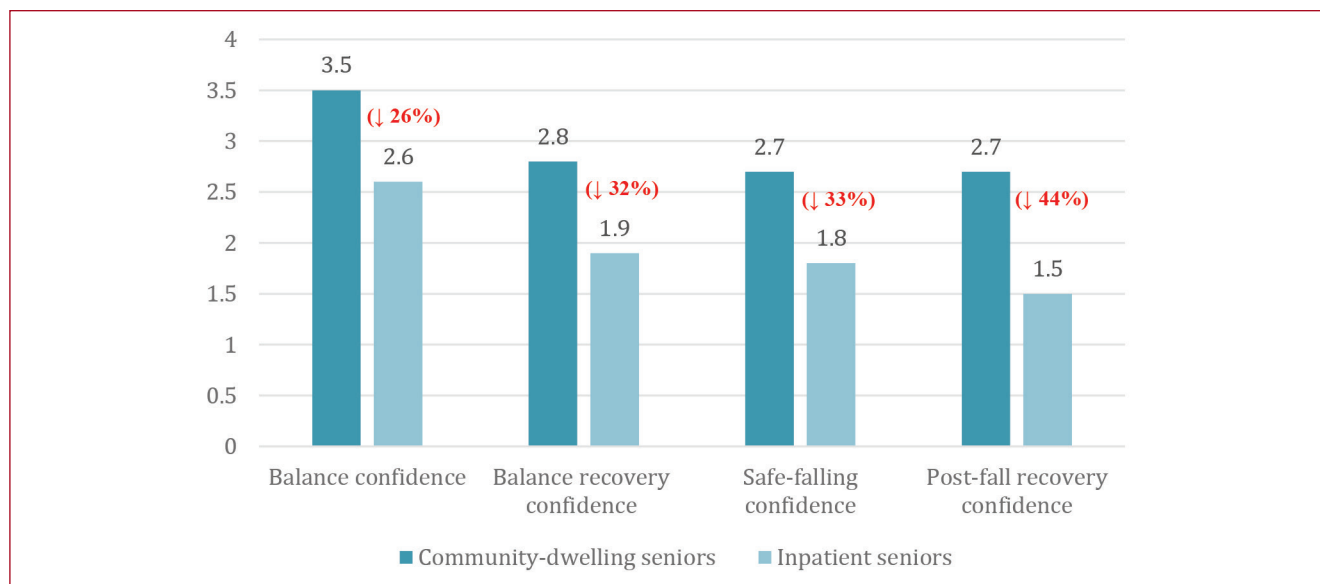
For future reference or replications of these studies, we highlight the demographic characteristics of the two sampled groups. Hospitalised seniors were aged 65 and older and were admitted to a community hospital in Singapore under the admission rehabilitation diagnostic group code of “deconditioning”. The “deconditioning” code is assigned to individuals meeting the following criteria: (a) Had a fall at least once in the last 6 months with underlying symptoms and (b) requiring an individualised rehabilitation care plan or considered as frail determined by instruments, such as the Clinical Frailty Scale<sup>12</sup>. The community-dwelling seniors were 65 and older, living independently, not requiring physical assistance from another person to walk within the home,

and did not present with any clinically observable severe cognitive impairment.

We applied the 4-item Multidimensional Falls Efficacy Scale (MdfES), developed by our research team (Appendix A). The 4-item MdfES was designed to assess respondents’ beliefs in dealing with various falls-related demands across four stages: Pre-fall, near-fall, fall-landing, and completed fall. Specifically, the items addressed respondents’ confidence about walking steadily, arresting a fall when they lose balance, protecting themselves if they do fall, and getting up from the ground if they have a fall. Responses were assessed using a 5-point scale rating from 0 being *not at all confident* to 4 being *extremely confident*. The MdfES’s face validity and content validity were evaluated through an e-Delphi survey using four seniors aged 65 and older and seven medical and healthcare professionals. Face validity and content validity were high. Internal consistency of the MdfES was calculated using the 179 datasets. Cronbach’s alpha was 0.842, reflecting a relatively high reliability.

To assess the actual risk of falls, we use the MORSE falls scale (MFS)<sup>13</sup> for hospitalised seniors. The MFS has been used in hospitals to determine a patient’s physiological risk of falling<sup>9</sup>. The 6-item MFS incorporated six items, including the history of falling, secondary diagnosis, ambulatory aids, intravenous/heparin locks, gait, and mental status. The total possible score is 125. The risk of falls was rated ‘high’ if the score was 51 and above. We applied the Mini BESTest<sup>14</sup> for community-dwelling seniors. The Mini BESTest is a quick screening test feasible for clinical use to predict falls in older adults<sup>15</sup>. The 14-item Mini-BESTest incorporates the assessment of four postural control systems: (i) ‘anticipatory postural adjustments’ (sit to stand, rise to toes, stand on one leg); (ii) ‘reactive postural responses’ (stepping in four different directions); (iii) ‘sensory orientation’ (stance – eyes open; foam surface – eyes closed; incline – eyes closed); and (iv) ‘dynamic gait’ (gait during change of speed, head turns, pivot turns, obstacles; cognitive ‘up and go’ with dual-task)<sup>14</sup>. The total possible score was 28. The actual risk of falls was rated ‘high’ if the Mini BESTest score was below 20<sup>16</sup>, which reflected poor balance performance.

Our first finding reports that hospitalised seniors demonstrated significantly lower falls efficacy (MdfES score of 7.7) than community-dwelling seniors (MdfES score of 11.8). This diminished confidence in hospitalised seniors was not unexpected. Deconditioned hospitalised seniors are more physically compromised than their community-dwelling counterparts. Further, the hospital environment, marked by unfamiliar surroundings and potential obstacles such as IV lines and medical equipment, could have also contributed to the decreased falls efficacy. Psychological factors, such as anxiety and depression, could also play a role in the weakened confidence<sup>17</sup>. Hospitalised seniors often experience heightened psychological stress, which can further lower their falls efficacy<sup>18</sup>. Feelings of helplessness or a lack of control can exacerbate their fear of falling. On the



**Figure 1.** Median scores of various domains of falls efficacy.

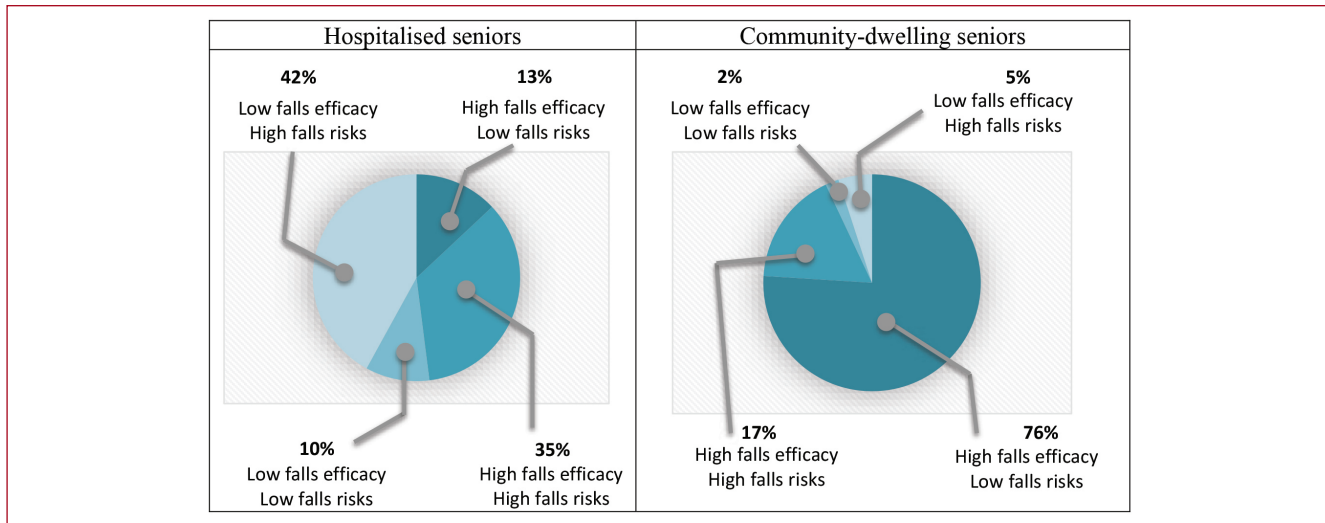
Domains	1	2	3	4
Evaluate perceived ability	Balance confidence assessed by MdFES Item 1	Balance recovery confidence assessed by MdFES Item 2	Safe-falling confidence assessed by MdFES Item 3	Post-fall recovery confidence assessed by MdFES Item 4
Evaluate actual ability	Assessed by the MORSE falls scale <sup>13</sup> , Short Physical Performance Battery Test <sup>21</sup> , or the Mini BEST <sup>14</sup> .		Assessed by the sitting-rising test <sup>22</sup> or the floor transfer test <sup>23</sup> .	
Goals	To enhance balance control.	To enhance balance recovery control.	To minimise the falling impact, or at least be able to get down and up safely from the ground or get assistance if a fall occurs.	
Suggested educational strategies	Discuss and educate seniors on their fall risk factors.	Discuss and educate seniors on balance recovery strategies they can adopt in various scenarios.	Discuss and educate seniors on feasible safe falling techniques.	Discuss and educate seniors on the strategies to get up or help from the ground.
Suggested performance strategies	To demonstrate the ability to steadily walk at least 100 meters with or without a walking aid. Able to acknowledge the need to seek assistance to maintain balance if feeling unsteady.	To demonstrate the ability to take a firm compensatory step in response to losing balance. Able to acknowledge safety awareness of the environment to manage any trips and slips.	To demonstrate the ability to get down to the floor with or without support. Able to acknowledge the use of falls management and injury prevention strategies, e.g., shock absorption jacket.	To demonstrate an ability to get up from the floor with or without support. Able to acknowledge the use of falls management and injury prevention strategies, e.g., a fall detection system, to get help quickly.

**Table 1.** Some strategies offered to enhance falls efficacy in hospitalised seniors.

other hand, community-dwelling seniors with better physical functioning and independence may report high falls efficacy due to their higher level of mobility<sup>19</sup>. Assessing physical and psychological well-being is essential in both populations to ensure that psychological factors are considered alongside

physical function in falls prevention strategies within the hospital or community settings.

Our second finding affirms that the multidimensional construct of falls efficacy (i.e., balance confidence, balance recovery confidence, safe-falling confidence, and post-fall



**Figure 2.** Proportion of seniors found with concordance and discordance between falls efficacy and actual falls risks.

recovery confidence) needs to be distinguished. Compared to robust community-dwelling seniors, the various domains of falls efficacy in deconditioned hospitalised seniors were significantly lower, having declines ranging between 26% and 44% (Figure 1). The findings underscore the need for domain-specific interventions. However, the literature surrounding interventions targeting fall efficacy, particularly on balance recovery confidence, safe-falling confidence, and post-fall recovery confidence is limited<sup>20</sup>. Based on our team discussion, which involved clinicians with at least five years of clinical experience (i.e., one medical doctor and four physiotherapists), we have suggested some strategies listed in Table 1 to enhance the four domains of fall efficacy. Further studies are needed to investigate the effectiveness of these strategies.

Our third finding highlights a discordance between falls efficacy and actual falls risk found in both groups of hospitalised seniors (45%) and community-dwelling older adults (19%) (Figure 2). A significantly higher proportion of hospitalised seniors (35%) exhibited high falls efficacy while also being at high risk of falling, compared to 17% of community-dwelling seniors with a similar discordance. Overconfidence in physical abilities suggests that seniors could take on hazardous behaviours. Several potential explanations for this discordance can be considered and warrant further investigation. Literature has suggested seniors wish to retain independence and avoid reliance on care workers<sup>24</sup>. Despite evolving medical histories and current circumstances, these seniors would like to perform regular activities of daily living, such as bathing and walking to the toilet, as part of their personal agency. Risk-taking behaviours were accepted as part of their recovery, given

that they had to do these tasks at home. Further, these seniors also appreciated the heavy workload of care workers<sup>24</sup>. Therefore, the seniors might overestimate their capabilities to prevent and manage falls so that they do not seek assistance to avoid burdening the hospital staff. Understanding and assessing falls efficacy allows clinicians to identify which patients need more intensive supervision or mobility assistance.

Integrating falls efficacy assessments into routine care can enable early identification of at-risk seniors, allowing for timely, tailored interventions. For hospitalised seniors, the results can inform interventions to address both physical deconditioning and psychological stressors, managing falls efficacy and reducing risks. Interventions, such as early mobilisation and targeted physical therapy can help counteract immobility and deconditioning caused by bed rest. It would provide a greater sense of empowerment to enhance their fall efficacy. The care team should assure the seniors that their safety is paramount, and they should request assistance without feeling a sense of burden or embarrassment. For community-dwelling seniors, data-driven interventions can help design personalised exercise interventions with falls prevention and management strategies to maintain their confidence and independence. The educational content on falls prevention and management strategies should be appropriately delivered to ensure seniors' safety while encouraging independence.

Adopting an interdisciplinary approach is crucial. Collaboration among medical and healthcare professionals, caregivers and volunteers can help align the goals set with the seniors. By addressing both the physical and

psychological dimensions of falls risk, healthcare teams can significantly improve mobility, independence and quality of life for seniors. The use of falls efficacy assessments, such as the MdFES, can help facilitate this approach. The MdFES scale is easy to use, taking no longer than two minutes to understand a senior's beliefs about their physical abilities to prevent and manage falls. It can help provide actionable insights that empower clinicians to design targeted falls prevention and management strategies from early acute care admissions through discharge planning to staying well in the community. However, its applicability may be limited for individuals with significant cognitive impairments or delirium. Further research into clinician-rated falls efficacy assessment is warranted.

Our research highlights the importance of assessing falls efficacy to increase awareness of this psychological construct in clinical practice. Clinicians should optimise the performance of fall risk screening or assessment tools for older adults. Through understanding variations in falls efficacy and risk among different populations, clinicians can develop personalised interventions that foster resilience and promote healthy ageing as part of a comprehensive falls prevention and management strategy.

#### **Ethics Approval**

*The ethics approvals for the studies conducted in the community hospital and the community setting were approved by the Singhealth Centralised Institutional Review Board (CIRB Ref: 2023/2486) and the Singapore Institute of Technology Ethics Committee (RECAS Ref: 0197), respectively.*

#### **Consent to participate**

*Written consent was obtained from the participants of both studies.*

#### **Authors' contributions**

*Shawn Leng Hsien Soh: Conceived the presented idea and paper writing (original draft and editing). Principal Investigator for the community setting-related study. Co-investigator for the community hospital-related study. Hazel Xu Teng Ting: Paper writing (review and editing). Co-investigator for the community setting-related study. Jia Ying Ho: Paper writing (review and editing). Co-investigator for the community setting-related and community hospital-related studies. Shi Lin Tan: Provided critical feedback and paper writing (review and editing). Geetha Kayambu: Paper writing (review and editing). Co-investigator for the community setting-related study. Kimberly Chrystal Geok Khim Koh: Assisted in data analysis and paper writing (review and editing). Lian Leng Low: Provided critical feedback and paper writing (review and editing). Co-investigator for the community hospital-related study. Cheryl Yan Fang Tan: Provided critical feedback and helped shape the manuscript. Paper writing (review and editing). Principal Investigator for the community hospital-related study. Co-investigator for the community setting-*

*related study. All authors read and approved the final version of the manuscript.*

#### **Disclaimer**

*Shawn Leng Hsien Soh is an Editorial Board member in the Journal. The manuscript underwent peer review process by independent experts.*

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## Appendix A

### Instructions

We would like to ask you some questions about your confidence in your ability to prevent and manage the threat of falls.

For each of the following questions, please rate the degree of your confidence by recording a number from 0 to 4 using the scale given below. The levels of confidence

you can choose from are 0 = not at all confident; 1 = slightly confident; 2 = somewhat confident; 3 = quite confident; and 4 = extremely confident.

Please provide a score of your ability based on your own judgement for all questions.

	Item	Not at all confident	Slightly confident	Somewhat confident	Quite confident	Extremely confident
1	How confident are you to walk steadily?	0	1	2	3	4
2	How confident are you to stop yourself from falling when you lose balance?	0	1	2	3	4
3	How confident are you to protect yourself if you fall?	0	1	2	3	4
4	How confident are you to get up (from the ground) after a fall?	0	1	2	3	4