



The Role of Self-Efficacy in Improving Balance, Walking, and Community Ambulation in the Post-Stroke Population: A Rapid Evidence Assessment

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Introduction

Stroke is the largest contributor to adult acquired disability resulting in cognitive and/or physical impairments worldwide. The psychological concept of self-efficacy was developed by Bandura and can be described as an individual's attitudes and confidence in their physical abilities to complete a task.⁶ Self-efficacy accounts for the intrinsic factors that influence an individual's behavior and can impact one's level of motivation, fear, and desire toward participation in therapeutic and community activities. Balance confidence is directly related to fear of falling, which is critical to note because the incidence of falls poststroke is approximately 73%.¹ The purpose of this rapid evidence assessment was to assess the relationship of measures of self-efficacy with balance/mobility measures and perceived and/or actual mobility.

Table 1: Prisma Chart

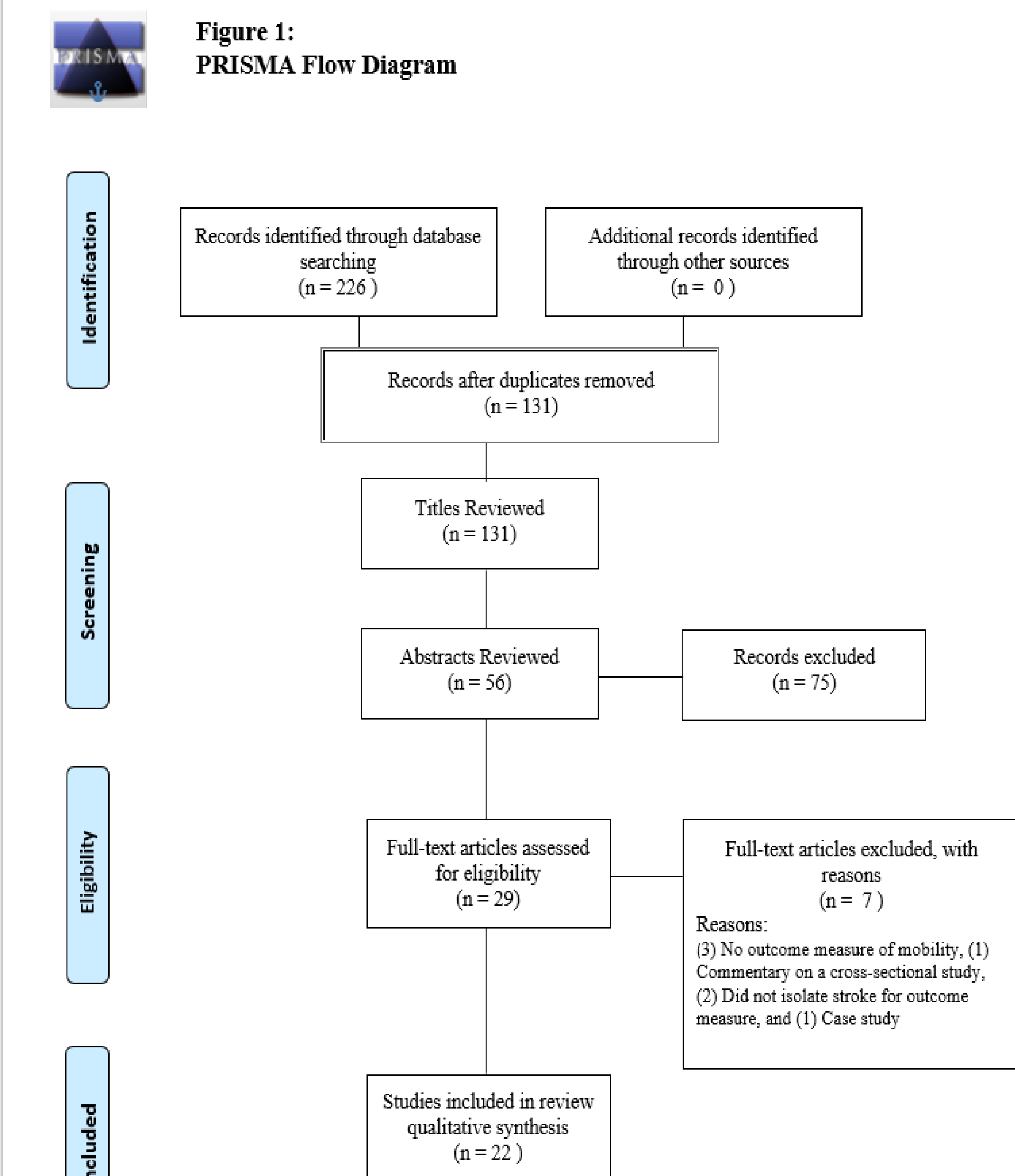


Table 2: Correlation/Relationship of Self-Efficacy Measures

Author (Year)	Self-efficacy Measure(s)	Outcome Measure(s)	Correlation/Relationship
Beghi, Ettore (2017)	ABC	Falls- defined as unexpected event where the person inadvertently came to rest on the ground or other lower level.	Positive correlation
Dank, Kelly (2016)	ABC	FGI: measured walking balance	Positive & strong correlation
Durcan, Sarah (2016)	ABC	Community Ambulation Questionnaire	Positive correlation
Ekechukwu, Nelson (2017)	ABC	Fugl-Meyer Assessment Scale: Measure motor function BBS: measure balance	Positive & significant correlation
Ezeugwu, Victor (2018)	Multidimensional Self Efficacy for Exercise Scale	5m walk TUG	No relationship
French, Margaret (2016)	ABC	BBS, FGA	Positive relationship
Irvan, Reza Zainal (2020)	Stroke Self-Efficacy Questionnaire	Mobility performance	Positive correlation
Jalayondeja, Chutima (2014)	FES	BBS BI TUG 10m walk	Positive relationship
Kim, Junh-Hee (2014)	ABC	BBS: measure balance MBI: measure functional outcome (ADLs)	Positive & direct correlation
Kobylanska, Marzena (2018)	10-item Generalized Self-Efficacy Scale	BI & IADL: measures ADLs and complex activities	Positive & significant correlation
Kongwattanaku, Kalaya (2020)	Fall-related Self Efficacy	Falls Structural impairment: MAS, Fugl-Meyer & ankle PF strength Activity limitation: TUG, ST, BBS	No correlation
Miller, Kristine (2013)	CDSE ABC	FSS: assess impact of fatigue on daily life Brief Pain Inventory: measure pain as multidimensional	Positive & strong correlation
Oksoo, Kim (2015)	FES	Falls: defined as " an episode of unintentionally coming to rest on the ground or lower surface that was not the result of dizziness, fainting, sustaining a violent blow, loss of consciousness, or other overwhelming external factor." Use of walking aids: determined by a follow up question	Positive relationship
Rafsten, Lena (2020)	FES	BBS	Positive & large correlation
Schmid, Arlene (2012)	Modified-FES & ABC	IMPACT	Positive & large correlation
Schmid, Arlene (2012)	Modified-FES	IMPACT	Strong correlation
Torkia, Caryne (2016)	ABC	Composite physical domain of the SIS 3.0: measure perceived physical function Mobility subscale of the SIS 3.0: measure perceived mobility Single item from SIS 3.0: measure perceived recovery	Positive & significant correlation
Vahlberg, Birgit, (2013)	FES	Performance-based Measures Self-reported Measures	Positive relationship
Vahlberg, Birgit (2017)	FES	BBS Short Physical Performance Battery	Positive correlation
Vahlberg, Birgit (2019)	FES	PASE	No correlation
Yiu, Jeanne (2012)	ABC	BBS: measure balance performance TUG: measure mobility 6 MWT: measure walking capacity Number of falls	Positive correlation
Zissimopoulos, Angelika (2014)	ABC	AFO vs no AFO	Positive relationship

Inclusion Criteria

- Primary research was published within the last 10 years
- Available in full text English
- Human subjects
- Outcome measure evaluate pre and post self-efficacy or efficacy
- Outcome measure of balance or mobility
- Stroke population

Exclusion Criteria

- Case series or studies
- Not available in English
- Animal studies
- Unable to isolate stroke patients

Results:

- There is a positive relationship between self-efficacy and variables such as perceived mobility, actual mobility, balance, and community ambulation.
- Self-efficacy appears to play a major role in the components of rehabilitation following a stroke suggesting a need to focus on improving self-efficacy when treating the other impairments/functional limitations
- Improving one's confidence will directly impact other factors such as perceived recovery, mobility performance, participation, fatigue, and pain.
- Self-efficacy/confidence may be more influential on actual community mobility

Conclusion and Clinical Significance

The findings of this review suggest that self-efficacy has a major role in improving balance, walking, activity and participation, and community ambulation in the post-stroke population. Therefore, rehabilitation programs, particularly physical therapy, should include interventions that target improving self-efficacy in the stroke population.

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References

