Received: 20 May 2022 | Revised: 6 June 2022 | Accepted: 9 June 2022

DOI: 10.1111/jgs.17946

RESEARCH LETTER

Journal of the American Geriatrics Society

Improvement in self-efficacy among older adults aging-in-place during COVID-19

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Funding information
National Institute on Aging, Grant/Award Numbers: P30AG059988, R01AG058777

INTRODUCTION

Self-efficacy is defined as an individual's belief in their capacity to execute behaviors necessary to produce specific performance attainments.[1] It reflects confidence in the ability to exert control over one's own motivation, behavior, and environment.[1,2] Aging-in-place is a priority for many older adults and is defined as the ability to live in one's own home safely, independently, and comfortably.[3-6] During the COVID-19 pandemic, restrictions forced many older adults into having to rely on their own skills to age-in-place.[7,8] With this research we sought to assess how older adult self-efficacy was affected by the COVID-19 pandemic.

METHODS

As part of a larger study, we are longitudinally following a cohort of older adults, who are aging-in-place, as they make decisions about accessing long-term-care services.[9,10] Subjects are surveyed at baseline and then every 6 months, thereafter for 42 months. COVID-19 presented a unique challenge as baseline surveys began prior to the initial cases (January 2020) and continued during the initial 6 months of COVID-19 (ending November 2020). In these baseline surveys, self-efficacy was assessed using the validated PROMIS (Patient-Reported Outcomes Measurement Information System): (1) *General Self-Efficacy* which asks subjects to rate their level of confidence (e.g., I am not at all confident, I am a little confident, I am somewhat confident, I am quite confident, I am very confident) in managing situations (e.g., I am confident that I could deal efficiently with unexpected events; If I am in trouble, I can think of a solution, I can handle whatever comes my way). (2) *Self-Efficacy for Managing Chronic Conditions—Managing Social Interactions* which asks subjects to rate their level of confidence (as above) for situations (e.g., I can talk about my health problems with someone; If I need help, I can find someone to take me to the doctor's office; I can get emotional support when I need it; I can ask for help when I do not understand something). We compared differences in self-efficacy among subjects in relation to the COVID-19 pandemic using *T*-tests to evaluate differences.

Disclaimer: All statements in this manuscript, including its findings and conclusions, are solely those of the authors.

TABLE 1 Sociodemographic characteristics pre-COVID versus during COVID ($N = 214$)

Variable	Total ($N = 214$)	Pre-COVID ($n = 66$)	During COVID ($n = 148$)	p-value
Age, *M* (SD)	71.04 (5.03)	71.3 (4.96)	70.91 (5.07)	0.57
Sex, %				
Male	28.5	31.82	27.03	0.47
Female	71.5	68.18	72.97	
Race %				
Black	31.13	46.15	24.49	0.007
White	58.02	44.62	63.95	
Other	10.85	9.23	11.56	
Education, %				
HS or less	15.09	27.69	9.52	0.009
Some college	20.75	16.92	22.45	
College graduate	18.4	15.38	19.73	
Graduate degree	45.75	40.0	48.3	
Income, %				
<$10,000	5.42	8.06	4.26	<0.001
$10,000–$24,999	15.76	27.42	10.64	
$25,000–49,999	26.6	35.48	22.7	
≥$50,000	52.22	29.03	62.41	
Employment status, %				
Working for pay	25.82	27.69	25.0	0.68
Retired/unemployed	74.18	72.31	75.0	
Marital status, %				
Married	45.75	40.0	48.30	0.26
Unmarried/widowed	54.25	60.0	51.70	
Total # comorbidities, *M* (SD)	2.33 (1.46)	2.62 (1.58)	2.2 (1.39)	0.049
Power of attorney, %				
Yes	60.28	46.97	66.22	0.018
No	38.32	50	33.11	
Relationship to POA, %				
Spouse	25.7	24.24	26.35	N/A
Child	25.23	19.70	27.70	
Other family member	10.28	7.58	11.49	
Friend	5.61	6.06	5.41	
Attorney/lawyer	0.93	1.52	0.68	
Other	3.27	6.06	2.03	
Living will, %				
Yes	57.48	48.48	61.49	0.11
No	41.12	48.48	37.84	
Advanced directive, %				
Yes	51.87	46.97	54.05	0.544
No	43.46	50	40.54	

RESULTS

A total of 214 subjects ($n = 66$ pre-COVID-19 pandemic and $n = 148$ during the COVID-19 pandemic) completed the surveys (Table 1). PROMIS Self Efficacy for Managing Chronic Conditions—Managing Social Interactions was higher during the COVID pandemic (pre-COVID 45.0 (6.1) vs. post-COVID 48.7 (8.3), $p = 0.02$). Participants who completed their baseline during the COVID pandemic had significantly higher Self-Efficacy for Managing Social Interactions *t*-scores (β: 3.02; 95% CI: [0.15, 5.88]). PROMIS General Self Efficacy also trended higher among those assessed during the COVID-19 pandemic (pre-COVID 45.8 (7.7) vs. during COVID 43.7 (8.0), $p = 0.07$).

DISCUSSION

During the COVID-19 pandemic, older adults aging-in-place in their homes exhibited increased levels of self-efficacy. Our results show that older adults experienced increased confidence in managing their social interactions in the home (Figure 1).

COVID-19 restrictions forced older adults to fend for themselves and live in isolation or risk facing a deadly virus. Prior to COVID-19, many older adults may have assumed they would be able to live independently but may have had reservations or self-doubt about being completely cut-off from loved ones. In experiencing the COVID-19 restrictions, older adults may have overcome any self-doubt, experiencing what being homebound entails and managing effectively. If they were able to endure COVID-19 isolation, older adults likely felt that they could manage anything—including future homebound scenarios. As self-efficacy is defined as an individual's belief in their capacity to effectively execute behaviors, older adults during COVID-19 exhibited a stronger belief that they could manage aging-in-place effectively.

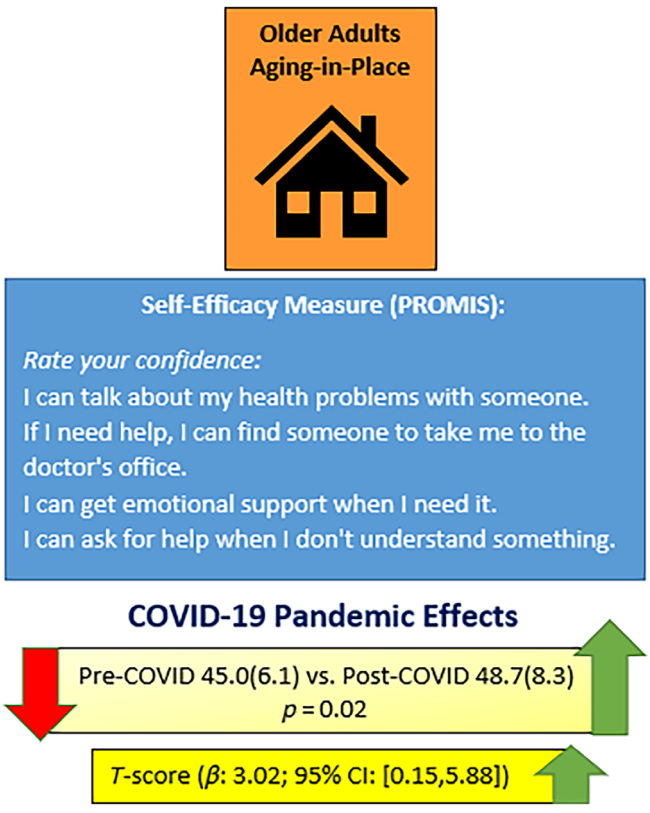

FIGURE 1 Change in self-efficacy during COVID-19

Limitations existed in that it was difficult to distinguish if the COVID-19 isolation was the direct cause of the change in self-efficacy or if there were other socio-environmental factors that led to this difference. Another limitation is that this is a cross-sectional sample and lacks additional longitudinal follow-up time points. Will self-efficacy continue to change as time progresses? Will older adults experience less or return to a lower level of self-efficacy as we move further down the road of COVID-19? Since we are following this cohort every 6 months, we will be able to observe how self-efficacy changes during future phases of the COVID-19 pandemic.

Self-doubt is a part of human nature. COVID-19 restrictions forced older adults to experience the loss of in-person human interactions and overcome their self-doubt in managing social interactions. Older adults adapted to the challenges of isolated aging-in-place and came ahead with higher self-efficacy. Future studies will help determine if the higher self-efficacy gained during the COVID-19 pandemic remains or extends the ability of older adults to age-in-place.

AUTHOR CONTRIBUTIONS

All authors met criteria for authorship by (1) Conception and design of the study: Lindquist, Ramirez-Zohfeld. (2) Data acquisition: Miller, Scherier, Murawski, Ramirez-Zohfeld. (3) Analysis and interpretation of data: Lindquist, Miller, Scherier, Curtis, Opsasnick, Kim, Ramirez-Zohfeld. (4) Manuscript drafting: Lindquist, Miller, Scherier, Opsasnick, Kim, Ramirez-Zohfeld. (5) Revising the manuscript critically for important intellectual content: All authors. (6) Approval of the version of the manuscript to be published: All authors.

CONFLICT OF INTEREST

All authors declare no conflict of interest.

SPONSOR'S ROLE

The sponsor was not involved in the design, methods, analysis and interpretation of the data, and preparation of the manuscript.

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How to cite this article: Lindquist LA, Miller-Winder AP, Schierer A, et al. Improvement in self-efficacy among older adults aging-in-place during COVID-19. *J Am Geriatr Soc*. 2022;1-4. doi:10.1111/jgs.17946