

# Implementation of the CAPABLE Program With Older Adults During the COVID-19 Pandemic

OTJR: Occupational Therapy Journal of Research  
1–8  
© The Author(s) 2023  
Article reuse guidelines:  
sagepub.com/journals-permissions  
DOI: 10.1177/15394492231151885  
journals.sagepub.com/home/otj



Selena E. Washington<sup>1</sup> , Emma Edwards<sup>1</sup>, Dana L. Stiles<sup>2</sup>, and Stacy West Bruce<sup>2</sup>

## Abstract

This study explores the implementation and impact of an evidence-based client-driven program, CAPABLE (Community Aging in Place Advancing Better Living for Elders), during the COVID-19 pandemic. The study reviews outcomes related to client engagement and retainment, client-directed goals, therapeutic intervention, home modifications, and functional outcomes of older adult participants. The CAPABLE program addresses basic and instrumental activities of daily living, medication use, pain, mobility, fall prevention, and environmental modifications within the home. The services were provided by an interprofessional team which included an occupational therapist, a registered nurse, and home contractor professional. The study team utilized descriptive, paired *t* test, and correlational analyses to evaluate the CAPABLE programs' influence on the functional outcomes of older adults living within the city of St. Louis, during the COVID-19 pandemic. This study identified significant improvement in instrumental activities of daily living (IADLs) independence, readiness to change, self-reported health status, and depressive symptoms, and 11 significant correlations were found between age, implementation expenses, and functional outcomes.

## Keywords

older adults, occupational therapy, evidence-based practice

## Introduction

The implementation of evidence-based programs to increase environmental safety, functional independence, and occupational engagement within the homes of older adults is critical (Stark et al., 2017; Stav et al., 2012; Szanton et al., 2011). Within the United States, an estimated 12 million people aged  $\geq 65$  years who are living in their own homes need equipment to aid with the activities of daily living (ADLs); however, roughly five million seniors lack those items (Lam et al., 2021); and 75% have reported at least one functional difficulty (National Center for Health Statistics, 2018). Therefore, it is necessary to understand how to support the occupational, functional, and quality of life needs of community-dwelling older adults, utilizing effective and evidence-based intervention.

Currently, the CAPABLE (Community Aging in Place Advancing Better Living for Elders) program addresses outcomes such as basic and instrumental activities of daily living (IADLs), medication use, pain management, mobility, fall risks, and home environmental modifications (Szanton et al., 2011, 2019). The CAPABLE program model utilizes an interprofessional and person-directed approach for older adults/seniors who typically reside within lower economic residential areas (Szanton et al., 2011, 2019). This program focuses on improving safety and functional independence

within the home environment through services provided by an occupational therapist (OT), registered nurse (RN), and home contractor professional (Szanton et al., 2011). The CAPABLE program includes (Szanton et al., 2021):

- (1) assessments performed by (a) an OT to determine functional challenges, home safety risks, and elicitation of functional goals and (b) a registered nurse (RN) who elicits person-centered goals regarding pain, depression, medication, primary care provider communication . . . (2) input from participants concerning their functional goals; (3) implementation of strategies tailored to participant goals and based on brainstorming with the participant; and (4) home repair, environmental modifications, and assistive devices that support achieving participant-identified functional goals. (pp. 3632–3633)

A recent synthesis of the literature noted older adults reported an increased presence of psychological symptoms

<sup>1</sup>Saint Louis University, MO, USA

<sup>2</sup>Washington University School of Medicine in St. Louis, MO, USA

## Corresponding Author:

Selena E. Washington, Department of Occupational Science and Occupational Therapy, Doisy College of Health Sciences, Saint Louis University, 3437 Caroline Mall, Suite 2020, St. Louis, MO 63104-1111, USA.

Email: selena.washington@health.slu.edu

and loneliness due to COVID-19 pandemic-related social isolation, and difficulty with finding help to address functional needs (e.g., ADLs) and social needs (e.g., meal delivery and transportation) (Lebrasseur et al., 2021). The CAPABLE program intervention is designed to take place in the home environment, which has become a critical component of programmatic implementation during the COVID-19 pandemic (Elman et al., 2021; Hoffman et al., 2020). The evidence produced from the CAPABLE program has shown significant improvement in the areas of daily functional activity, home hazards, and reported depressive symptoms (Breysse et al., 2022; Szanton et al., 2011, 2016).

### **Theoretical Model and Framework of the CAPABLE Program**

The CAPABLE program utilizes an evidence-based theoretical model and framework to support the programmatic goals and intervention as follows (Szanton et al., 2011). First, the Transtheoretical Model of Health Behavior Change, also called the Stages of Change Model, was developed by Prochaska and DiClemente (1982). This model determines an individual's readiness for change and allows individuals to transition through the process of adapting positive health and functional changes in stages as follows: (a) precontemplation—awareness of change needed, (b) contemplation—identification of barriers to change, (c) preparation—identification of goals for change, (d) action—positive reinforcement to implement change, and (e) maintenance—provision of support to stabilize the change (Szanton et al., 2011). Second, the CAPABLE program also utilizes the Life Span Theory of Control framework which is based on the concepts of primary and secondary control. Primary control addresses external behaviors directed toward engagement of one's environment and involves strategic goals to address the older adults' needs and meaningful activity. Secondary control addresses the internal psychosocial capacity needed to improve one's self-efficacy toward functional tasks (Gitlin et al., 2013; Heckhausen & Schulz, 1995). Through the guidance of the aforementioned theoretical concepts, the CAPABLE participants are provided with support, practical strategies, and interventions to increase safety and independence within their home environment. Overall, the OT utilizes the CAPABLE theoretical foundation to create and implement action plans to improve occupational engagement (e.g., the active involvement in occupation with meaning and balance within the home environment; Black et al., 2019), and problem-solving to improve self-efficacy and behavioral change (Bahadır Ağce & Ekici, 2020; Stav et al., 2012; Szanton et al., 2011).

### **Background**

Currently, within the city of St. Louis where this CAPABLE program protocol was implemented, 13.7% of the population is 65 years or older. On the basis of population size, it is

estimated that 38.7% have a disability, 14.5% live below 100% of the poverty level, and 15.9% utilize Food Stamp/SNAP benefits (U.S. Census Bureau, 2020a). The CAPABLE program's outcomes are vital to improve occupational engagement of older adults due to (a) lower income being associated with a higher likelihood of functional limitations and/or disability (Louie & Ward, 2011; Szanton et al., 2021), and (b) the lack of social and health resources within these type of residential areas (Sokale et al., 2022). Older adults within the city of St. Louis region face increased exposure to poverty and disability and are more likely to live alone in comparison with other populations within 37 peer regions in the United States (East-West Gateway Council of Governments, 2020; U.S. Census Bureau, 2020b). The purpose of this program evaluation study is to determine the effectiveness of the CAPABLE program within this urban environment during the COVID-19 pandemic. Therefore, our research question is

*Research Question.* How did the CAPABLE program influence the functional outcomes of older adults living within the city of St. Louis during the COVID-19 pandemic?

### **Method**

Older adults, aged  $\geq 60$  years, who reside within the city of St. Louis, were contacted by the CAPABLE program's local community partners, Mission St. Louis and Deaconess Nurse Ministry. The older adults were informed about the program through general marketing and/or referrals from other community agencies, nonprofit organizations, and one Area Agency on Aging, during July 2020–July 2021. The inclusion criteria were selected based on the guidelines of the national CAPABLE protocol and the grant funders' guidelines. The home contractor partnered with the CAPABLE OT and conducted the screening process, with the inclusion criteria of  $\geq 60$  years of age, homeowner, had difficulty with  $\geq 1$  ADL or IADL, a score of  $\geq 7$  correct responses on the Short Portable Mental Status Questionnaire (SPMSQ; Pfeiffer, 1975), a score of  $\leq 9$  on the Personal Health Questionnaire of Depression (PHQ-8) scale (Kroenke et al., 2009), and a score  $\leq 4$  risk on the Stopping Elderly Accidents, Deaths, and Injuries (STEADI; Stevens & Phelan, 2013) fall risk screen. The self-reported measures were completed using the CAPABLE program documentation and managed using REDCap electronic data capture tools hosted at Saint Louis University (Harris et al., 2019). All programmatic procedures were followed and monitored by the CAPABLE national office at John Hopkins University.

### **Assessment**

A comprehensive pre- and post-assessment was given to all participants, which included measures of basic ADL function (Katz et al., 1963), Lawton instrumental ADL function (Graf, 2009; Lawton & Brody, 1969), Tinetti Falls Efficacy Scale

**Table 1.** Demographics of the CAPABLE Participants.

Demographics	<i>n</i>	%	<i>M</i>	<i>SD</i>	Range
Age <sup>a</sup>	31	—	71	8.7	57–94
Gender					
Female	29	93.5	—		
Male	2	6.5	—		
Race/Ethnicity					
Black/African American	26	83.9	—		
White	4	12.9	—		
Asian	1	3.2	—		
Income <sup>b</sup>	31	—	20,611.58	10,070.63	9,240–40,338
Household modification expense <sup>b</sup>	31	—	2,062.88	566.15	932.63–4,018.65
Physical disability status					
Yes	18	58.1	—		
No	13	41.9	—		

<sup>a</sup>Years of age for mean, *SD*, and range. <sup>b</sup>US dollars for mean, *SD*, and range.

(Tinetti et al., 1990), SPMSQ cognition scale (Pfeiffer, 1975), Pain, Enjoyment of Life and General Activity (PEG) Inventory (Krebs et al., 2009), medication adherence (Steinman et al., 2015), health status 12-Item Short Form Survey (SF-12; Ware et al., 1996), and home environmental hazards/issues (Szanton et al., 2011). The Client-Clinician Assessment Protocol (C-CAP; Gitlin & Corcoran, 2000), an OT/RN pre/post-assessment based on the CAPABLE implementation protocol, was administered and addressed: functional ability/tasks, readiness for change, and client-directed goals (Rose et al., 2010).

### Program Implementation

The CAPABLE program implementation consisted of eight to 10 in-home sessions, for  $\geq 45$  to 60 min each session, over a 4-month period through an evidence-based graduated protocol. The in-person sessions involved intervention by the OT (five to six visits) and RN (three to four visits) which consisted of (a) interactive discussion with the participant to identify barriers to functional independence or engagement with possible retraining and solutions, (b) the provision and instruction of durable medical equipment (DME) use and over the counter items to support ADLs, (c) tailored components to each participant's occupational profile and functional goals, and (d) environmental modifications provided by the home contractor and OT to support safety, mobility, and functional/occupational engagement within the home environment. The modifications made due to COVID-19 were face masking of all CAPABLE team personnel for every in-person visit, and teleconferencing or phone session visits for the last one to two visits by the OT or RN (an allowed protocol modification by the Johns Hopkins CAPABLE national office).

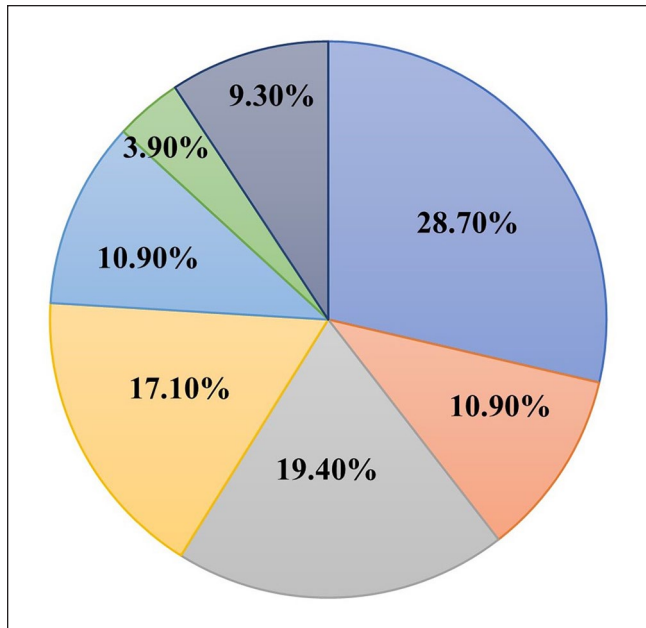
### Data Analysis

All analyses were conducted using SPSS Version 28 (IBM Corporation, 2021). A descriptive analysis was used to assess

the sociodemographic composite, pre- and post-implementation data, home repairs/modifications completed, and DME and over-the-counter items provided. Paired sample *t* tests were used to compare differences of the pre- and post-test scores for all assessments. Cohen's *d* was calculated to measure effect size, with 0.20 considered small, 0.50 considered medium, and 0.80 considered a large effect size (Cohen, 1992). Pearson's *r* correlation coefficients (Pearson, 2008) were used to determine the relationships between program measures, with .10 considered a small effect size, .30 considered a medium effect size, and .50 considered a large effect size (Cohen, 1988).

### Results

The descriptive analysis includes the 31/53 (58.5%) screened participants who enrolled and completed the CAPABLE program; one unenrolled (1.9%) and 21 (39.6%) declined program participation. Additional collected demographic information includes gender with 29 women (93.5%); race/ethnicity with 26 (83.9%) who identified as Black/African American, four White (12.9%), and one Asian (3.2%) older adult; age mean of 71 (*SD* = 8.7) years, ranging between 57 and 94 years of age; and income with an average of \$20,611.58 (Table 1). There was an exception made by the implementation team to include a 57-year-old participant with a genetic disability. The over-the-counter wellness items and DME to assist with basic ADLs and IADLs ranged from pain topical gel to rollators and chair lifts (*N* = 129; Figure 1), and the expense of the items per household ranged from \$19.90 to \$1,038.09 with an average of \$178.12 (*SD* = \$190.49; Table 1) per household for DME and over-the-counter wellness items. The participants were asked about any functional mobility limitations, and the use of any assistive device (e.g., a walker, cane, or wheelchair) to aid with mobility, 58% indicated an existing physical disability. The home contracting organization provided services which



**Figure 1.** Durable Medical Equipment (DME) and over-the-Counter Items Provided.

Note.  $N = 129$  items; bathing 28.70%, toileting 10.90%, dressing 19.40%, mobility 17.10%, modalities 10.90%, exercise equipment 3.90%, other 9.30%.

ranged from installation of lighting and grabbing bars within the home to outdoor modifications (e.g., stair railing and ramps); the expense of the modifications and repairs with labor included ranged from \$677.37 to \$2,980.56, with an average of \$1,884.87 ( $SD = \$462.54$ ; Table 1).

### CAPABLE Implementation Results

Paired sample  $t$  tests were used to evaluate participants scores across all program measures/outcomes before and after participation in the CAPABLE program. Only three outcomes showed significant differences following participation in the CAPABLE program: IADL functional activity, depression, and participants' readiness for change. Participants IADL functional activity scores were significantly different from pre-CAPABLE participation ( $M = 15.39$ ,  $SD = 7.57$ ) to post-CAPABLE participation ( $M = 10.58$ ,  $SD = 7.75$ ),  $t(30) = 2.041$ ,  $p = .05$ . Participants depression scores were significantly different from pre-CAPABLE participation ( $M = 6.45$ ,  $SD = 3.84$ ) to post-CAPABLE participation ( $M = 4.48$ ,  $SD = 3.45$ ),  $t(30) = 3.194$ ,  $p = .003$ , such that participants reported improved depression symptoms following participation in the CAPABLE program. Participants' readiness for change was significantly different from pre-CAPABLE participation ( $M = 1.8$ ,  $SD = .61$ ) to post-CAPABLE participation ( $M = 2.68$ ,  $SD = .75$ ),  $t(29) = -4.475$ ,  $p < .001$ , with participants demonstrating specific actions to change their functional habits and routines of daily tasks following participation in the CAPABLE program. The other outcomes did not show

significant change between the pre-participation assessments and the post-participation assessments (Table 2).

### Correlation of Pre- and Post-Assessment Outcomes

The Pearson correlation analysis (Pearson, 2008) was used to examine the relationship between all pre- and post-assessment outcomes. Results showed that there were 23 significant correlations across all outcomes that were measured before and after the program (Table 3). In addition, the program's functional outcomes, measured both before and after implementation, were correlated with participants' demographic information. Results showed that there were 11 significant correlations found between age, ADL expenses, and functional outcomes (Table 4). The following selected correlations are described in detail as follows.

**Pre-CAPABLE Participant-Reported Health Status.** Participants' pre-CAPABLE general health status as measured by SF-12 health survey (Ware et al., 1996) was correlated with their (a) pre-CAPABLE fall risk ( $r = -.399$ ,  $p = .026$ ), (b) post-CAPABLE general health status ( $r = .501$ ,  $p = .004$ ), (c) post-CAPABLE ADL outcomes ( $r = .417$ ,  $p = .020$ ), (d) post-CAPABLE IADL outcomes ( $r = .418$ ,  $p = .019$ ), and (e) post-CAPABLE fall risk ( $r = -.391$ ,  $p = .03$ ; Table 3). Individuals who were healthier at the start of the program showed lowered fall risk both before and after participating in CAPABLE. In addition, participants who were healthier before program implementation showed better health after participating in CAPABLE. Those who were healthier before the program also showed a greater ADL and IADL level of functional ability after participating in CAPABLE.

**Post-CAPABLE Participant-Reported Health Status.** Participants' post-CAPABLE general health status as measured by SF-12 health survey (Ware et al., 1996) was correlated with their post-CAPABLE basic ADL outcomes ( $r = .408$ ,  $p = .023$ ), their post-CAPABLE IADL outcomes ( $r = .372$ ,  $p = .039$ ), their post-CAPABLE depression ( $r = .426$ ,  $p = .017$ ), their post-CAPABLE STEADI fall risk ( $r = -.486$ ,  $p = .006$ ), and their post-CAPABLE readiness to change ( $r = -.59$ ,  $p = .000$ ; Table 3). Individuals who were healthier at the end of the program reported a greater ADL and IADL level of functional independence following participation in the CAPABLE program. In addition, participants who were healthier after the program reported an improvement in self-reported depressive symptoms following participation. Furthermore, those who were healthier following CAPABLE also showed a lowered fall risk and lowered readiness to change after completing the program.

### Age and Functional Outcomes

The participants' age was correlated with (a) pre-CAPABLE IADL outcomes ( $r = .372$ ,  $p = .040$ ), (b) pre-CAPABLE

**Table 2.** Results of Paired Sample t test for CAPABLE Pre- and Post-Test Scores.

Measures	Pre-CAPABLE		Post-CAPABLE		t	p	d
	M	SD	M	SD			
SF-12 General Health Status	3.77	0.81	3.71	0.82	0.441	.662	.079
KATZ ADL	14.13	3.73	11.58	6.16	2.022	.052	.363
Lawton IADL	15.39	7.57	10.58	7.75	2.041	.05*	.367
PHQ-8—Depression	6.45	3.84	4.48	3.45	3.194	.003*	.574
Tinetti—Falls efficacy	75.07	12.2	79.71	19.62	-1.418	.166	-.255
PEG—Pain inventory	17.58	8.27	15.16	10.73	1.196	.241	.215
Readiness to change	1.8	0.61	2.68	0.75	-4.475	<.001*	-.817
Falls only	0.23	0.43	0.23	0.43	0.000	1	.0

Note. Total N = 31. ADLs = activities of daily living; IADLs = instrumental activities of daily living; PHQ-8 = Personal Health Questionnaire of Depression, Version 8; Tinetti FES = Falls Efficacy Scale; PEG = Pain, Enjoyment of Life and General Activity Pain Inventory; RC = readiness to change; Falls only = Fall incidents.

\*p < .05. \*\*p < .01.

**Table 3.** Selected Correlations of Functional Outcomes Measured Before and After CAPABLE.

Measures	Pre-GHS	Post-GHS	Satisfaction	M	SD
Pre-CAPABLE Health (SF-12 GHS)	1	.501**	-.199	3.77	0.81
Pre-CAPABLE ADL (KATZ)	.31	.511**	.261	14.13	3.73
Pre-CAPABLE Depression (PHQ-8)	.196	.317	-.470**	6.45	3.84
Pre-CAPABLE Fall Risk (FES, Tinetti)	-.399*	-.376*	.095	75.06	12.2
Post-CAPABLE Health (SF-12 GHS)	.501**	1	-.165	3.71	0.82
Post-CAPABLE ADL (KATZ)	.417*	.408*	-.608**	11.58	6.16
Post-CAPABLE IADL (Lawton)	.418*	.372*	-.090	10.58	7.74
Post-CAPABLE Depression (PHQ-8)	.281	.426*	-.463**	4.48	3.45
Post-CAPABLE Fall Risk (Tinetti, FES)	-.391*	-.486*	.061	79.71	19.61
Post-CAPABLE readiness to change	-.347	-.59**	-.052	2.68	0.75

Note. Total N = 31. SF-12 GHS = General Health Status; Katz ADL = activities of daily living; Lawton IADL = instrumental activities of daily living; PHQ-8 = Personal Health Questionnaire Depression version 8; Tinetti FES = Falls Efficacy Scale; PEG = Pain, Enjoyment of Life and General Activity; SPMSQ = Short Portable Mental Status Questionnaire; Satisfaction = average client satisfaction.

\*p < .05. \*\*p < .01.

**Table 4.** Correlations Between Age, ADL Expense, and Functional Outcomes Measured Before and After CAPABLE.

Measures	Age	ADL Costs	M	SD
Age	1	-.175	71.81	8.7
ADL Costs	-.175	1	178.12	190.49
Pre-CAPABLE Health (SF-12, GHS)	.046	.461**	3.77	0.81
Pre-CAPABLE IADL (Lawton)	.372*	-.196	15.39	7.57
Pre-CAPABLE Depression (PHQ-8)	-.509**	.333	6.45	3.84
Pre-CAPABLE Pain (PEG)	-.427*	.139	17.58	8.27
Post-CAPABLE Health (GHS)	-.106	.463**	3.71	0.82
Post-CAPABLE IADL (Lawton)	-.058	.478**	10.58	7.74
Post-CAPABLE Depression (PHQ-8)	-.522**	.480**	4.48	3.45
Post-CAPABLE Fall Risk (FES)	.179	-.390*	79.71	19.61
Cognition (SPMSQ)	.482**	.103	0.39	0.50
Satisfaction	.558**	-.186	1.75	0.35

Note. Total N = 31. SF-12 GHS = General Health Status; ADL = activities of daily living; IADL = instrumental activities of daily living; PHQ-8 = Personal Health Questionnaire Depression Version 8; FES = Falls Efficacy Scale; PEG = Pain, Enjoyment of Life and General Activity; Falls = fall incidents; SPMSQ = Short Portable Mental Status Questionnaire; Satisfaction = average client satisfaction.

\*p < .05. \*\*p < .01.

depression ( $r = -.509, p = .003$ ), (c) pre-CAPABLE pain ( $r = -.427, p = .016$ ), (d) post-CAPABLE depression ( $r = -.522, p = .003$ ), and (e) cognition ( $r = .482, p = .006$ ; Table 4). Older participants showed better IADL levels of functional ability, less depressive symptoms reported, and less pain before the CAPABLE program. Older participants also showed lowered depression following program implementation. Those who were older in age also showed better cognition. Furthermore, participants with a greater amount of money spent on ADL needs (e.g., DME and personal items) showed better IADL levels of functional ability, improvement in self-reported depressive symptoms, and lowered fall risk following program implementation.

### **ADL Expense, Functional Outcomes, Program Goals, and Satisfaction**

Participants' ADL expenses (e.g., the amount spent on DME and personal items) was correlated with (a) pre-CAPABLE general health status ( $r = .461, p = .009$ ), (b) post-CAPABLE general health status ( $r = .463, p = .009$ ), (c) post-CAPABLE IADL outcomes ( $r = .478, p = .007$ ), (d) post-CAPABLE depression ( $r = .480, p = .006$ ), and (e) post-CAPABLE fall risk ( $r = -.390, p = .030$ ; Table 4). Participants with greater ADL expenses showed better IADL levels of functional ability, improved depression outcomes, and lowered fall risk following the program. Of the 88 OT ADL/IADL participant-directed goals addressed, 55 (61.3%) were met, and of the 51 nursing functional and health-related goals addressed, 35 (68.7%) were met. The client satisfaction survey noted 96.6% ( $N = 31$ ) of the participants reported benefiting a great deal from the program and 86.2% believed the program made their lives exceptionally easier.

### **Discussion**

The CAPABLE program was feasible to implement during the COVID-19 restrictions (e.g., physical distancing) and demonstrated significantly improved (a) IADL independence, (b) reported depression symptoms, (c) general health status, and (d) readiness to change habits and routines toward functional tasks. There were positive correlations between improved general health ratings and improved ADL/IADL functional activity and fewer self-reported fall risks as defined by the fall risk assessment (Stevens & Phelan, 2013); these findings align with recent CAPABLE studies among multiple CAPABLE implementation sites (Breysse et al., 2022; Szanton et al., 2021). The program demonstrated clear benefits to the participants and provided meaningful outcomes which supports aging in place and deters hospitalization and/or assisted living placement (Szanton et al., 2018; Szanton et al., 2016; U.S. Census Bureau, 2020a).

The CAPABLE team explored the implications of this program based on the participants' socioeconomic status (SES) and social and structural determinants of health (SDOH), and their impact on functional outcomes. The ability to age successfully and safely within the community is correlated in part with one's SES, for example, their level of income and education (McMaughan et al., 2020). The majority of the participants within this program were disproportionately affected by their SES status and SDOH (e.g., limited health care access, chronic health conditions, and inadequate housing support; Administration for Community Living, 2021; Schulz et al., 2022). The SES status and SDOH were vital components to address during the implementation of this CAPABLE program; through the accomplishment of participants' self-directed goals, structured CAPABLE team support, the provision of community resources to aid with living expenses, and effective home modifications.

Szanton et al. (2021) emphasize the person-directed nature of CAPABLE, which supports intentionality of care within vulnerable socioeconomic groups (Breysse et al., 2022; Hooper et al., 2020; Webb & Chen, 2022). Our CAPABLE interdisciplinary team engaged in culturally responsive care, the inclusion of social and cultural factors, within the plan of care to facilitate a person-centered approach (Muñoz, 2007; Njelesani et al., 2015). Culturally responsive care addresses aspects of SDOH and the effects the COVID-19 pandemic has placed on the vitality, health, safety, and well-being of vulnerable older adult populations (Breysse et al., 2022; Hooper et al., 2020; Webb & Chen, 2022). The CAPABLE team led the client interactions with respect and acknowledgment of the SDOH and the intersection of SES factors, which supported or limited the accomplishment of the participants' established goals and expectations. This approach was vital to the implementation process and highlighted through the programs' satisfaction scores, qualitative remarks, and participation adherence.

### **Strengths and Limitations**

The strength of the program was the collaboration of the OT, RN, and home contractor professionals who implemented the CAPABLE program during the COVID-19 pandemic. This collaboration was strengthened by actively listening to and respecting the needs of the participants, adhering to COVID-19 personal protection protocols, and utilizing remote visits as allowed by the national CAPABLE headquarters at Johns Hopkins University. Limitations of this evaluation were the small sample size ( $N = 31$ ), which limits the ability to apply outcomes to larger communities, along with the program being implemented in 2020 during the height of the COVID-19 pandemic, which could have deterred enrollment and participation within the program. In addition, the reporting of the outcomes are the results of a program evaluation study design, which may affect the rigor

of implementation; however, all standardized procedures were followed based on the CAPABLE national guidelines.

## Conclusion

Based on our research question, how does the CAPABLE program influence the functional outcomes of older adults living within the city of St. Louis? This program evaluation study identified improvement in IADL independence, readiness to change, self-reported health status, and self-reported depressive symptoms. Through the lens of the Transtheoretical Model of Change (Prochaska & DiClemente, 1982) and the Life Span Theory of Control (Heckhausen & Schulz, 1995), this program contributes to the understanding of how improved self-efficacy can shape an older adult's functional and occupational engagement within their home environment. It is imperative to promote the continued development of person-directed, in-home, interprofessional programs that can lead to older adults living longer, remaining occupationally engaged, and aging in place safely within their homes. The CAPABLE program continues to address the real-world needs of older adults during the COVID-19 pandemic and the years ahead.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The CAPABLE program was funded by the St. Louis City Senior Fund, and this program evaluation study was funded by the Saint Louis University Office of the Vice President for Research.

## Ethics Information

All study procedures were approved by the Saint Louis University Institutional Review Board (IRB); the IRB classified this study as a program evaluation and did not require the evidence-based program protocol to undergo a full board review.

## ORCID iD

Selena E. Washington  <https://orcid.org/0000-0002-1686-4802>

## References

- Administration for Community Living. (2021). *2020 profile of older Americans*. [https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final\\_.pdf](https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2020ProfileOlderAmericans.Final_.pdf)
- Bahadır Ağçe, Z., & Ekici, G. (2020). Person-centred, occupation-based intervention program supported with problem-solving therapy for type 2 diabetes: A randomized controlled trial. *Health and Quality of Life Outcomes, 18*(1), 1–14.
- Black, M. H., Milbourn, B., Desjardins, K., Sylvester, V., Parrant, K., & Buchanan, A. (2019). Understanding the meaning and use of occupational engagement: Findings from a scoping review. *British Journal of Occupational Therapy, 82*(5), 272–287.
- Breyse, J., Dixon, S., Wilson, J., & Szanton, S. (2022). Aging gracefully in place: An evaluation of the capability of the CAPABLE© approach. *Journal of Applied Gerontology, 41*(3), 718–728.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Erlbaum.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155.
- East-West Gateway Council of Governments. (2020). *Where we stand. The strategic assessment of the St. Louis Region* (8th ed.). Update 5. [https://www.ewgateway.org/wp-content/uploads/2020/04/wws08\\_update05\\_COVID-19\\_2020-04\\_final.pdf](https://www.ewgateway.org/wp-content/uploads/2020/04/wws08_update05_COVID-19_2020-04_final.pdf)
- Elman, A., Baek, D., Gottesman, E., Stern, M. E., Mulcare, M. R., Shaw, A., & Platts-Mills, T. F. (2021). Unmet needs and social challenges for older adults during and after the COVID-19 pandemic: An opportunity to improve care. *Journal of Geriatric Emergency Medicine, 2*(11), 1.
- Gitlin, L., & Corcoran, M. (2000). *Client-Clinician Assessment Protocol (C-CAP)*. Thomas Jefferson University.
- Gitlin, L., Szanton, S., & Hodgson, N. (2013). It's complicated—but doable: The right supports can enable elders with complex conditions to successfully age in community. *Generations, 37*(4), 51–61.
- Graf, C. (2009). The Lawton instrumental activities of daily living (IADL) scale. *The Gerontologist, 9*(3), 179–186.
- Harris, P. A., Taylor, R., Minor, B. L., Elliott, V., Fernandez, M., O'Neal, L., & Kirby, J. (2019). The REDCap consortium: Building an international community of software platform partners. *Journal of Biomedical Informatics, 95*, 103208.
- Heckhausen, J., & Schulz, R. (1995). A life-span theory of control. *Psychological Review, 102*(2), 284.
- Hoffman, G. J., Webster, N. J., & Bynum, J. P. (2020). A framework for aging-friendly services and supports in the age of COVID-19. *Journal of Aging & Social Policy, 32*(4–5), 450–459.
- Hooper, M. W., Nápoles, A. M., & Pérez-Stable, E. J. (2020). COVID-19 and racial/ethnic disparities. *Journal of American Medical Association, 323*(24), 2466–2467.
- IBM Corporation. (2021). *IBM SPSS statistics for windows* (Version 28.0).
- Katz, S., Ford, A. B., Moskowitz, R. W., Jackson, B. A., & Jaffe, M. W. (1963). Studies of illness in the aged: The index of ADL: A standardized measure of biological and psychosocial function. *Journal of American Medical Association, 185*(12), 914–919.
- Krebs, E. E., Lorenz, K. A., Bair, M. J., Damush, T. M., Wu, J., Sutherland, J. M., & Kroenke, K. (2009). Development and initial validation of the PEG, a three-item scale assessing pain intensity and interference. *Journal of General Internal Medicine, 24*(6), 733–738.
- Kroenke, K., Strine, T. W., Spitzer, R. L., Williams, J. B., Berry, J. T., & Mokdad, A. H. (2009). The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders, 114*(1–3), 163–173.
- Lam, K., Shi, Y., Boscardin, J., & Covinsky, K. E. (2021). Unmet need for equipment to help with bathing and toileting among older US adults. *Journal of the American Medical Association Internal Medicine, 181*(5), 662–670.

- Lawton, M. P., & Brody, E. M. (1969). Assessment of older people: Self-maintaining and instrumental activities of daily living. *The Gerontologist*, 9(3 Pt 1), 179–186.
- Lebrasseur, A., Fortin-Bédard, N., Lettre, J., Raymond, E., Bussièrès, E. L., Lapierre, N., & Routhier, F. (2021). Impact of the COVID-19 pandemic on older adults: Rapid review. *Journal of Medical Internet Research Aging*, 4(2), e26474.
- Louie, G. H., & Ward, M. M. (2011). Socioeconomic and ethnic differences in disease burden and disparities in physical function in older adults. *American Journal of Public Health*, 101(7), 1322–1329.
- McMaughan, D. J., Oloruntoba, O., & Smith, M. L. (2020). Socioeconomic status and access to healthcare: Interrelated drivers for healthy aging. *Frontiers in Public Health*, 8, 231.
- Muñoz, J. P. (2007). Culturally responsive caring in occupational therapy. *Occupational Therapy International*, 14(4), 256–280.
- National Center for Health Statistics. (2018). *Age-adjusted percentages (with standard errors) of difficulties in physical functioning among adults aged 18 and over, by selected characteristics: United States, 2018*. [https://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/NHIS/SHS/2018\\_SHS\\_Table\\_A-10.pdf](https://ftp.cdc.gov/pub/Health_Statistics/NCHS/NHIS/SHS/2018_SHS_Table_A-10.pdf)
- Njelesani, J., Teachman, G., Durocher, E., Hamdani, Y., & Phelan, S. K. (2015). Thinking critically about client-centred practice and occupational possibilities across the life-span. *Scandinavian Journal of Occupational Therapy*, 22(4), 252–259.
- Pearson, K. (2008). Pearson's correlation coefficient. In W. Kirch (Ed.), *Encyclopedia of public health* (pp. 1090–1091). Springer.
- Pfeiffer, E. (1975). A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *Journal of the American Geriatrics Society*, 23(10), 433–441.
- Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research & Practice*, 19(3), 276.
- Rose, K. C., Gitlin, L. N., & Dennis, M. P. (2010). Readiness to use compensatory strategies among older adults with functional difficulties. *International Psychogeriatrics*, 22(8), 1225–1239.
- Schulz, E., Ghosh, D., Clark, E. M., Williams, B. R., Williams, R., Ma, L., Park, C. L., & Knott, C. L. (2022). Disability and health in African Americans: Population research and implications for occupational therapy community-based practice. *The Open Journal of Occupational Therapy*, 10(1), 1–19.
- Sokale, I. O., Conway, S. H., & Douphrate, D. I. (2022). Built environment and its association with depression among older adults: A systematic review. *The Open Public Health Journal*, 15(1), e187494452202030.
- Stark, S., Keglovits, M., Arbesman, M., & Lieberman, D. (2017). Effect of home modification interventions on the participation of community-dwelling adults with health conditions: A systematic review. *The American Journal of Occupational Therapy*, 71(2), 7102290010–7102290011.
- Stav, W. B., Hallenen, T., Lane, J., & Arbesman, M. (2012). Systematic review of occupational engagement and health outcomes among community-dwelling older adults. *The American Journal of Occupational Therapy*, 66(3), 301–310.
- Steinman, M. A., Beizer, J. L., DuBeau, C. E., Laird, R. D., Lundebjerg, N. E., & Mulhausen, P. (2015). How to use the American Geriatrics Society 2015 beers criteria—A guide for patients, clinicians, health systems, and payors. *Journal of the American Geriatrics Society*, 63(12), e1–e7.
- Stevens, J. A., & Phelan, E. A. (2013). Development of STEADI: A fall prevention resource for health care providers. *Health Promotion Practice*, 14(5), 706–714.
- Szanton, S. L., Alfonso, Y. N., Leff, B., Guralnik, J., Wolff, J. L., Stockwell, I., & Bishai, D. (2018). Medicaid cost savings of a preventive home visit program for disabled older adults. *Journal of the American Geriatrics Society*, 66(3), 614–620.
- Szanton, S. L., Leff, B., Li, Q., Breyse, J., Spoelstra, S., Kell, J., & Gitlin, L. N. (2021). CAPABLE program improves disability in multiple randomized trials. *Journal of the American Geriatrics Society*, 69(12), 3631–3640.
- Szanton, S. L., Leff, B., Wolff, J. L., Roberts, L., & Gitlin, L. N. (2016). Home-based care program reduces disability and promotes aging in place. *Health Affairs*, 35(9), 1558–1563.
- Szanton, S. L., Thorpe, R. J., Boyd, C., Tanner, E. K., Leff, B., Agree, E., & Weiss, C. O. (2011). Community aging in place, advancing better living for elders: A bio-behavioral-environmental intervention to improve function and health-related quality of life in disabled older adults. *Journal of the American Geriatrics Society*, 59(12), 2314–2320.
- Szanton, S. L., Xue, Q.-L., Leff, B., Guralnik, J., Wolff, J. L., Tanner, E. K., & Gitlin, L. N. (2019). Effect of a biobehavioral environmental approach on disability among low-income older adults: A randomized clinical trial. *Journal American Medical Association Internal Medicine*, 179(2), 204–211.
- Tinetti, M. E., Richman, D., & Powell, L. (1990). Falls efficacy as a measure of fear of falling. *Journal of Gerontology*, 45(6), 239–243.
- U.S. Census Bureau. (2020a). *Population 65 years and over in the United States [S0103]. 2020 American community survey 5-year estimates subject tables*. <https://data.census.gov/cedsci/table?q=st.%20louis%20city&t=Older%20Population&tid=ACSST5Y2020.S0103>
- U.S. Census Bureau. (2020b). *Poverty status in the past 12 months [217010]. 2020 ACS 5-year estimates subject tables*. <https://data.census.gov/cedsci/table?q=st.%20louis%20city%20poverty&tid=ACSST5Y2020.S1701>
- Ware, J. E., Jr., Kosinski, M., & Keller, S. D. (1996). A 12-Item Short-Form Health Survey: Construction of scales and preliminary tests of reliability and validity. *Medical Care*, 34, 220–233.
- Webb, L. M., & Chen, C. Y. (2022). The COVID-19 pandemic's impact on older adults' mental health: Contributing factors, coping strategies, and opportunities for improvement. *International Journal of Geriatric Psychiatry*, 37(1), 5647.