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Memory Self-Efficacy and Community Participation

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Objective: This study examines the relationships between working memory, memory self-efficacy (MSE), and community participation among older adults.
Method: 203 United States older adults (age 55+) were recruited through MTurk to complete surveys and a memory task. A multiple linear regression was used to regress MSE and community participation.
Main Findings: Entering all variables into the model explained 45% of the variance in community participation ($R2 = .45$, Adj. $R2 = .41$, $F(7, 141)$ $T = 16.26$, $p < .001$). MSE was positively related to community participation ($\beta = .38$, $p < .001$), as predicted. However, contrary to hypotheses, worse working memory ($\beta = -.22$, $p = .001$) and greater difficulty remembering/concentrating ($\beta = .26$, $p < .001$) predicted higher levels of community participation.
Conclusions: It is reasonable to conclude that one's beliefs about their memory ability is an important consideration when one chooses to engage in community events.
Keywords: memory self-efficacy, community participation, aging, dementia, Alzheimer's disease.

As the world's older adult population grows, older individuals are susceptible to a heightened risk of experiencing age-related cognitive challenges, such as dementia (Aartsen et al., 2002, Fritsch et al., 2005). To help combat this growing problem, researchers have worked to identify factors that can support or improve cognitive functioning. One such factor that has gathered extensive support in the literature is participation in community leisure activities, such as ones that include social engagement (e.g., attending events with friends, having dinner with friends, participating in a card game group; Fratiglioni et al., 2004; Scarmeas et al., 2001; Sobral & Paúl, 2013; Verghese et al., 2003). However, participating in these activities can be difficult if one has difficulty remembering or concentrating, which might impair their ability to track a conversation, answer questions, or carry out multi-step instructions to complete an activity (Cowan, 2014). Additionally, if one feels that their cognitive abilities are poor, they might be more likely to avoid these activities, instead choosing to isolate themselves to bypass experiencing difficulties or feelings (Nieboer et al, 2020). To examine this idea further, the present study examined the relationships between memory self-efficacy, working memory, and community participation among older adults.

Memory Self-Efficacy

Memory self-efficacy (MSE) is defined as the beliefs an individual holds about their memory ability (Lalitha & Aswartha Reddy, 2021; Pearman & Trujillo, 2013; Sawin, 2021). The concept of MSE stems from Bandura's self-efficacy theory, which refers to an individual's self-perception of their ability to organize and execute tasks under given conditions (Bandura, 1997). In line with past research that has supported the positive relationship between MSE and memory performance, Bandura hypothesized that those with low self-efficacy perform poorer on tasks, compared to those with higher self-efficacy (Bandura, 1989; Beaudoin & Desrichard, 2011). As Bandura notes, this poorer performance occurs as those who doubt their ability to carry out a task are less invested in the tasks, which results in less effort, persistence, and motivation; setting lower goals for themselves; experiencing higher anxiety; and committing less to accomplish these goals (Beaudoin & Desrichard, 2011; Lalitha & Aswartha Reddy, 2021).

MSE is an important construct within metamemory that has been used to explain the cognitive decline that occurs with aging (Beaudoin & Desrichard, 2011; Hertzog et al.,1987). Past research has identified a correlation between MSE and memory task performance for older adults, with higher MSE associated with better memory performance (Lalitha & Aswartha Reddy, 2021; Pearman & Trujillo, 2013; Sawin, 2021). Other studies have found evidence that higher MSE is predictive of memory performance in cases of both laboratory and simulated-everyday episodic memory tasks (Turvey et al., 2000; West et al., 1996). In addition to being positively related to memory performance, such that low MSE is related to poor memory performance (Beaudoin & Desrichard, 2011; Lalitha & Aswartha Reddy, 2021; Pearman & Trujillo, 2013; Sawin, 2021), MSE has been found to be negatively related to beliefs about forgetting, such that stronger beliefs

about forgetting and aging being related was associated with lower MSE (Vallet et al., 2015). In addition to being related to one's ability to remember, MSE has been shown to be related to one's ability to complete self-care tasks. Salinas (2021) found that self-efficacy is related to self-management behaviors in older adults who live alone. Similarly, Vellone et al. (2016) found that in those with impaired cognition, one's self-efficacy in being able to care for themselves was an important factor that influenced self-care abilities. In fact, one's self-efficacy mediated the relationship between working memory ability and self-care ability, illustrating the influence of self-efficacy even when working memory is poor. Given these findings, Vellone et al. recommended interventions that could increase self-efficacy and, in turn, improve self-care. Additionally, past research appears to suggest a gender difference in MSE, with Fallan and Opstad (2016), Huang (2012), and West et al. (2002) finding that males reported higher self-efficacy, and were more likely to overestimate their abilities, when completing cognitive tasks.

Working Memory

Working memory is a memory/executive functioning ability that allows one to actively hold and manipulate information for a brief amount of time, such as reordering numbers or completing mathematical problems (Aben et al., 2012; Cowan, 2008; McCabe et al., 2010; Miyake & Shah, 1999). Working memory has been measured in multiple ways, primarily with mental arithmetic or digit span tasks (Wechsler, 2008).

Due to its role in planning, working memory ability is needed to complete vital self-care tasks, such as remembering to take medications or remembering that one took the medications. In fact, Insel et al. (2006) found that working memory tasks and executive function were the only significant predictors in a model used to predict medication adherence. Poor working memory can also affect an individual's participation in the community, as working memory is necessary for several aspects of social-cognitive information processing, including tracking a conversation, the information presented, relationships between others, names just learned, and others' feelings towards topics (Meyer et al., 2012).

Present Study

Although past research has explored the relationship between MSE and memory ability in general (Lalitha & Aswartha Reddy, 2021; Pearman & Trujillo, 2013; Sawin, 2021), to the best of the authors' knowledge, only two studies have appeared to examine the relationship between MSE and working memory. One study, conducted by Hoffman and Schraw (2007), investigated the influence of self-efficacy and working memory on mathematical problem-solving performance. Hoffman and Schraw found that self-efficacy was beneficial as demands on working memory increased, and these findings proposed that one's ability to efficiently and strategically solve problems increased with self-efficacy. Additionally, Mashinchi et al. (2022) used a hierarchical regression analysis and found that MSE explained a large, unique portion of variance in working memory ability after controlling for age, depression, and anxiety.

Further, the authors of the present study are unaware of any research that has investigated the relationship between MSE and community participation. This study sought to fill this gap in the literature by examining the relationship between MSE and community participation. Hypotheses are as follows: 1) MSE and working memory ability will be positively correlated with community participation while difficulty in completing self-care tasks and difficulty remembering and concentrating will be negatively correlated with community participation, with all variables having statistically significant independent effects on community participation; and 2) noticing memory changes, difficulty in completing self-care tasks, and difficulty remembering and concentrating will all be negatively correlated with MSE while working memory ability will be positively correlated with MSE, with all variables having statistically significant independent effects on MSE.

Method

Participants

Participants were all United States residents over the age of 55 and were recruited through MTurk, an online community that completes surveys for monetary rewards. An MTurk filter was applied to ensure that all participants were United States residents. An MTurk age filter was applied, such that only participants that fit within the age parameter of 55 and older were able to participate in the study. In order to participate in the study, potential participants had to achieve

an approved task completion rate (HIT rate) of 95%, meaning that they had to demonstrate worker quality by being approved by 95% of the researchers that they had completed studies for in the past. Participants were excluded if they reported an age that was not over 55, if more than 5% of their data were missing, or if their data did not appear to be of high quality. Two hundred and three eligible participants consented to participate in the study. One participant did not complete the demographic questionnaire but was included in the final analysis. A $0.50 monetary incentive was awarded to participants in exchange for their time. An a priori power analysis for a linear multiple regression, fixed model, single regression coefficient was conducted on G*Power 3.1. This power analysis was two-tailed, the alpha error probability was set to .05, and the desired power was set to .95. Results of this analysis yielded a sample size of at least 89 participants would be needed to achieve these parameters.

Assessments and Measures

Demographics

Self-reported demographic information regarding age, gender, ethnicity, and educational attainment was collected from each participant. In the analyses, gender was binary coded, with 1 = male and 2 = female. Additionally, participants were asked to indicate (yes/no) if they had noticed their ability to remember things had changed over the years. Further, participants completed the Washington Group Short Set of Questions on Disability (Centers for Disease Control and Prevention [CDC], 2015), which queries any difficulty with seeing, hearing, walking, remembering/concentrating, communicating, and/or completing self-care tasks using a 4-point Likert scale with 1 = no difficulty and 4 = cannot do at all. The present study analyzed the data for items pertaining to remembering/concentrating and completing self-care tasks.

Memory Self-Efficacy

To assess participants' MSE, the present study used an adaptation of the Memory Self-Efficacy Questionnaire (MSEQ; Berry et al., 1989), which is designed to assess participants' prediction of their memory ability. The authors of the present study adapted the MSEQ by including only the MSEQ's digit recall items. Further, the items were modified to specifically ask participants to predict their memory ability on the forward, backward, and sequencing conditions of the digit span memory task (adapted from Wechsler, 2008). The present study's measure of MSE was found to be highly reliable (α = .93), with alpha levels for each of the conditions as follows: forward (α = .78), backward (α = .87), and sequencing (α = .79). See Table 1 for items and item means

Community Participation

To assess community participation, participants were administered the ten-item "Undertaking Activities" section of the Maastricht Social Participation Profile (MSPP; Mars et al., 2009). This section examines both consumptive participation — which is defined as activities that allow an individual to benefit from the offerings of society (e.g., participating in a course or eating at a restaurant) — and formal social participation — which is defined as activities that allow an individual to offer a contribution to society (e.g., participating in organized volunteer work or organized clubs; Mars et al., 2009). The ten items asked participants to indicate the frequency with which they participated in specific community activities in the past four weeks. The present study used a 4-point Likert scale as follows: 1 = not at all, 2 = less than once a week, 3 = once or twice a week, and 4 = more than twice a week. The MSPP has been found to have strong convergent validity and discriminant validity with the Frenchay Activities Index, which is a measure of participation, similar to the MSPP (Mars et al., 2009)..

Working Memory Ability

Given the novelty of this project, the authors sought to use a reliable working memory task that has strong psychometric properties (Wechsler, 2008). Thus, a digit span task was used. This digit span task was similar to the Wechsler Adult Intelligence Scale-Fourth Edition Working Memory Index (WAIS-IV; Wechsler, 2008). In the present study, the digit strings presented to participants differed from the strings presented in the WAIS-IV, but the procedure was similar. The digits for this study's task were presented on screen, making this a visual working memory task, whereas the WAIS-IV's Digit Span Task is a verbal memory task. This change in format of the digit span task was made to avoid predicted difficulties participants might encounter when completing an auditory digit span task, such as the need for working

speakers, headphones, or assistive audio technology.

Participants were asked to remember a set of numbers under three varied conditions: forward, backward, and sequencing. In the first condition, digit span forward, participants were instructed to recall the numbers in the same order in which they were presented. In the second condition, digit span backward, participants were instructed to recall the numbers in the reverse order with which they were presented (e.g., if presented 2-3, asked to recall it as 3-2). In the third condition, digit span sequencing, participants were asked to recall the digits presented in order from least to greatest in value (e.g., if presented 4-1-8, asked to recall it as 1-4-8).

The string of numbers was presented one by one in the middle of the screen for one second. The numbers and timing were programmed to auto advance on the screen by a timer feature. An extra number was added to the digit string with each additional trial. Once all digits of a string were presented, the screen changed to include a text box in which participants were instructed to type in each number string with one space between each number. The text box was programmed to recognize the correct answer. If correct, participants auto advanced to a digit string with an additional digit included. If not, participants were auto advanced to the second trial string, in which they were given another chance to answer a string with the same digit amount, identical to the WAIS-IV's Digit Span. If participants answered this string incorrectly, participants auto advanced to the next condition (e.g., backward). Scores were summed automatically by the software. The total Digit Span score ranges from 0-48, with each condition's score ranging from 0-16. The present study's digit span task had an internal reliability score of .92. Additionally, the internal consistency reliability for the three conditions are as follows: Digit Span Forward = .75, Digit Span Backward = .81, Digit Span Sequencing = .78.

Procedure

The Institutional Review Board at the University of Montana approved this study prior to data collection. Data were collected online using a Qualtrics-based survey that was posted on MTurk. First, participants reviewed the consent form and consented to participate in the study. Once written consent was obtained, all participants completed the MSE items, and then completed the digit span task. Next, participants completed the Washington Group Short Set, the MSPP, and the demographics questionnaire. Finally, all participants reviewed a debriefing form, outlining the purpose of the study, and received a code to input into MTurk to receive the monetary incentive for their participation.

Results

Participants

The age of participants ranged from 55 to 80 years ($M = 65.25$, $SD = 4.90$) and were predominantly female (67%) and Caucasian (66%). Ninety-two percent of participants had an education greater than a high school degree. Thirty-three participants reported that they noticed that their ability to remember things had changed over the years. Seventy-eight participants reported that they did not have difficulty completing self-care tasks, while 64% of participants reported that they did not have difficulty remembering or concentrating. See Table 2 for the full demographic statistics of the sample.

Hypothesis Tests

The assumptions of linearity, normally distributed errors, and uncorrelated errors were assessed for all variables. The Shapiro-Wilks tests for each variable was significant (ps <.05), and a visual analysis of the data revealed a slight positive skew in the distribution, as well as positively skewed clustering. Thus, the data for these analyses deviate somewhat from a normal distribution warranting caution for interpreting the significance of inferential test statistics.

A collinearity analysis was conducted to examine any problematic correlations between predictor variables. In accordance with Denis (2016), which stated that a VIF score of 10 suggests that a study's parameter β was not being precisely estimated due to a large standard error, the present study used a VIF cutoff score of 10. VIF scores for all variables passed this cutoff for both regression analyses (all VIFs < 1.93).

Prior to computing the regression analyses, binary Pearson r correlations were computed to examine the relationships between each variable (see Table 3). Contrary to the first hypothesis, results revealed that the relationships between community participation and the following variables were both statistically significant (ps < .001) and positive in direction: MSE, difficulty completing self-care tasks, and difficulty remembering/concentrating. Working memory ability was negatively correlated with community participation ($p < .001$).

Community Participation

A multiple linear regression analysis was conducted to examine how MSE, difficulty completing self-care tasks, difficulty with remembering/concentrating, and working memory ability are associated with community participation. Entering all variables into the equation explained 45% of the variance in community participation ($R2 = .45$, Adj. $R2 = .42$, $F(7, 141) = 16.26$, $p < .001$; see Table 4). Greater MSE was positively related to more community participation ($\beta = .38$, $p < .001$), as predicted. However, contrary to the first hypothesis, worse working memory ability ($\beta = -.22$, $p = .001$) and having greater difficulty remembering/concentrating ($\beta = .26$, $p < .001$) predicted higher levels of community participation.

Memory Self-Efficacy

A multiple linear regression analysis was conducted to examine how difficulty completing self-care tasks, difficulty with remembering/concentrating, and noticing memory changes are associated with MSE. Entering all variables explained 13% of the variance in MSE, $R2 = .13$, Adj. $R2 = .09$, $F(7, 140) = 2.95$, $p = .007$; see Table 5). Contrary to the second hypothesis, greater difficulty completing self-care tasks ($\beta = 0.24$, $p = .02$), and gender ($\beta = -0.22$, $p = .01$) predicted higher levels of MSE.

Discussion

Findings

Consistent with the first hypothesis, greater MSE was positively associated with community participation. This finding might suggest that one's beliefs about their memory can influence whether they choose to participate in community activities or not. For example, if an individual does not think that their memory ability is strong, especially compared to their friends or to others they might interact with, they might choose to stay home to avoid embarrassment or the stress of attending the event. However, contrary to the first hypothesis, worse working memory ability and greater difficulty remembering/concentrating also predicted higher levels of community participation. This is surprising, as the literature has proposed that those experiencing cognitive difficulty are more likely to experience social isolation (DiNapoli et al., 2014; Shankar et al., 2013).

The findings of the present study might suggest that individuals who experience greater cognitive difficulty might tend to seek out alternative, pleasurable activities or activities that might enhance their social support, which is contrary to the idea that this increased difficulty would lead individuals to stay at home due to the extra effort it takes to leave their home. Further, an explanation might be found in Greenglass et al. (2006), which examined how proactive coping — a form of coping in which an individual views stressors as challenges rather than threats — was related to greater functional independence and lower depression in older adults. It is possible that older adults with difficulty view community activities as challenges, motivating them to participate in order to achieve and maintain independence (Greenglass et al., 2006)

With regard to MSE, a surprising finding that contradicted the second hypothesis was that greater difficulty completing self-care tasks was found to predict higher levels of MSE. It is possible that this study's results were an example of the role that social desirability can play in MSE and memory performance, as explored by Sawin (2021). Social desirability refers to one's desire to minimize negative and enhance positive attributes of themselves, which can result in underreporting negative behaviors while overreporting positive behaviors (Latkin et al., 2017; Sawin, 2021). In these cases, as potentially suggested by the present study's data, one might overreport their memory ability in an effort to conceal their experience of difficulty completing self-care tasks. This would also provide an explanation as to why working memory ability was negatively related to community participation, as it is possible that memory ability is not as influential as social desirability is. If correct, this idea would contrast with the literature that examines the threat of stereotypes associated with aging (e.g., older adults are not as cognitively able strictly due to their age), on an individual's abilities on memory tasks, such that ability is reduced due to buy-in of these stereotypes (Chasteen et al., 2005; Stein et al., 2002). If older adults instead choose to overreport their memory ability, attempting to appear better off than they are, then this social desirability factor might have a greater effect than stereotypes associated with age or difficulty completing self-care tasks could have on ability..

Further, our findings illustrated that men had higher MSE compared to women. This was similar to the findings of Fallan and Opstad (2016) and Huang (2012), which observed that males reported higher self-efficacy on math tasks. It is possible that the working memory

task was considered by participants to be a math task because it involved numbers, which could help explain the gender differences revealed in the present study.

Finally, given past research findings that MSE was positively related to working memory, it was surprising that MSE was not positively related to working memory. It is possible that the executive functioning component of working memory caused the relationship between MSE and memory that was observed in past research to not be true of working memory. It is also possible that the present study's limitations, which are discussed in detail below, led to a positive relationship between MSE and working memory remaining undetected.

Limitations and Suggestions for Future Research

The present study was subject to three primary limitations: 1) a lack of diversity in the sample, 2) recruiting participants via MTurk, 3) participants were asked to self-report their levels of community participation.

Speaking to the first limitation, most participants identified as female (66.8%), Caucasian (65.6%), and achieved higher than a high school education (91.5%). This lack of variation could decrease the external validity of this study's findings. Future research should retest these hypotheses with a larger and more diverse sample to increase the ability to generalize results.

Second, all participants were recruited using MTurk, which is an online survey platform created by Amazon. This could have limited the external validity of the findings, as participating in the present study would have required technical skills to get on MTurk, as well as awareness about MTurk's monetary incentives in exchange for participation in research studies. This could particularly affect the population that is being examined in this study, as older adults are less likely to possess technological skills and be aware of MTurk, compared to younger populations. It is possible that the older adults who participated in this study possess characteristics that might serve as a latent, confounding variable that might have affected the present study's findings, although there is evidence, using the same method and population sample as the present study, to suggest that the memory performance of an MTurk sample of older adults does not differ from a normative, traditional sample of older adults (Mashinchi et al., 2021). Future research should use one sample to conduct data collection through two methods: 1) via MTurk data collection, and 2) via in-person data collection, and then compare the findings to determine if there are differences in the experiences of participants due to the difference in data collection method.

Further, the age filters that MTurk allows are preset and unmodifiable. Fifty-five and older is the oldest age grouping that can be selected. This means that those 55-64 years old were included in the study. There is evidence that this age range is when subjective memory complaints begin (Jenkins et al., 2019), which would result in a low reported MSE, and thus would be an important age sample to include in this study. Despite this evidence, the 55-64 age grouping is not often subject to concerns about cognitive decline (Aartsen et al., 2002). It is possible that this minimum age could have negatively skewed the results from the present study and might serve as an explanation as to why a positive relationship between MSE and working memory was not found. Similarly, the median age of participants was 65 years old, which is on the younger end of the age range, and might have led to an inability to detect a relationship between MSE and working memory. Future research should seek to recruit older participants and compare findings to the present study in order to determine if there is a point at which MSE, working memory ability, or community participation changes (e.g., comparing 65-year-old scores to 85-year-old scores). Given that the human population is getting older (Crimmins, 2015; Semenova & Stadtlander, 2016), this distinction will be important to determine.

Additionally, it is important to note that 23 (6.5%) participants were excluded because their reported age was younger than 55. Although the MTurk filter was used to recruit only those 55 and older, it is possible that some participants have found ways to bypass the filter in order to complete tasks for monetary incentives. Given these issues, the authors of the present study echo the recommendation made by Chmielewski and Kucker (2019) to screen data for completion, validity, and reliability prior to conducting analyses. Researchers using MTurk might need to plan to recruit more participants that an a priori power analysis suggests are needed for the study.

Third, the community participation data for this study was collected using a self-report measure. This option could allow for participants to erroneously recall how often they have engaged in community activities, either by over or underestimating. Future research should include measures beyond self-re

port, such as asking participants to receive a stamp or initial on a card every time they participate in a community event. It is also possible that variables not accounted for in the present study, such as the geographic location and the socioeconomic status of both individuals and the community, might be related to community participation. Future research should seek to include these variables in their explorations.

In addition to future research suggestions to address limitations, future research should also further examine how proactive coping might have explained the present study's results and determine whether older adults with difficulties view community activities as motivated challenges to secure independence, as suggested by Greenglass et al. (2006).

Conclusion

Based on the findings of the present study, greater MSE is positively related to participation in community activities. This study serves as a first step to understanding how one's beliefs in their memory can be related to their decision of engaging in their community.

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Table 1

Memory Self-Efficacy Questionnaire Items

Condition	Item	Yes Response Rate (Mean Confidence Percentage)
Forward	If I carefully studied a string of **3** numbers (e.g., 2-4-8), I could remember and repeat all the numbers in the same order they appeared.	199 (78.20%)
	If I carefully studied a string of **5** numbers (e.g., 2-4-8), I could remember and repeat all the numbers in the same order they appeared.	179 (51.20%)
	If I carefully studied a string of **7** numbers (e.g., 2-4-8), I could remember and repeat all the numbers in the same order they appeared.	119 (63.10%)
	If I carefully studied a string of **9** numbers (e.g., 2-4-8), I could remember and repeat all the numbers in the same order they appeared.	72 (62.20%)
Backward	If I carefully studied a string of **2** numbers, I could remember and repeat all the numbers in the **reverse** order that they appeared (e.g., if I see 1-4, I could remember it as 4-1).	192 (82.10%)
	If I carefully studied a string of **4** numbers, I could remember and repeat all the numbers in the **reverse** order that they appeared (e.g., if I see 1-4, I could remember it as 4-1).	167 (70.10%)
	If I carefully studied a string of **6** numbers, I could remember and repeat all the numbers in the **reverse** order that they appeared (e.g., if I see 1-4, I could remember it as 4-1).	99 (67.00%)
	If I carefully studied a string of **8** numbers, I could remember and repeat all the numbers in the **reverse** order that they appeared (e.g., if I see 1-4, I could remember it as 4-1).	65 (60.80%)
Sequencing	If I carefully studied a string of **3** numbers, I could remember and recall all the numbers in the order of **least in value to greatest in value**.	187 (77.50%)
	If I carefully studied a string of **5** numbers, I could remember and recall all the numbers in the order of **least in value to greatest in value**.	132 (70.40%)
	If I carefully studied a string of **7** numbers, I could remember and recall all the numbers in the order of **least in value to greatest in value**.	85 (66.20%)
	If I carefully studied a string of **9** numbers, I could remember and recall all the numbers in the order of **least in value to greatest in value**.	57 (64.10%)

Table 2

Descriptive Statistics (N) of Participants and Measures

	N	*M*	*SD*	Min.	Max.
Age	202 (99.5%)	65.25	4.90	55.00	80.00
Gender	202 (99.5%)				
Male	67 (33.2%)				
Female	135 (66.8%)				
Ethnicity	201 (99.0%)				
Caucasian	132 (65.6%)				
African American	21 (10.4%)				
Asian	5 (2.5%)				
Hispanic	3 (1.5%)				
Other	40 (19.9%)				
Education	201 (99.0%)				
Less than 8th grade	0 (0.0%)				
Grades 9-11 (some high school)	1 (0.05%)				
Grade 12 or GED (high school graduate)	16 (8.0%)				
Some college or technical training	34 (16.9%)				
Associate or technical degree	29 (14.4%)				
Bachelor's degree	74 (36.8%)				
Master's degree or higher	47 (23.4%)				
Memory Change	202 (99.5%)				
Yes	67 (33.2%)				
No	135 (66.8%)				
Difficulty with Self-Care	198 (97.5%)				
No difficulty	155 (78.3%)				
Some difficulty	30 (15.2%)				
A lot of difficulty	11 (0.06%)				
Cannot do at all	2 (0.01%)				
Difficulty with Rem./Concen.	198 (97.5%)				
No difficulty	126 (63.6%)				
Some difficulty	57 (28.8%)				
A lot of difficulty	10 (0.05%)				
Cannot do at all	5 (0.01%)				
Community Participation	203 (100%)	14.85	6.62	0.00	36.00
Working Memory Ability	159 (78.3%)	24.28	11.23	2.00	45.00
Total MSE	203 (100%)	7.60	3.08	0.00	13.00

Note. The *N* for Working Memory Ability does not describe the entire sample as some participants did not correctly follow the instructions and were excluded from the analysis.
Difficulty with Rem./Concen. refers to difficulty remembering or concentrating.

Table 3

Bivariate Correlations Between Study Variables

	Community Participation	Rem./Concen.	Self-Care	MSE
Rem./Concen.	.47***	-	-	
Self-Care	.45***	.51***	-	
MSE	.43***	.07	.22**	
Working Memory	-.35***	-.36***	-.35***	.09

Note. Rem./Concen. refers to difficulty remembering or concentrating, Self-Care refers to difficulty completing self-care tasks, MSE refers to memory-self efficacy, and Working Memory refers to working memory ability. Significance is two-tailed. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4

Regression Model Examining Community Participation

Model	*Variable*	R^2	SE	R^2 Change	β
1		.42	4.81		
	MSE				.40***
	Rem./Concen.				.26***
	Self-Care				.16*
	Working Memory				-.22**
2		.45	4.73	0.03	
	MSE				.38***
	Rem./Concen.				.26***
	Self-Care				.12
	Working Memory				-.22**
	Age				-.11
	Gender				-.05
	Education				.13

Note. MSE refers to memory self-efficacy, Rem./Concen. refers to difficulty remembering or concentrating, and Self-Care refers to difficulty completing self-care tasks.

Model 1: difficulty completing self-care tasks, difficulty remembering/concentrating, MSE, working memory ability; Model 2: age, gender, education, MSE, working memory ability, difficulty completing self-care tasks, and difficulty remembering/concentrating.

Model 1: Adj. $R^2 = .40$, $F(4, 144) = 25.73$, $p < .001$. Model 2: Adj. $R^2 = .41$, $F(7, 141) = 16.26$, $p < .001$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5

Regression Model Examining Memory Self-Efficacy

Model	*Variable*	R^2	SE	R^2 Change	β
1		.08	3.04		
	Memory Changes				.001
	Rem./Concen.				-.14
	Self-Care				.30**
	Working Memory				.17
2		.13	2.98	.05	
	Memory Changes				-.02
	Rem./Concen.				-.15
	Self-Care				.24*
	Working Memory				.16
	Age				-.05
	Gender				-.22**
	Education				.05

Note. Memory Changes refers to noticing memory changes, Rem./Concen. refers to difficulty remembering or concentrating, and Self-Care refers to difficulty completing self-care tasks.

Model 1: difficulty completing self-care tasks, difficulty remembering/concentrating, noticing memory changes, and working memory ability; Model 2: age, gender, education, working memory ability, memory changes, difficulty completing self-care tasks, and difficulty remembering/concentrating.

Model 1: Adj. $R^2 = .05$, $F(4, 143) = 2.98$, $p = .02$. Model 2: Adj. $R^2 = .11$, $F(7, 140) = 2.95$, $p = .01$.

* $p < .05$, ** $p < .01$.