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Neurocognitive Predictors of Declining Financial Capacity in Persons with Mild Cognitive Impairment

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Abstract

Objective—To identify cognitive predictors of declining financial capacity (FC) in persons with mild cognitive impairment (MCI).

Methods—Participants were 66 cognitively normal older adults and 49 persons with MCI who completed neuropsychological testing and a performance measure of financial capacity (Financial Capacity Instrument; FCI) at baseline and two-year follow-up. We calculated two-year change scores for neuropsychological tests and FCI total score. We examined bivariate correlations between demographic/clinical variables and FCI change score, and between neuropsychological and FCI change scores. The five strongest bivariate correlates were entered into a linear regression analysis to identify longitudinal predictors of financial decline within group.

Results—Persons with MCI showed significant decline on the FCI and most cognitive variables, while controls demonstrated relatively stable performance. For persons with MCI, education correlated with FCI change score. The top four cognitive variable-FCI change score correlations were written arithmetic, confrontation naming, immediate visual memory, and visual attention. In the regression model, written arithmetic was the primary predictor and visual memory and visual attention were secondary predictors of two-year FCI change scores.

Conclusion—Semantic arithmetic knowledge, and to a lesser extent visual memory and attention, are key longitudinal cognitive predictors of financial skill decline in individuals with MCI.

Clinical Implications—Clinicians should consider neurocognitive abilities of written arithmetic, visual memory, and processing speed in their assessments of financial capacity in person with MCI.

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Keywords

financial capacity; mild cognitive impairment; Alzheimer's disease; longitudinal change; cognitive predictors; instrumental activities of daily living

INTRODUCTION

Financial capacity is a complex instrumental activity of daily living (IADL) that involves a broad range of conceptual, procedural, and judgmental skills (Marson et al., 2000). Financial capacity is associated with personal autonomy (Kane & Kane, 1981; Lawton, 1982; Marson & Zebley, 2001) and is critical to successful independent living (Marson et al., 2000; Melton, Petrila, Poythress, & Slobogin, 1987). At the same time, financial capacity is also highly vulnerable to cognitive impairment linked to cognitive disorders of aging such as mild cognitive impairment (MCI) (Griffith et al., 2003; Triebel et al., 2009) and Alzheimer's type dementia (AD) (Marson et al., 2000). Prior cross-sectional studies have demonstrated that financial skills are vulnerable in all phases of AD, including not only prodromal MCI (Griffith et al., 2003; Triebel et al., 2009; Gerstenecker et al., in press) and dementia stages (Martin et al., 2008), but also preclinical stages (Marson, 2015; Marson et al., in review; Marson et al., 2015). Furthermore, longitudinal studies have shown detectable declines in financial abilities over one year in patients with mild AD type dementia (Martin et al., 2008) and in persons with MCI who were diagnosed a year later with dementia due to AD (Triebel et al., 2009). These laboratory based assessment studies have advanced our scientific knowledge of how financial skills are lost in preclinical, prodromal, and clinical AD.

Neurocognitive impairment is a defining feature of both MCI and AD (Albert et al., 2011) and is strongly linked to declining financial capacity in these disorders. Prior studies examining financial capacity have used a performance-based measure of financial capacity, the Financial Capacity Instrument (FCI; Marson et al., 2000). Neurocognitive studies of the FCI have demonstrated the role of working memory in patients with AD (Earnst et al., 2001) and visual attention/processing speed and executive functioning in persons with MCI (Okonkwo, Wadley, Griffith, Ball, & Marson, 2006). In a cross-sectional study of neurocognitive predictors of FCI across the dementia spectrum of normal cognitive aging, MCI, and AD, Sherod and colleagues found that written arithmetic performance was the primary predictor of FCI across all groups, while executive functioning and verbal memory were secondary predictors (Sherod et al., 2009).

A limitation of these prior cognitive predictor studies has been their cross-sectional basis. An unexplored research question concerns the neurocognitive predictors associated with longitudinal decline of FCI in persons with MCI and AD. Longitudinal studies can provide invaluable insight into the neurocognitive mechanisms underlying the differential trajectories of financial skill decline in MCI and AD. Identification of neurocognitive predictors can provide clinical guidance to healthcare providers called upon to make decisions regarding patients' capacity to manage finances, and can also facilitate the use of clinical interventions to support the financial abilities of impaired patients (Martin et al., 2012; Schaie, 2005).

The present study examined longitudinal neurocognitive predictors of FCI change over a two-year period in a sample of cognitively normal older controls and persons with MCI. We expected neurocognitive changes to be significantly associated with FCI change. However, due to the exploratory nature of the study, we did not make specific hypotheses about which neurocognitive change scores would emerge as the predictors of FCI change. We included an older control group primarily to serve as a normative reference group for the performance of the MCI group, and secondarily as a preliminary exploration of possible FCI decline over time in cognitively normal elderly. We expected no significant predictors of FCI change in the control group due to lack of prior findings and because we anticipated FCI performance to remain relatively stable over the two-year study period.

METHODS

Participants

Participants in the present study were 66 cognitively normal controls and 49 persons with MCI who completed study assessments at baseline and at two-year follow-up. All participants were community-dwelling older adults recruited into the Alzheimer's Disease Research Center (ADRC) at the University of Alabama at Birmingham (UAB), and who participated in the Cognitive Observations in Seniors study (COINS; 1R01 AG021927). Persons with MCI presented at the UAB Neurology outpatient clinic for a clinical evaluation or volunteered to participate in the study. Cognitively normal controls volunteered to participate in the study.

Participants' diagnostic status was clinically determined by a diagnostic consensus conference team comprised of neuropsychologists and behavioral neurologists. Participants diagnosed with MCI met Winblad/Petersen diagnostic criteria (Winblad et al., 2004) for an MCI diagnosis: (1) subjective cognitive complaint by the patient and/or an informant; (2) objective impairment on at least one cognitive test (1.5 standard deviations or more below appropriate norms); (3) overall preserved general cognitive functioning according to neuropsychological test results; (4) normal functional abilities based patient report and informant ratings on the Forsyth Functional Capacity Form (Okonkwo et al., 2007); and (5) absence of dementia. Most MCI participants (n=48) in the present study were viewed to have amnestic MCI. One participant was viewed to have non-amnestic MCI. However, the presumed etiology of all MCI participants was Alzheimer's disease as determined by the consensus team.

The UAB institutional review board approved all study procedures, and participants provided written informed consent.

Measurement of Financial Capacity

Financial capacity was assessed with the Financial Capacity Instrument (FCI), which is a standardized psychometric performance instrument for assessing financial abilities in older adults (Marson et al., 2000; Marson, 2001). In the FCI, financial capacity is conceptualized into specific tasks, broader domains, and global scores (summation of domain level scores). In the present study we used FCI global score 1–7 which includes the first seven "core"

domains of the FCI: basic monetary skills, financial conceptual knowledge, cash transactions, checkbook management, bank statement management, financial judgment, and bill payment skills.

Neuropsychological Assessment

Participants completed a standardized neuropsychological test battery that included measures of global cognitive functioning, dementia staging, attention, expressive language, memory, executive functioning, processing speed, arithmetic, and depression. This neuropsychological test battery has been used in previous studies and shown to be sensitive to neurocognitive changes in MCI and AD (Griffith et al., 2003; Martin et al., 2008; Okonkwo et al., 2006; Sherod et al., 2009; Triebel et al., 2009). The battery is described below:

Global Cognitive Functioning

The Mini-Mental State Examination (MMSE) (Folstein, Folstein, & McHugh, 1975) and the total score on the Dementia Rating Scale-2 (DRS-2) (Jurica, Leitten, & Mattis, 2001) are both measures of overall cognitive functioning.

Dementia Staging

The Clinical Dementia Rating (CDR) is a dementia staging measure that evaluates six domains: memory, orientation, judgment and problem solving, community affairs, home and hobbies, and personal care (Morris, 1993). The CDR-Sum of Boxes (CDR-SOB) is calculated by summing the six domains with scores ranging from 0 to 18.

Attention

The Attention subscale of the DRS-2 is a measure of working memory and attention to verbal commands (Jurica et al., 2001). Digit Span is a subtest of the Wechsler Memory Scale-Revised (WMS-R) (Wechsler, 1987) measuring simple auditory attention.

Expressive Language

A short version (30 odd items) of the Boston Naming Test (BNT) (Kaplan, Goodglass, & Weintraub, 1983) is a confrontation naming measure. Animal Naming is a semantic fluency measure in which participants name as many animals as they can within one minute (Spreen & Strauss, 1991).

Memory

The Logical Memory I and II subtests of the WMS-R (Wechsler, 1987) are measures of narrative verbal memory. Participants are read stories and asked to recall them, both immediately and after a delay. The Visual Reproduction I and II subtests of Wechsler Memory Scale-Third Edition (WMS-III) (Wechsler, 1997b) are measures of visual memory. After viewing designs for ten seconds, participants reproduce the designs, both immediately and after a delay. The California Verbal Learning Test-Second Edition (CVLT-II) (Delis, Kramer, Kaplan, & Ober, 2000) is a measure of auditory verbal learning and memory.

Participants are asked to recall a supraspan list of words over five learning trials and after a short and long delay. The total score on the five learning trials was used in this study.

Executive Functioning

Trails B (Reitan & Wolfson, 1993) on the Trail-Making Test and Trails C (Sherod et al., 2009) are measures of executive functioning. The scores obtained were time to completion in seconds. Both trail-making tests measure set-shifting ability, but Trails C is more complex because participants shift between numbers, letters, and dot quantity, whereas Trails B only contains numbers and letters.

Processing Speed

The Digit Symbol Coding subtest of the WAIS-III is a measure of processing speed in which participants write symbols corresponding to numbers as quickly and accurately as possible (Wechsler, 1997a). Trails A on the Trail-Making Test (Reitan & Wolfson, 1993) is a measure of visual attention and processing speed in which participants draw trails connecting numbers as quickly and accurately as possible. The score on Trails A was time to completion in seconds.

Arithmetic

The Wide Range Achievement Test-3rd Edition (WRAT-3) Arithmetic subtest is a timed measure of written arithmetic ability (Wilkinson, 1993). The WRAT-3 Arithmetic subtest specifically measures semantic knowledge abilities of counting, basic arithmetic knowledge, and written computation (Strauss, Sherman, & Spreen, 2006)

Depression

The Geriatric Depression Scale (GDS) (Yesavage, 1983) is a self-report depression measure developed for older adults.

Data and Statistical Analyses

Means and standard deviations or frequency counts were calculated for baseline demographic, cognitive, financial capacity, and other data. A series of independent *t*-tests were conducted to determine if persons with MCI and normal controls differed in age, education, and general cognitive functioning. Chi-square tests were conducted to determine if persons with MCI and normal controls differed in gender and racial distribution. A series of paired t-tests were conducted to determine if group performance at Year 2 was significantly poorer than baseline performance on the FCI and neurocognitive measures. Two-year change scores were then calculated for the measures by subtracting the raw score observed at Year 2 from the raw score observed at baseline. The overall correlation between FCI total score at baseline and at two-year follow-up was $r = .73$. Pearson product moment correlations were used to examine the relationships between baseline FCI score and FCI change score and between FCI change score and demographic variables and neurocognitive change scores. The five variables with the strongest correlations with two-year FCI change scores were used as candidate predictors to construct the predictor model. A maximum of five predictors variables was chosen to meet the criterion of a 10:1 subject to predictor ratio.

The five variables significantly associated with two-year change on the FCI were entered into a stepwise linear regression to develop the longitudinal predictor model. The significance level was set at $p < .05$.

RESULTS

Demographic and Clinical Characteristics of the Study Sample

The baseline demographic and clinical characteristics of the groups are displayed in Table 1. Controls were younger than persons with MCI. There were no significant differences in the composition of gender, race, or education for the two groups. However, there was a trend ($p = .07$) for the control group to have a higher proportion of female participants than the MCI group.

Table 1 also contains mental status and dementia staging results for each group. The control group performed better than the MCI group on MMSE scores, DRS-2 Total Score, CDR dementia stage rating, and CDR-SOB score (all p's $< .001$). There was also a trend for group differences in baseline depression scores on the GDS ($p = .06$) with persons with MCI endorsing a higher number of depressive symptoms than control participants.

Two-Year Change Within Group on FCI and Neurocognitive Measures

Table 2 presents FCI and cognitive test scores across time within group. The control group showed stability over time on the FCI total score and on most neurocognitive measures. For control participants, the following variables demonstrated an improvement between baseline and two-year follow-up: Logical Memory I, Logical Memory II, and Visual Reproduction I. The controls showed a small decline over time on the MMSE.

In contrast, the MCI group showed significant decline on the FCI total score and on 5 of the 16 neurocognitive measures, including DRS-2 total score, MMSE total score, Boston Naming Test, CVLT-II total score, and Trails C.

Correlations between Baseline Demographic and Clinical Variables with FCI Change Score

As discussed, we calculated participants' two-year change scores for FCI total score and then analyzed bivariate correlations between demographic/clinical variables and FCI change scores within group. The correlation between baseline FCI total score and FCI change score was non-significant ($r = -.09$, $p > .05$). For control participants, there was a significant correlation between baseline depression score on the GDS and FCI change score ($r = -.29$, $p = .02$) with higher depression scores being associated with poorer performance on the FCI. No other bivariate correlations between the demographic variables and FCI change scores were significant.

For persons with MCI, there was a significant correlation between education and FCI change score ($r = .32$, $p = .02$) with higher years of education being associated with improved scores on the FCI from baseline to Year 2. There were no other significant bivariate correlations between demographic variables and FCI change score.

Correlations between Neurocognitive Change Scores and FCI Change Score

We also calculated two-year change scores for the neurocognitive test scores. We analyzed bivariate correlations between the neurocognitive change scores and the FCI change score. There were no significant bivariate correlations for controls, so we could not model neurocognitive predictors for that group.

The bivariate correlation matrix between the neurocognitive and FCI change scores for participants with MCI is presented in Table 3. For persons with MCI, the top bivariate neurocognitive change score correlates with FCI change scores were changes in written arithmetic (WRAT-3 Arithmetic change score), $r = .64$, $p < .001$, confrontation naming (Boston Naming Test change score), $r = .47$, $p = .001$, immediate visual memory (WMS-III Visual Reproduction I change score), $r = .45$, $p = .001$, and visual attention/processing speed (Trails A change score), $r = -.42$, $p = .003$. These neurocognitive change score variables were treated as candidate cognitive predictors for the stepwise linear regression analysis.

Neurocognitive Predictor Model of FCI Change Score in the MCI Group

The stepwise linear regression analysis results are summarized in Table 4. We entered education and the top four neurocognitive change score variables into a stepwise linear regression analysis to identify multivariable predictors of FCI decline in persons with MCI. The top five correlates with two-year FCI change scores were Education, Trails A change score, WRAT-3 Arithmetic change score, WMS-III Visual Reproduction I change score, and the Boston Naming Test change score. The overall regression model was significant, $F(3, 45) = 15.15$, $p < 0.001$, and accounted for 50% of the variance in FCI total change scores ($R^2 = 0.50$, adjusted $R^2 = 0.47$).

The analysis also revealed three significant predictors of longitudinal decline in FCI total score: changes in written arithmetic skills (WRAT-3 Arithmetic change score, $p < 0.001$), immediate visual memory (WMS-III Visual Reproduction I change score, $p = 0.01$) and visual attention/processing speed (Trails A change score, $p = 0.047$). The primary predictor was WRAT-3 Arithmetic change score, which accounted for 37.6% of the variance in FCI change scores. WMS-III Visual Reproduction I and Trails A change scores were secondary predictors and accounted for 8% and 4.6%, respectively, of the remaining variance in FCI change scores.

DISCUSSION

The goal of this study was to examine longitudinally the neurocognitive predictors of financial skill decline in a sample of persons with MCI. Specifically, we investigated the relationship between longitudinal changes in specific neurocognitive abilities and in global financial capacity decline represented by FCI total score. Our findings indicated that persons with MCI experience neurocognitive changes over a two-year period that correlate with change in overall financial capacity.

In this study, our main finding was that changes in written arithmetic knowledge, as represented by WRAT-3 Arithmetic, predicted financial skill decline in the MCI group. Two-year change in WRAT-3 Arithmetic scores accounted for 37.6% of MCI group variance in

FCI change score. This finding was consistent with a previous cross-sectional study that found WRAT-3 Arithmetic predicted FCI total score in persons with MCI (as well as in persons with mild AD dementia and in cognitively normal older controls) (Sherod et al., 2009). WRAT-3 Arithmetic measures semantic abilities of counting, basic arithmetic knowledge, and written computation (Strauss, Sherman, & Spreen, 2006). Multiple FCI items require arithmetic skills, such as coin/currency calculations, counting money for a vending machine purchase, calculating a tip, and completing a check register transaction. Thus, it appears that written arithmetic knowledge tested on the WRAT-3 Arithmetic maps closely to the specific arithmetic knowledge demands of multiple FCI test items, tasks, and domains.

It is well known that arithmetic deficits are an early and common feature of patients with Alzheimer's disease (Martin et al., 2003; Martin et al., 2008; Parlato et al., 1992; Rosselli et al., 1998), and are likely beginning to emerge in persons with MCI (Sherod et al., 2009). We note that WRAT-3 Arithmetic did not change significantly at the group level over the two-year period. However, inspection of the data revealed within group variability in performance that reflected the heterogeneity of the MCI sample. A strong correlation emerged between the change in FCI score and the change in WRAT-3 Arithmetic score, which supported WRAT-3 Arithmetic change score as the primary model predictor. Thus, the majority of individuals with MCI who experience declines in arithmetic skills also appear to experience declines in financial capacity.

Secondary neurocognitive predictors of FCI decline in persons with MCI were WMS-III Visual Reproduction I and Trails A change scores, respectively. WMS-III Visual Reproduction I is a measure of immediate visuospatial memory and construction skills (Lezak, 2004). With respect to Visual Reproduction I, many of the financial skills measured by the FCI depend on the ability to remember visual information. An example of an FCI and real-world financial activity that utilizes visual recall involves placing the correct amount in the check register after writing a check. In contrast, Trails A measures visuomotor processing speed (Lezak, 2004). The association with FCI change score likely reflects psychomotor slowing and the need for persons with MCI to take more time to complete everyday financial tasks such as calculating a tip, making complex financial decisions, and paying bills. One of the initial indicators of financial skill decline in persons with MCI may be an increased time to complete financial tasks.

There were several study limitations. First, the study's cognitive predictor model was linked to task demand characteristics of the FCI, which is a psychometric measure that approximates aspects of financial capacity construct. Second, the laboratory setting for FCI administration may not fully replicate participants' performance of financial activities in the real world. Third, the current study was limited to two years of follow-up. Longer periods of observation will be needed to better understand how well neurocognitive functioning predicts financial capacity loss in MCI. Lastly, the current study examined only global financial capacity and not specific financial tasks and domains. Future studies might examine longitudinal neurocognitive predictors of specific financial tasks and domains.

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CLINICAL IMPLICATIONS

- Clinicians should consider neurocognitive abilities of written arithmetic, visual memory, and processing speed as potential indicators of financial skill decline in persons with MCI.
- The majority of individuals with MCI who experience declines in written arithmetic skills also appear to experience declines in financial capacity during the study period of two years.

Table 1

Demographic and Clinical Characteristics of Study Participants By Group

Variable	Conrols (*N*=66)	MCI (*N*=48)	p-value	d
Age in years, Mean (SD)	66.3 (8.6)	71.4 (6.4)	< .001	.67
Gender, n (%)			.07	
Female	42 (63.6)	23 (46.9)		.34
Male	24 (36.4)	26 (53.1)		.04
Race, n (%)			.49	
White	57 (86.4)	40 (81.6)		.20
African American	9 (13.6)	9 (18.4)		.00
Education	15.1 (2.4)	14.7 (3.3)	.43	.14
CDR-global, n(%)			< .001	
0.0	65 (98.5)	2 (4.1)		.90
0.5	1 (1.5)	32 (65.3)		.67
1.0	0 (0.0)	15 (30.6)		.69
CDR sum of boxes	0.01 (0.1)	1.6 (8.2)	< .001	.27

Note. CDR=Clinical Dementia Rating Scales; d= Cohen's d.

Table 2

FCI and Cognitive Test Scores of Controls and Persons with MCI at Baseline and Year 2

		Controls n=66				MCI n=49			
Variable	**Range**	**Baseline**	**Year 2**	**t, p**	**d**	**Baseline**	**Year 2**	**t, p**	**d**
Financial Capacity									
FCI total score	0–285	225.8 (9.7)	226.0 (8.4)	.2, .856	.02	207.9 (26.7)	201.4 (28.6)	3.5, .001	.23
Global Cognition									
DRS-2 total score	0–144	139.0 (3.3)	139.4 (3.0)	.9, .356	.13	131.1 (7.4)	127.1 (8.8)	4.5, <.001	.49
MMSE	0–30	29.6 (0.8)	29.3 (1.0)	2.0, .046	.33	27.6 (1.9)	26.5 (2.8)	2.9, .005	.45
CDR-sum of boxes	0–18	0.0 (0.1)	0.0 (0.1)	.8, .418	.00	1.6 (0.8)	2.9 (1.8)	6.1, <.001	.95
Attention									
DRS-2 Attention	0–37	36.1 (1.1)	35.9 (1.2)	1.6, .109	.17	35.4 (1.6)	35.3 (1.4)	.4, .866	.03
Digit Span Forward	0–12	9.0 (1.7)	8.9 (1.8)	.2, .869	.06	7.5 (1.6)	7.7 (2.1)	.2, .714	.07
Digit Span Backward	0–12	7.0 (1.8)	7.2 (1.9)	.7, .497	.11	5.7 (2.1)	5.8 (1.9)	.1, .920	.02
Expressive Language									
Animal Naming	0–1+	21.2 (4.9)	21.4 (4.4)	.4, .710	.04	15.7 (4.0)	15.6 (4.6)	.4, .711	.04
Boston Naming Test	0–30	27.9 (1.8)	28.3 (1.5)	1.8, .082	.24	25.2 (4.8)	23.7 (5.8)	3.2, .002	.29
Verbal Memory									
CVLT-II Total	0–80	47.0 (8.4)	48.3 (8.8)	1.3, .191	.15	29.8 (7.5)	27.4 (7.3)	2.5, .015	.32
Logical Memory I	0–50	27.2 (5.0)	28.8 (4.6)	2.5, .014	.33	16.1 (6.9)	14.7 (8.3)	1.5, .138	.19
Logical Memory II	0–50	23.6 (5.0)	26.3 (5.1)	4.5, <.001	.53	8.6 (7.6)	8.4 (8.7)	.4, .728	.03
Visual Memory									
Visual Reproduction I	0–41	76.6 (13.1)	80.1 (12.0)	2.5, .016	.28	58.7 (15.6)	55.0 (19.0)	1.7, .094	.21
Visual Reproduction II	0–41	54.1 (18.2)	56.9 (17.0)	1.3, .231	.16	19.7 (18.6)	19.1 (20.7)	.3, .771	.04
Executive Functioning									
Trails B	0–300	73.0 (18.5)	72.7 (23.8)	.1, .921	.14	131.3 (71.7)	134.2 (76.8)	.6, .491	.09
Trails C	0–360	74.2 (24.7)	70.0 (22.9)	1.5, .135	.18	155.6 (102.0)	201.2 (108.5)	4.3, <.001	.52
Processing Speed									
Digit Symbol Coding	0–133	64.3 (14.1)	64.3 (12.8)	.0, .987	.00	46.7 (17.2)	45.6 (16.8)	1.1, .260	.06
Trails A	0–180	30.9 (9.3)	28.9 (9.4)	2.0, .055	.21	46.2 (23.2)	41.8 (20.0)	.3, .779	.04

		Controls n=66				MCI n=49			
Variable	**Range**	**Baseline**	**Year 2**	**t, p**	**d**	**Baseline**	**Year 2**	**t, p**	**d**
Arithmetic									
WRAT-3 Arithmetic	0–55	41.2 (4.7)	41.6 (4.8)	1.2, .252	.08	38.8 (5.6)	38.5 (5.2)	.2, .856	.01
Depression									
GDS	0–30	5.2 (4.8)	3.9 (1.1)	2.8, .007	.37	7.0 (5.0)	6.1 (4.7)	1.5, .143	.19

Note. Values for Baseline and Year 2 are mean (*SD*). p values for *t*-test analyzing differences from Baseline to Year 2 for each group; d = Cohen's *d;* CVLT-II=California Verbal Learning Test; DRS=Dementia Rating Scale; FCI=Financial Capacity Instrument; GDS =Geriatric Depression Scale; WRAT-3=Wide Range Achievement Test.

Table 3

Correlations between FCI Change Score and Neurocognitive Change Scores for Persons with MCI

	FCI	ATT	DSF	DSB	ANIM	BNT	CVLT	LM I	LM II	VR I	VR II	TR A	TR B	TR C	COD	ARIT	GDS
FCI	—																
ATT	.02	—															
DSF	.01	.22	—														
DSB	.12	.01	.02	—													
ANIM	.41**	.18	.02	.14	—												
BNT	.47**	.25	.04	.07	.28*	—											
CVLT	.25	.30*	.01	.07	.23	.30*	—										
LM I	.23	.46**	.22	.05	.18	.33*	.23	—									
LM II	.19	.48**	.22	.09	−.03	.26	.09	.68**	—								
VR I	.45**	.04	.14	.10	−.21	−.10	.17	.24	.36*	—							
VR II	.01	.24	.04	.01	−.08	−.03	−.10	.51**	.59**	.36*	—						
TR A	−.42**	.16	.00	.09	−.17	−.14	−.13	.04	.07	.03	−.09	—					
TR B	.09	.18	.03	.02	.05	−.29*	−.16	−.12	−.22	−.26	−.08	.28	—				
TR C	.08	.08	.08	.15	.01	−.05	.09	−.07	−.14	−.18	−.06	.14	.11	—			
COD	.40**	.08	.14	.01	.07	−.05	−.07	−.22	−.14	−.12	−.02	−.24	−.19	.08	—		
ARIT	.64**	.04	.13	.01	.09	.42**	.24	.30*	.33*	.21	.08	.03	−.28	−.11	.19	—	
GDS	.01	.37*	.13	.18	.16	−.02	−.11	−.21	−.07	.01	−.20	.22	.18	.14	.04	−.18	—

Note.

* = $p < .05$;

** = $p < .001$;

ATT= DRS-2 Attention; DSF= Digit Span Forward; DSB= Digit Span Backward; ANIM= Animal Naming; BNT= Boston Naming Test; LM I & II= Logical Memory I & II; VR I & II= Visual Reproduction I & II; TR A, B, & C= Trails A, B, & C; COD=Digit Symbol Coding; ARIT=WRAT-3 Arithmetic; GDS=Geriatric Depression Scale.

Table 4

Neurocognitive Predictor Model of Financial Capacity Decline in MCI Group

Step	F	df	*p*	Cum R^2	SEE	β (SE)
1 **WRAT-3 Arithmetic CS** **Constant**	28.35	48	<0.001	0.36	14.88	 3.26 (0.61) 7.70 (2.13)
2 **WRAT-3 Arithmetic CS** **Visual Reproduction I CS** **Constant**	19.29	48	0.001	0.43	14.05	 2.81 (0.60) 0.37 (0.14) 6.32 (2.08)
3 **WRAT-3 Arithmetic CS** **Visual Reproduction I CS** **Trails A CS** **Constant**	15.15	48	0.001	0.47	13.58	 2.48 (0.61) 0.35 (0.14) −0.16 (0.08) 6.15 (2.02)

Note. CS= Change Score; Cum R^2 = cumulative adjusted R^2; SEE = standard error of the estimate of the regression model; β = unstandardized beta weights; SE = standard error of coefficient