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Predicting Response to Cognitive Speed of Processing Training with Measures of Self-Efficacy

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Abstract

Objective—Self-efficacy represents one possible avenue through which cognitive interventions may enhance cognitive functioning in older adults (e.g., Payne et al., 2012; Seeman, McAvay, Merrill, Albert, & Rodin, 1996). In the current study, we examined whether self-efficacy serves as a predictor of responsiveness to cognitive speed of processing training (SOPT).

Method—We used data from the Staying Keen in Later Life (SKILL) study and the Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study. Both studies assessed cognitive speed of processing (Useful Field of View Test – UFOV) and self-efficacy and randomized community-dwelling older adults into either SOPT or control conditions. The SKILL study included 228 older adults and the ACTIVE study included 1,400 adults in either speed of processing training or control conditions. We constructed regression models examining self-efficacy as a predictor of training responsiveness.

Results—Regression analysis from both studies indicated that participants' self-efficacy scores were not predictive of training gains from SOPT, as measured by UFOV performance.

Discussion—Self-efficacy does not affect an older adults' ability to benefit from process-based cognitive SOPT.

Keywords

cognitive training; speed of processing; self-efficacy; older adults

In light of the current population trends toward longevity, it is important to consider whether cognitive decline can be reversed or delayed through cognitive interventions. Past research has established that older adults can improve their cognitive abilities through interventions that target memory, reasoning, and speed of processing, as well as other domains (Ball et al., 2002; Edwards et al., 2005; Mozolic, Long, Morgan, Rawley-Payne, & Laurienti, 2011; O'Hara et al., 2007; Willis et al., 2006). However, little is known about how these interventions achieve improvements in the cognitive abilities of older adults or how individual characteristics are associated with responsiveness to such interventions. Of particular relevance to cognitive interventions are self-efficacy beliefs, since perceived self-

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efficacy or inefficacy about one's cognitive abilities could influence an individual's engagement and effort during cognitive intervention. In these analyses, we investigated whether self-efficacy serves as a predictor of responsiveness to cognitive speed of processing training (SOPT).

Self-Efficacy

Self-efficacy is an individual's perceived ability to produce and regulate life events (Bandura, 1977, 1989), and is a dynamic concept that results from the interplay of cognitive, social, and behavioral skills working together to serve a specific purpose (Bandura, 1989). Bandura (1977, 1989) posits that the types of activities people engage in, the level of effort they expend, and their emotional response to behavior is influenced by self-efficacy. Increases or decreases in self-efficacy may be causally related to maintenance of cognitive functioning or performance on cognitive tasks (e.g., Seeman et al., 1996; Valentijn et al., 2006).

Self-Efficacy and Cognitive Performance

The strongest relationships between self-efficacy beliefs and cognitive performance have been found with memory tests (G. J. McDougall, 2004; Payne et al., 2012; Rebok & Balcerak, 1989; Seeman et al., 1996). Using data from the MacArthur Research Network on Successful Aging Community Study, Seeman et al. (1996) found that strong baseline instrumental efficacy beliefs predicted better verbal memory performance at follow-up among men, but not women. Similarly, Valentijn et al. (2006) found that memory self-efficacy predicted verbal memory performance, as measured by the Visual Verbal Learning Task, at a follow-up interval of six years.

Intervention studies observing the effect of self-efficacy on responsiveness to training provide further evidence of the relationship between self-efficacy and cognitive performance. The findings from a study of memory training (focusing on organization association, attention, and recall) indicated that individuals with higher self-efficacy scores had better overall performance on word recall and greater increases in memory post-training (West, Bagwell, & Dark-Freudeman, 2008). Similarly, Payne et al. (2012) found that baseline memory self-efficacy beliefs predicted changes in inductive reasoning following reasoning training with basic (e.g., words, letters, and numbers) and everyday series problems (e.g., completing a mail order form or answering questions about a bus schedule). Memory self-efficacy has also been linked to how older adults employ practice materials (e.g., decreased confidence in memory capacity equated to less time using practice materials) and respond to training (Payne et al., 2012). While many authors have focused on the association between self-efficacy and memory training (e.g., Carretti, Borella, Zavagnin, & De Beni, 2011; Payne et al., 2012; West et al., 2008), none have examined its influence on SOPT.

Cognitive Speed of Processing Training

SOPT is a process-specific cognitive training intervention. Process-specific cognitive interventions target basic fluid abilities by requiring perceptual practice of an exercise (Lustig, Shah, Seidler, & Reuter-Lorenz, 2009). SOPT is adaptive in difficulty based upon individual performance, a technique that may be more likely to produce improvements in the cognitive abilities of older adults (Lovden, Backman, Lindenberger, Schaefer, & Schmiedek, 2010; Lustig et al., 2009). SOPT aims to improve the ability for older adults to process complex information in shorter amounts of time (Ball, Edwards, & Ross, 2007). Consistent evidence among older adults indicates that cognitive speed of processing declines associated with aging can be reversed, delayed, or slowed through SOPT (Ball, Beard, Roenker, Miller, & Griggs, 1988; Ball et al., 2007; Willis et al., 2006). SOPT also protects against mobility declines (Ball et al., 2002; Edwards, Myers, et al., 2009), decreases the likelihood of developing depressive symptoms (Wolinsky et al., 2009), and improves performance efficiency for everyday functions necessary for individuals to remain independent (e.g., instrumental activities of daily living; IADL) (Ball, Edwards, Ross, & McGwin, 2010; Edwards et al., 2002; Edwards et al., 2005; Roenker, Cissell, Ball, Wadley, & Edwards, 2003). However, there are individual differences in the effectiveness of SOPT, suggesting that factors other than initial cognitive ability and preexisting health conditions may moderate the gains experienced by older adults (Unverzagt et al., 2007).

Hypothesis

In these secondary data analyses, data from the Staying Keen in Later Life (SKILL) study and Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study, both of which randomized community-dwelling older adults into either a SOPT or control group, were examined to test the hypothesis that baseline self-efficacy beliefs would serve as a predictor of responsiveness to SOPT. Although most cross-sectional studies provide support for a hypothesized relationship between self-efficacy beliefs and better cognitive performance, no study has examined whether gains from SOPT are modified by self-efficacy. On the basis of earlier studies, we predicted that individuals with stronger self-efficacy beliefs will benefit more from SOPT.

Study 1: Staying Keen in Later Life (SKILL)

Method Participants

Participants included for analyses were obtained from the SKILL study, which randomized 228 community-dwelling older adults to training or an active control condition. Participants were recruited through community organizations and advertisements in community newspapers in the greater areas surrounding both Western Kentucky University and the University of Alabama at Birmingham (Edwards et al., 2005). In addition, older adults in Alabama received letters inviting them to participate. Lastly, participants from past research studies conducted at both sites were contacted and invited to participate, and were also asked to refer others for potential participation (Edwards et al., 2005).

Eligibility for participation in this study was based on the following criteria: Mini-Mental State Examination (MMSE) score of 23 or higher, at least a fifth grade literacy level, a far visual acuity score of 20/80 or better, and combined Useful Field of View (UFOV) subtest 3 and 4 score ≥ 800 or a subtest 2 score ≥ 150 (for further details, see Edwards et al., 2005). These criteria were chosen to ensure participants could view testing and training stimuli, and potentially benefit from the intervention. The SKILL study initially screened 1,131 adults between the ages of 62 and 94 for participation. From this screened sample, 305 were eligible for training based on the aforementioned inclusion criteria; 77 refused to continue with the study largely due to time demands required for participation. Thus, 228 participants were randomized to training. Additional information on participant recruitment and sample characteristics of the SKILL study have been described elsewhere (Clay et al., 2009; Edwards et al., 2005).

The mean age of the 228 participants was 75.23 years (*SD* = 5.96, age range: 63–96 years), with a majority of participants being female (57.5%) and Caucasian (82%). The average years of education for included participants was 13.67 (*SD* = 2.60). Descriptive characteristics of the study sample are summarized in Table 1 by training condition.

Measures

Inclusion measures and assessments of self-efficacy and cognitive speed of processing were selected for data analyses. Further details and rationalization for the measures chosen for the SKILL study can be found elsewhere (Wood et al., 2004).

Mental status—The MMSE was used to assess mental status and diminish the likelihood of including participants with dementia. The MMSE is a staff-administered cognitive measure that assesses memory, attention, language, and orientation (Folstein, Folstein, & McHugh, 1975). Scores range from zero to thirty, with higher scores indicating better performance. Scores of 23 or higher were required for inclusion in the study.

Far visual acuity—Far visual acuity was measured using a standard Lighthouse Early Treatment Diabetic Retinopathy Study (ETDRS) chart and evaluated based on the traditional Snellen method with the participant’s available correction, if any (Good-Lite, 2010). All participants were required to demonstrate a Snellen acuity of 20/80 or better, when standing at a distance from the chart of ten feet, for inclusion. Scores were assigned based on the ACTIVE method (Jobe et al., 2001), which credits each letter correctly identified by the participant, and ranges between 0 and 90 with higher scores representing better far visual acuity.

Self-efficacy—Self-efficacy was measured using a four-point Likert scale with a total efficacy score created by summing the responses in each of the following eight domains: health, transportation, relationships with family, relationships with friends, living arrangements, finance, safety, and productivity. Participants rated each item from *strongly agree* (1) to *strongly disagree* (4), with lower scores representing greater self-efficacy and possible aggregate scores ranging between eight and 32 (Rodin & McAvay, 1992).

Speed of processing—The UFOV test was used to measure cognitive speed of processing. The touch PC version of the test was administered to participants. Four subtests were included to evaluate the participants' speed of processing under increasing cognitive demand at each subsequent subtest. Targets in each subtest were displayed from 16.67 to 500 ms in duration and scores represented the display durations at which participants accurately performed each subtest 75% of the time (Edwards et al., 2005). The first subtest required participants to identify a central target (a car or truck) presented at a fixation point in the center of the screen. The second subtest required participants to identify both the central target and a simultaneously presented peripheral target (only a car). The third subtest repeats the second subtest with the addition of visual distractors. The fourth subtest presents two center targets and the participant must indicate whether these targets are identical or different. The reliability and validity of UFOV scores obtained from PC versions of the test are sufficient for use with older adults (Edwards et al., 2005). Participants needed to exhibit a speed of processing deficit (combined UFOV subtests 3 and 4 score ≥ 800 or a subtest 2 score ≥ 150), allowing for potential improvement with training, for inclusion in the study (for further details, see Edwards et al., 2005). A composite score of performance across subtests was used in analyses as is standard practice.

Procedure

Participants eligible for training were randomly assigned to a SOPT group ($n = 120$) or a social contact-control group, which received internet training ($n = 108$). Participants completed the training in groups of two or three persons and were led by a trainer in brief discussions and computer exercises. Over six weeks, participants completed ten training sessions which were one hour in duration (Edwards et al., 2005). Immediately following either training condition, cognitive abilities were reassessed for all participants.

Regression analysis was used to test the association of self-efficacy at baseline with responsiveness to SOPT. The primary outcome of SOPT is UFOV performance. As an indicator of responsiveness to SOPT, we computed the difference in UFOV composite scores between baseline and post-test (Ball et al., 2007). Thus, training condition, self-efficacy, and an interaction between these conditions were examined as indicators of change in UFOV from pre- to post-training. All analyses were performed using IBM SPSS Statistics Version 20.

Results

Two hundred and eleven participants completed training and post-test. There were 17 participants not included in analysis due to drop out and one participant did not complete UFOV at post-test. Participants ($N = 210$) who had no missing data for their baseline self-efficacy or UFOV scores were included in analyses. Approximately seventy-two percent of participants completed all ten training sessions. On average, participants in both training conditions completed 9.3 sessions.

To examine if there were any baseline differences between the control and SOPT conditions in self-efficacy, UFOV baseline score, age, education level, MMSE score, or far visual acuity, the groups were compared utilizing a Multivariate Analysis of Variance (MANOVA).

The MANOVA revealed no significant differences between the two groups across baseline measures, Wilks' Λ = .003, $F(5, 222) < 1$, $p = .978$. A Chi-square test of independence was conducted to analyze potential differences in gender or race between the two training groups at baseline. Results showed that the groups did not differ in gender, $\chi^2 (1, N = 228) < 1$, $p = .989$, or race, $\chi^2 (2, N = 228) = 3.454$, $p = .178$.

Results of the regression analyses are presented in Table 2. In both models, the dependent variable was responsiveness to SOPT as modeled by the change in pre- to post-test UFOV scores. In the base model (Model 1), only training condition (SOPT vs. control) was entered as an independent variable, $R^2 = .344$, $F(1, 208) = 108.839$, $p < .001$. In this model, training group was a significant predictor of responsiveness to SOPT, $\beta = -.586$, $p < .001$, indicating that UFOV improves following SOPT. In Model 2, two additional independent variables, baseline self-efficacy and an interaction term between baseline self-efficacy and training condition, were added to the base model. A significant interaction was expected to show that participants with high self-efficacy scores in the SOPT group would experience the greatest gains from training. Results indicated, however, that the addition of self-efficacy and the self-efficacy by training group interaction did not reliably improve the model, $R^2 = .346$, $F(3, 206) = .463$, $p = .630$. This pattern of results suggests that approximately a third of the variability in responsiveness to SOPT is predicted by training group assignment. Baseline self-efficacy and the interaction between self-efficacy and training group do not significantly contribute to participants' responsiveness to SOPT.

Study 2: Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE)

Method

Participants—Participants included for analyses were obtained from the ACTIVE study, which included 2,802 non-institutionalized older adults in training. Participants were recruited from six different field sites: the University of Alabama at Birmingham, the Hebrew Rehabilitation Center for Aged in Boston, Indiana University, John Hopkins University, Pennsylvania State University, and Wayne State University (Jobe et al., 2001). The strategies employed for recruitment varied by site, and included the use of on-site presentations, newspaper advertisements, letters, and follow-up phone calls for interested older adults (Jobe et al., 2001).

Inclusion for participation in this study were based on the following criteria: a Mini-Mental State Examination (MMSE) score of 23 or higher, the ability to perform activities of daily living (ADLs), visual acuity score of 20/70 or better, no present medical conditions preventing completion of all phases of the trial, no recent cognitive training, and availability to complete all testing and training phases of the study (for further details see, Ball et al., 2002). The aforementioned criteria were chosen to ensure ability to participate in training interventions and potentially benefit from the study. The ACTIVE study initially randomized 2,832 individuals between the ages of 65 and 94 for participation into three training groups (memory training, reasoning training, and speed training) and one control group (Jobe et al., 2001). For the purpose of this study, 1,400 participants included in the speed training (*n* = 702) and the control (*n* = 698) groups were used for analysis.

The mean age of the 1,400 included participants was 73.73 years (*SD* = 5.92, 65–94 years), a majority of participants were female (75.1%) and Caucasian (73.1%). The average years of education for included participants was 13.51 (*SD* = 2.70). From these groups attrition of participants was due to death, withdrawal from study, and incompletion of assessments, providing a final sample for analysis comprised of 1,383 participants (Jobe et al., 2001). Descriptive characteristics of the study sample are summarized in Table 3 by training condition.

Measures—Inclusion measures and assessments of self-efficacy and cognitive speed of processing were selected for data analyses. Further details and rationalization for the measures chosen for the ACTIVE study can be found elsewhere (Jobe et al., 2001).

Mental status: The MMSE was used to assess mental status, and decrease the potential of including participants with substantial declines in cognitive function as described in Study 1. Scores of 24 or higher were required for inclusion in the study.

Far visual acuity: Visual acuity was evaluated as in Study 1. Visual acuity was used to assess the severity of sensory losses which would limit the ability to effectively complete the various study measures (Jobe et al., 2001). All participants were required to demonstrate a Snellen acuity score of 20/50 or better.

Self-efficacy: Self-efficacy was measured using the Personality in Intellectual-Aging Contexts (PIC) inventory. The PIC inventory measures self-assessments of intellectual competence and beliefs about intellectual functioning (Lachman, Baltes, Nesselroade, & Willis, 1982). The PIC inventory examines six dimensions of personality, including locus of control (internal, chance, and powerful others), achievement, anxiety, and morale (Lachman et al., 1982). In efforts to reduce participant burden, the ACTIVE study used a modified version of the PIC inventory, with each personality dimension including six items, which was scored using a six-point Likert scale (Sartori et al., 2012). This study examined the locus of control dimensions of personality due to the focus on the capabilities and attributions about control over intellectual processes for everyday situations provided by the use of these measures (Sartori et al., 2012). Participants rated each item from *strongly agree* (1) to *strongly disagree* (6), with higher scores representing less self-efficacy (Sartori et al., 2012), except for the internal scale, which was reverse scored. A composite score was computed across all three scales.

Speed of processing: Cognitive speed of processing was assessed with the same measure, the UFOV Test, used in Study 1. This is the primary outcome that SOPT is designed to improve (Ball et al., 2007). Unlike Study 1 UFOV difficulties were not inclusion criteria.

Procedure—Participants included individuals randomized to the SOPT group (*n* = 692) or no-contact control group (*n* = 691). Participants completed SOPT in groups of three or four persons as in Study 1. Over six weeks, participants completed ten training sessions which were between sixty to seventy-five minutes in duration (Jobe et al., 2001). Following either condition, cognitive abilities were reassessed for all participants.

As in Study 1, regression analysis was used to test the association of self-efficacy at baseline with responsiveness to SOPT. The outcome of interest was UFOV gain, which was computed by the difference in UFOV scores between baseline and post-test. Independent variables were training group, self-efficacy, and the interaction between training group and self-efficacy. All analyses were performed using IBM SPSS Statistics Version 20.

Results

Baseline differences in self-efficacy, UFOV, age, education, MMSE score, and visual acuity between the control and SOPT conditions for the ACTIVE participants were examined using MANOVA. The MANOVA revealed no significant differences between the two groups across baseline measures, Wilks' $\Lambda = .007$, $F(6, 1356) = 1.657$, $p = .128$. A Chi-square test of independence was examined to analyze potential differences in race or gender between the two conditions at baseline. Results indicated that the groups did not differ in race, χ^2 (4, $N = 1396$) = 3.554, $p = .470$, or gender, χ^2 (1, $N = 1400$) = 1.686, $p = .194$.

Results of the regression analyses are presented in Table 4. Consistent with the analysis from Study 1, the dependent variable in both models was the responsiveness to SOPT as determined by the change in pre- to post-test UFOV scores. In Model 1 (base model), only training condition (SOPT vs. control) was entered as an independent variable, $R^2 = .340$, $F(1, 1236) = 637.77$, $p < .001$. In this model, training group was a significant predictor of responsiveness to SOPT, $\beta = -.583$, $p < .001$, reflecting that UFOV improves following SOPT. In Model 2, baseline self-efficacy and an interaction term between baseline self-efficacy and training condition were added. Although a significant interaction was expected to show that participants with high self-efficacy scores in the SOPT group would experience the greatest gains from training, results indicated that the addition of self-efficacy and the interaction term did not reliably improve the model, $R^2 = .346$, $F(3, 1234) = .323$, $p = .724$. These results suggest that baseline self-efficacy and the interaction between self-efficacy and training group do not significantly contribute to participants' responsiveness to SOPT. Approximately a third of the variability in responsiveness to SOPT is accounted for by training.

Discussion

The present study examined whether responsiveness to SOPT is predicted by baseline self-efficacy among older adults. The results show that baseline self-efficacy was not predictive of responsiveness to SOPT, as measured by changes in pre to post UFOV scores. These results provide no support for the hypothesis that individuals with stronger self-efficacy beliefs at baseline will benefit more from SOPT.

The findings in this study indicate responsiveness to SOPT is not related to the mere perceptual belief of one's abilities. On the other hand, with regard to memory training, higher self-efficacy scores are associated with greater memory training gains (West et al., 2008). Similarly, S. McDougall and House (2012) showed that cognitive self perceptions were related to training gains (Nintendo DS Brain Training) in short term/working memory, but were not associated with training gains in other cognitive abilities. It may be that the influence of self-efficacy on cognitive training gains may vary for different cognitive abilities as well as for strategy versus process-based cognitive training approaches. Verhaeghen (2011) demonstrated that cognitive speed of processing accounted for the majority of variance in complex cognition (including episodic memory, reasoning, and spatial ability), executive function, and short term/working memory among older adults. Thus, cognitive speed of processing could be considered a very basic/core cognitive ability. Process-based training techniques attempt to improve participants' component abilities such that transfer of training may occur (Lustig et al., 2009). Such component abilities may be less likely to be affected by psychological beliefs than complex cognition.

Interestingly, other analyses from ACTIVE examined whether SOPT has the ability to improve participants' self-efficacy (Wolinsky et al., 2010) as indicated by locus of control (Bandura, 1989). Results demonstrated that SOPT resulted in improved internal locus of control (i.e., ability to direct one's own life). Furthermore, SOPT served as a protective factor against substantial decline in chance locus of control (i.e., outside forces controlling one's life) (Wolinsky et al., 2010). Thus, SOPT may enhance self-efficacy, but self-efficacy is unrelated to the ability to benefit from SOPT.

Limitations of the present study should be considered. The results of these analyses are most generalizable to community-dwelling older adults residing in the eastern regions of the United States rather than other geographic regions or facility-based settings. Also, we had limited self-efficacy measures. Finally, in the SKILL study we did not have self-efficacy scores at follow-up. This limited the types of analyses we could conduct. Future research with larger sample sizes and more varied measures of self-efficacy at multiple time points are needed to further determine if there could be bi-directional relationships between self-efficacy and SOPT gains.

While it has been demonstrated elsewhere that self-efficacy predicts participants' ability to perform certain tasks (e.g., physical exercise, memory training) (McAuley et al., 2011; West et al., 2008) there does not appear to be any predictive value when analyzing cognitive gains from SOPT. Ball et al. (2007) examined other predictors of SOPT gains from six different studies. The results showed weak but significant (rs < .17) relationships between training gain and education, mental status, and age. Thus, these factors account for very little variance in SOPT responsiveness. Overall, it remains unclear what moderates gains from SOPT.

Given the value of increased speed of processing in older adults and the transfer potential of SOPT to IADL, including driving, health-related quality of life, and depressive symptoms (Ball et al., 2010; Edwards, Delahunt, & Mahncke, 2009; Edwards et al., 2005; Wolinsky et al., 2006; Wolinsky et al., 2009), future studies analyzing predictors of SOPT responsiveness are worthwhile endeavors to potentially improve the everyday lives of older adults.

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Table 1

Demographic Characteristics of SKILL Study Participants

	Control Group (n = 120)		Speed of Processing Group (n = 108)	
Characteristic	***M* or (*n*)**	***SD* or (%)**	***M* or (*n*)**	***SD* or (%)**
Participant Age (y)	75.01	5.91	75.47	6.03
Sex (Female)	(69)	(57.5)	(62)	(57.4)
Race (Caucasian)	(103)	(85.80)	(84)	(78.5)
Education Completed (y)	13.77	2.71	13.56	2.49
Far Visual Acuity	67.99	14.18	68.12	12.99
MMSE	27.93	1.47	27.91	1.65
Self-Efficacy	15.41	2.85	15.02	3.29

Note. MMSE = Mini-Mental State Examination.

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Table 2

Hierarchical Regression Analysis Results for Variables Predicting Responsiveness to Speed of Processing Training in SKILL Study (N = 228)

Variable	***B* (*SE*)**	**β**
Model 1		
Training Group	−297.55 (28.52)	−.586 *
Model 2		
Training Group	−308.21 (142.25)	−.607 **
Baseline Self-Efficacy	3.09 (14.87)	.038
Training Group * Self-Efficacy	0.84 (9.17)	.029

Note. R^2 = .344 for Model 1; Δ R^2 = .003 for Model 2.

* $p < .001$,

** $p < .05$

Table 3

Demographic Characteristics of ACTIVE Study Participants

	Control Group (*n* = 691)		SOPT Group (*n* = 692)	
Characteristic	***M* or (n)**	***SD* or (%)**	***M* or (n)**	***SD* or (%)**
Participant Age (y)	73.42	5.78	74.05	6.05
Sex (Female)	(538)	(76.6)	(514)	(73.6)
Race (Caucasian)	(522)	(74.6)	(501)	(72.0)
Education Completed (y)	13.65	2.68	13.37	2.71
Visual Acuity	73.20	11.41	72.64	12.12
MMSE	27.43	1.97	27.27	2.00
Self-Efficacy	1.84	14.92	1.87	15.20

Note. MMSE = Mini-Mental State Examination.

Table 4

Hierarchical Regression Analysis Results for Variables Predicting Responsiveness to Speed of Processing Training in ACTIVE Study (N = 1247)

Variable	***B* (*SE*)**	**β**
Model 1		
Training Group	−282.64 (11.19)	−.583*
Model 2		
Training Group	−283.32 (19.04)	−.585*
Baseline Self-Efficacy	0.28 (0.62)	.017
Training Group * Self-Efficacy	0.01 (0.24)	.002

Note. R^2 = .340 for Model 1; Δ R^2 = .000 for Model 2.

* $p < .001$,

** $p < .05$.