Table 1S

Primary Measure	Description
Fraud Detection	Participant's % confidence that an attempt at fraud is actually fraudulent (Higher is better). Participants received text-based vignettes and were asked to rate how confident they were the vignette was an attempt of fraud using 0 - 100 scale (100% confident that the scenarios are a fraud attempt). Each set consist of four fraud attempts, and three parallel sets were generated.
Non-Fraud Detection	Participant's % confidence that a non-fraudulent vignette is actually an attempt at fraud (Lower is better). Participants received text-based vignettes and were asked to rate how confident they were the vignette was an attempt of fraud using 0 - 100 scale (100% confident that the scenarios are a fraud attempt). Each set consist of six non-fraud vignettes, and three parallel sets were generated.
Driving Simulation - Speed	Average speed during driving simulation.
Driving Simulation - Max Brake Compression	Maximum compression of the brake pedal during driving simulation session (0 – 1 point).
Driving Simulation - Lane Position	Standard deviation of lane position from center during driving simulation (deviation from the middle of lane: -1 [left] ~ 1 [right]).
IADL Status (Self Report)	We used a short-form from Multicenter AIDS Cohort Study (MACS), which is a modified version of the Lawton IADL [24]. Items asking difficulties in completing 14 different instrumental activities of daily living. Seven of those activities (housekeeping, managing finances, telephone use, cooking, transportation, shopping, taking medication) were selected and scored on 0 -3 scales (0: no difficulty – 3: severe difficulty) .
Digit Symbol	A pencil and paper based test of processing speed. Participants received 9 digit-symbol pairs followed by lists of random digits. During 90 seconds, participants were asked to write down the corresponding symbol under each digit as fast as possible.
UFOV	A computer-administered test of functional vision and visual attention. The test consists of three subtests measuring processing speed, divided attention, and selective attention. A summed score of the subsets was reported.
Near Transfer - IADL	Three multiple choice questions asking about specific driving knowledge presented in the AARP Driver Safety Course and three multiple choice questions asking about specific knowledge about a type of fraud and how to manage finances presented in the Finances and Fraud education.

Table 2S

Secondary Measure	Description
CPQ (Z-score) (Self Report)	12 items that assess proficiency of 6 different computer related skills (basics, printing, communication, internet, scheduling, & multimedia) on 5-point scale (1 = never tried – 5 = very easily) (Cronbach's α = .87). For each skill, answers for all items were averaged. The averaged scores were then summed across 6 different skills to come up with a total proficiency measure.
MDPQ (Z-score) (Self Report)	16 items that assess proficiency of 8 different mobile device related skills (basics, communication, storage, internet, calendar, entertainment, privacy, & troubleshooting and software management) on 5-point scale (1 = never tried – 5 = very easily) (Cronbach's α = .95). Like CPQ, for each skill, answers for all items were averaged. The averaged scores were then summed across 8 different skills to come up with a total proficiency measure.
Numeracy	7 items that assess numeracy. We used three parallel forms.
Letter Sets (Z-score)	Participants received five of the letter sets and were asked to find the rule which related four of the letter sets to each other and to mark the one which does not fit the rule. Participants received 10 minutes to complete 15 items. We used three parallel sets.
Raven's (Z-score)	Raven's Advanced Progressive Matrices present participants with a complex visual pattern with a piece cut out of it. Participants were asked to find the missing piece that completed the pattern. The full version of the RAPM (36 items) was divided into three parallel sets of approximately equal difficulty. Participants received 20 minutes to complete each set (12 items) at each assessment.
Hopkins (Z-score)	The Hopkins Verbal Learning Test consists of three trials of free-recall of a 12-item, semantically categorized list, followed by a delayed recall trial (20-25 minute delay). During the three trials, participants were instructed to listen carefully as the examiner reads the word list and then were asked to recall as many words as possible. We used three parallel sets. Only delayed recall was used in final analyses.
Rey (Z-score)	The Rey Auditory Verbal Learning Test presented a list of 15 words across five trials and at the end of each presentation participants were asked to recall as many words as possible. After the five trials, a second list of 15 words was presented to the participants and they were asked to recall the words from the second list (trial 6). Immediately following trial 6, the participants were again asked to recall the words from the first list (trial 7). After a 20-minute delay, the participants were asked to recall the words from the first list. We used three parallel sets.
IADL - ATM	The ATM task was a replication of a current operational ATM system and the prescription refill task was a simulation of a local chain pharmacy. The ATM task asked participants to check the balance in their savings account, transfer money between checking and savings accounts, and to withdraw cash from a savings account. Drawn from the University of Miami Computer-

	Based Functional Assessment Battery, which was designed to assess performance on a variety of everyday activities using computer-based simulation.
IADL - Prescription	The prescription task asked participants to call the pharmacy (using a telephone keypad on the screen), refill two different prescriptions, and request a pickup time and date. A rate measure (total correct responses/time) - reflecting task efficiency - was used as a main index. Drawn from the University of Miami Computer-Based Functional Assessment Battery, which was designed to assess performance on a variety of everyday activities using computer-based simulation.

Table 3S

Primary Measure	Baseline-Posttest r	Baseline-Follow up r	Posttest-Follow up r
Fraud Detection	.201** (203)	.321** (174)	.198** (173)
Non-Fraud Detection	.275** (203)	.364** (174)	.264** (173)
Driving Simulation - Speed	.209* (120)	.560** (102)	.526** (94)
Driving Simulation - Max Brake Compression	.022 (120)	.259** (102)	.075 (94)
Driving Simulation - Lane Position	.372* (120)	.572** (102)	.326** (94)
Self-Report IADL Status	.564** (203)	.463** (174)	.411** (173)
Digit Symbol	.848** (202)	.809** (226)	.816** (200)
UFOV	.635** (200)	.629** (226)	.737** (198)

Note. Sample sizes are shown in parentheses. * p < .05, ** p < .01 (2-tailed).

Table 4S

Secondary Measure	Baseline-Posttest r	Baseline-Follow up r	Posttest-Follow up r
CPQ (Z-score)	.905** (202)	.862** (173)	.899** (173)
MDPQ (Z-score)	.904** (202)	.865** (173)	.912** (173)
Numeracy	.734** (202)	.554** (202)	.625** (202)
Letter Sets (Z-score)	.581** (194)	.697** (165)	.654** (171)
Raven's (Z-score)	.582** (195)	.625** (164)	.669** (171)
Hopkins (Z-score)	.581** (202)	.554** (173)	.535** (173)
Rey (Z-score)	.622** (200)	.576** (200)	.606** (198)
IADL - ATM	.602** (200)	.524** (168)	.580** (168)
IADL - Prescription	.068 (199)	.086 (169)	.041 (169)

Note. Sample sizes are shown in parentheses. * p < .05, ** p < .01 (2-tailed).

Table 5S

Primary Measures - Repeated Measures ANOVA Results

| | Baseline – Posttest | | | | | | | | | Baseline – Follow up | | | | | | | | |
| | Intervention x Session | | | Intervention | | | Session | | | Intervention x Session | | | Intervention | | | Session | | |
Primary Measure	F	p	f	F	p	f	F	p	f	F	p	f	F	p	f	F	p	f
Fraud Detection	.86	.46	.11	1.14	.33	.13	.43	.52	.04	2.68	.05*	.22	1.65	.18	.17	.32	.57	.04
Non-Fraud Detection	.96	.41	.12	1.73	.16	.16	3.67	.06	.14	1.50	.22	.16	1.25	.29	.15	.67	.41	.06
Driving Simulation																		
Speed	1.55	.21	.20	1.37	.25	.19	.21	.65	.04	.76	.52	.15	2.25	.09	.26	11.90	.001*	.35
Max Brake Compression	1.52	.21	.20	1.16	.33	.17	7.45	.01*	.25	1.56	.20	.22	1.17	.33	.19	.32	.57	.05
Lane Position	.62	.61	.13	1.74	.16	.21	4.13	.04*	.19	.43	.73	.11	2.03	.12	.25	.32	.57	.05
Self-Report IADL Status	.68	.56	.10	.06	.98	.03	1.51	.22	.09	.16	.93	.05	.99	.40	.14	.22	.64	.03
Digit Symbol	.23	.88	.05	.52	.67	.09	41.43	<.001*	.45	.57	.64	.10	.38	.77	.08	14.25	<.001*	.29
UFOV	1.43	.24	.15	.21	.89	.05	2.93	.09	.12	.84	.47	.12	.43	.73	.09	3.31	.07	.14

Note. Primary measure interactions and main effects for baseline-posttest and baseline-follow up repeated measures ANOVAs. f = Cohen's f. * p < .05

Table 6S

Secondary Measures - Repeated Measures ANOVA Results

| | Baseline – Posttest | | | | | | | | | Baseline – Follow up | | | | | | | | |
| | Intervention x Session | | | Intervention | | | Session | | | Intervention x Session | | | Intervention | | | Session | | |
Secondary Measure	F	p	f	F	p	f	F	p	f	F	p	f	F	p	f	F	p	f
CPQ (Z-score)	1.25	.29	.14	1.05	.37	.13	3.39	.07	.13	1.82	.15	.18	1.88	.13	.18	29.06	<.001*	.42
MDPQ (Z-score)	2.43	.07	.19	.54	.66	.09	.14	.71	.03	2.06	.11	.19	1.01	.39	.14	12.77	<.001*	.28
Numeracy	1.06	.37	.13	.35	.79	.07	.06	.81	<.01	.87	.46	.12	.64	.59	.11	.18	.67	.03
Letter Sets (Z-score)	1.79	.15	.17	.16	.92	.05	14.14	<.001*	.27	2.88	.04*	.23	.34	.80	.08	6.51	.01*	.20
Raven's (Z-score)	.59	.62	.10	.70	.55	.11	.10	.75	.03	.69	.56	.11	.20	.90	.06	.63	.43	.06
Hopkins (Z-score)	1.67	.18	.13	.62	.60	.10	.40	.53	.04	.10	.96	.04	.53	.67	.10	2.61	.11	.12
Rey (Z-score)	.99	.40	.12	1.19	.31	.14	.24	.63	.03	3.64	.01*	.25	1.07	.37	.14	3.42	.07	.14
IADL - ATM	1.59	.19	.16	1.17	.32	.14	10.87	.001*	.24	1.21	.31	.15	1.06	.37	.14	2.51	.12	.12
IADL - Prescription	.31	.82	.07	1.33	.27	.14	6.81	.01*	.19	.80	.49	.12	.77	.51	.12	1.89	.17	.11

Note. Secondary measure interactions and main effects for baseline-posttest and baseline-follow up repeated measures ANOVAs. f = Cohen's f. * p < .05
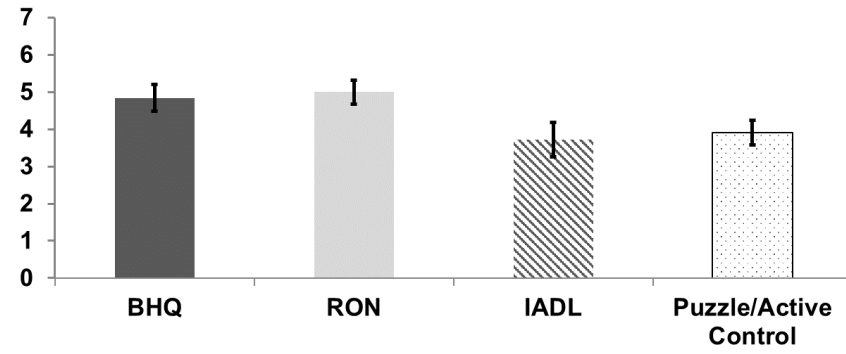
Figure 1S

Perceptions of Training Effectiveness in Various Domains (Error bars: 95% CI)

(a) Vision

(b) Reaction Time

(c) Memory

(d) Hand-Eye Coordination
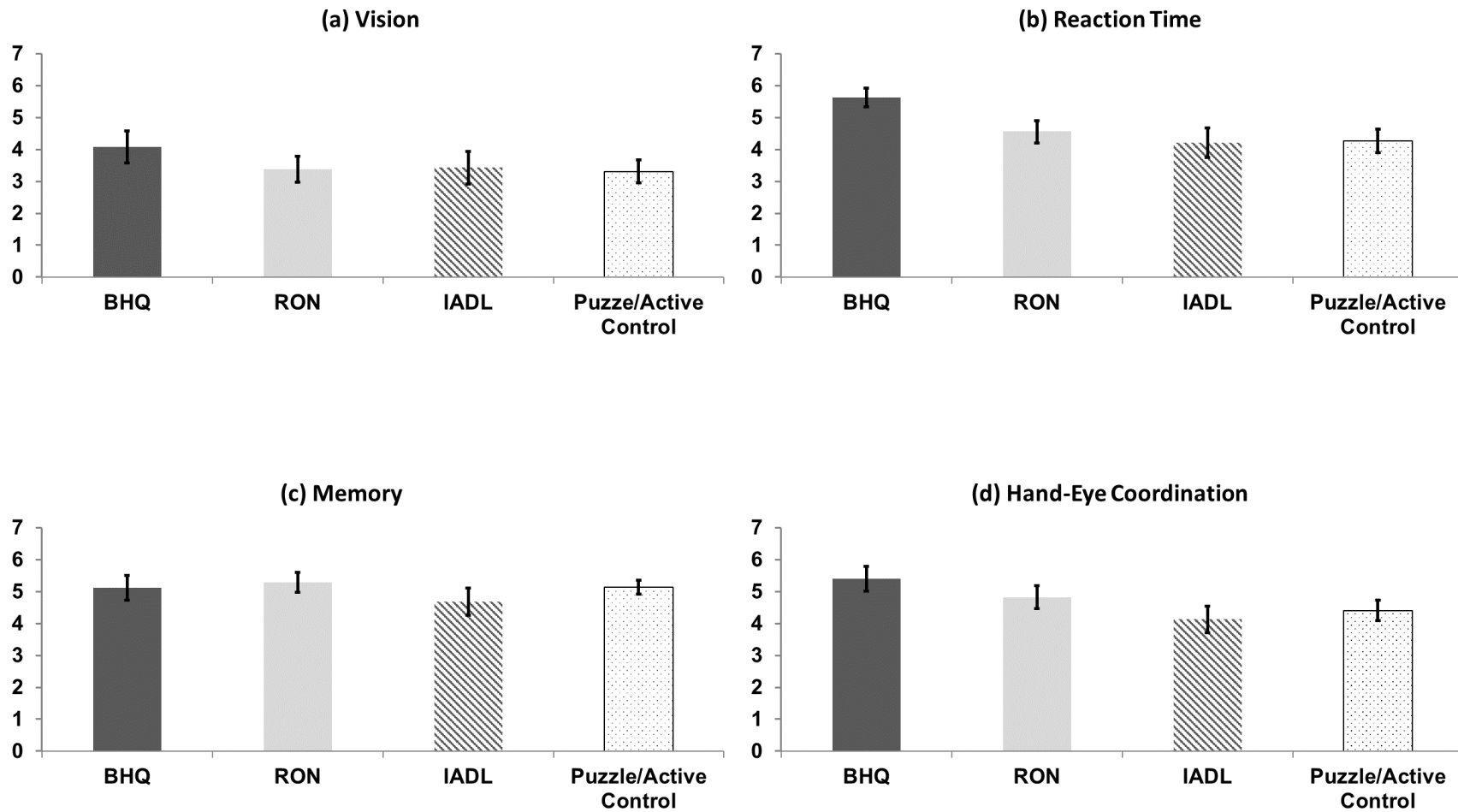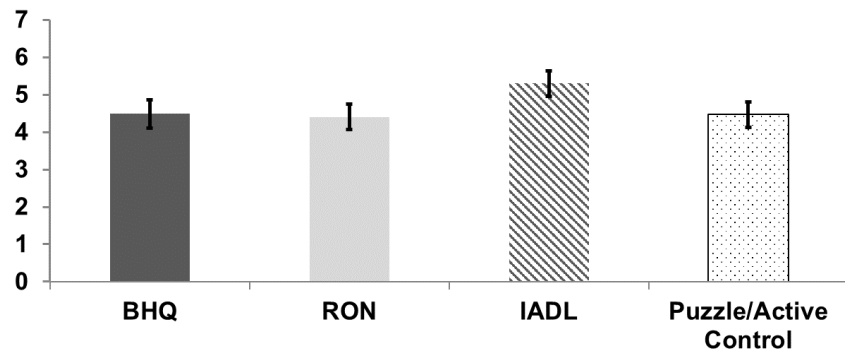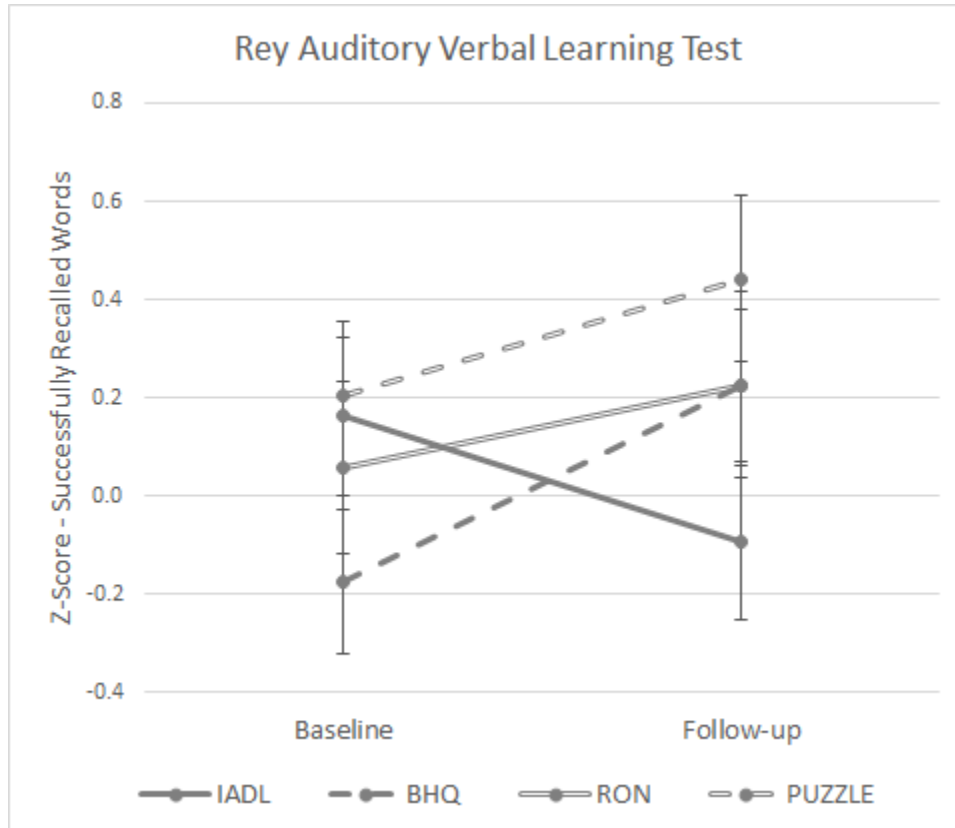
(e) Reasoning
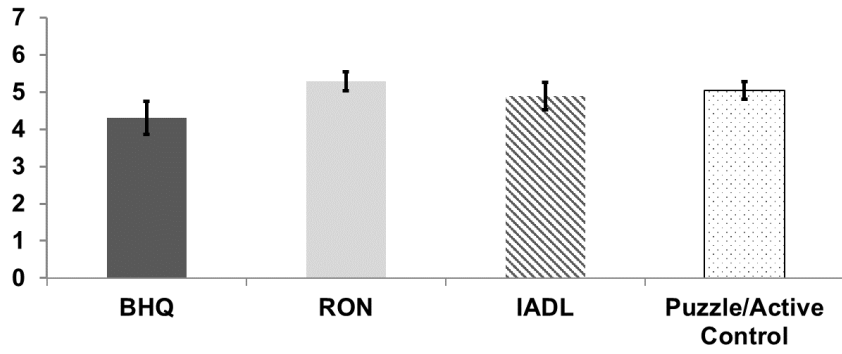
(f) Multi-tasking

(g) IADL

Figure 2S
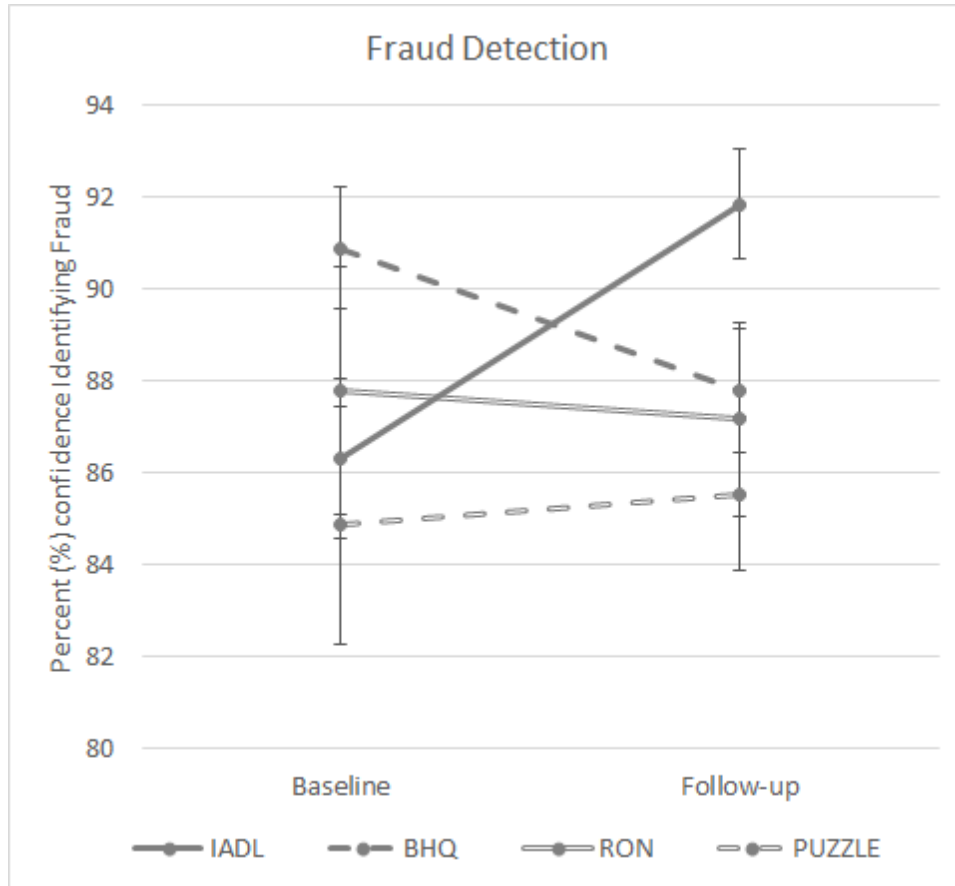
Note. Error bars represent standard error of the mean.

Figure 3S
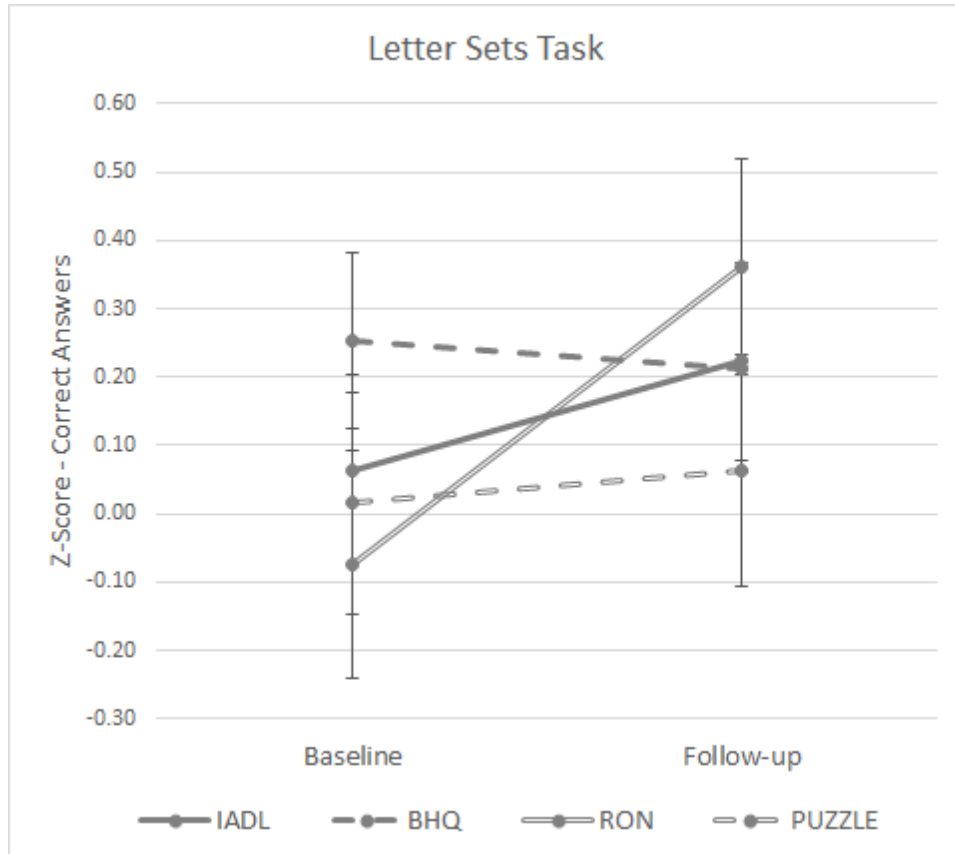
Letter Sets Task

Z-Score - Correct Answers

0.60
0.50
0.40
0.30
0.20
0.10
0.00
-0.10
-0.20
-0.30

Baseline   Follow-up

IADL   BHQ   RON   PUZZLE

Note. Error bars represent standard error of the mean.

Figure 4S

Rey Auditory Verbal Learning Test

Note. Error bars represent standard error of the mean.

Table 7S

IADL Measure Correlations

	1.	2.	3.	4.	5.	6.	7.	8.
1. Self-Reported IADL Difficulty	1							
2. Fraud Detection	-0.096 (237)	1						
3. Non-Fraud Detection	0.039 (237)	0.240* (238)	1					
4. Driving - Speed	0.018 (205)	-0.033 (205)	-0.073 (205)	1				
5. Driving - Brake	0.043 (205)	-0.057 (205)	0.018 (205)	0.670* (205)	1			
6. Driving - Lane Position	0.077 (205)	0.023 (205)	-0.028 (205)	0.658* (205)	0.660* (205)	1		
7. ATM Task	-0.192* (231)	0.172* (231)	-0.175* (231)	0.064 (203)	-0.081 (203)	-0.009 (203)	1	
8. Prescription Task	-0.116 (230)	0.128 (230)	-0.090 (230)	0.098 (203)	-0.065 (203)	-0.016 (203)	0.182* (229)	1

Note. Sample sizes are shown in parentheses. Correlations are measured between task at baseline. * $p < .01$ (2-tailed).