Do Self-Reported Language and Reading Skills Predict Performance on Remote Behavioral Tasks in Adults?

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Remote Adult Language Experiment (ReAL-E)

Goal: Develop an unsupervised remote language assessment tool to identify adults with communication disorders



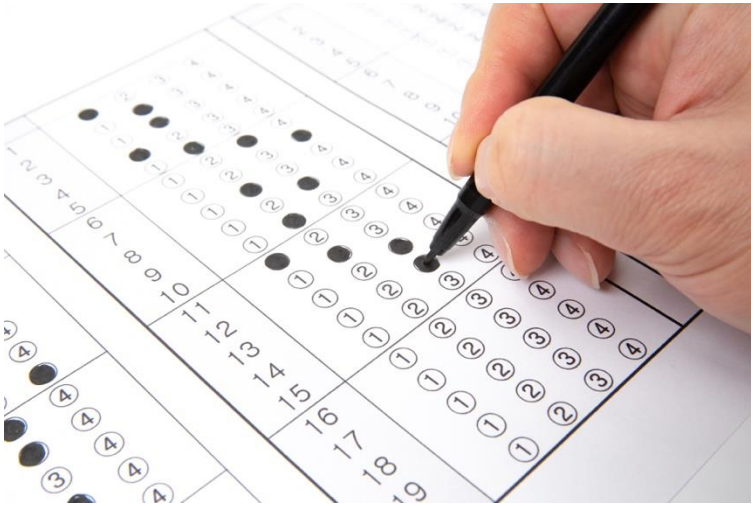
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Why do we need unsupervised remote language testing?

Research	Clinical
• Decreases time investment and reduces staffing needs • Increases sample diversity • Enables large-scale genetics research	• Opens new routes for clinical screening and identification • Expands geographical access to patients • Creates flexible scheduling

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Self-report questionnaires vs. behavioral tasks





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Purpose

- To examine whether self-reported language and reading skills predicts performance on remotely administered behavioral tasks.



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Methods

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Participants

- N = 162
  - 60 Male, 102 Female
  - 114 English Monolingual, 48 Spanish-English Bilingual
  - Mean age: 38.36 (SD=10.83; Range=19-64 years)

- Completed study at home on their personal computers

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Self-Report Questionnaire

- Expressive language questions:
  1. Do people correct your writing because of grammatical errors?
  2. Do you have a hard time figuring out what you want to say or how to say it?
  3. Would you describe yourself as a poor speller?

- Sum score of responses:
  - Likert scale (0 = Rarely to 3 = Very Often)
  - Yes/No (0 = No; 1 = Yes)

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Behavioral Tasks

Speech	Language
1. Diadochokinetic rates*	4. Nonword reading
2. Nonword repetition	5. Word definition
3. Multisyllabic word repetition	6. Following directions
	7. Irregular word spelling

*not examined

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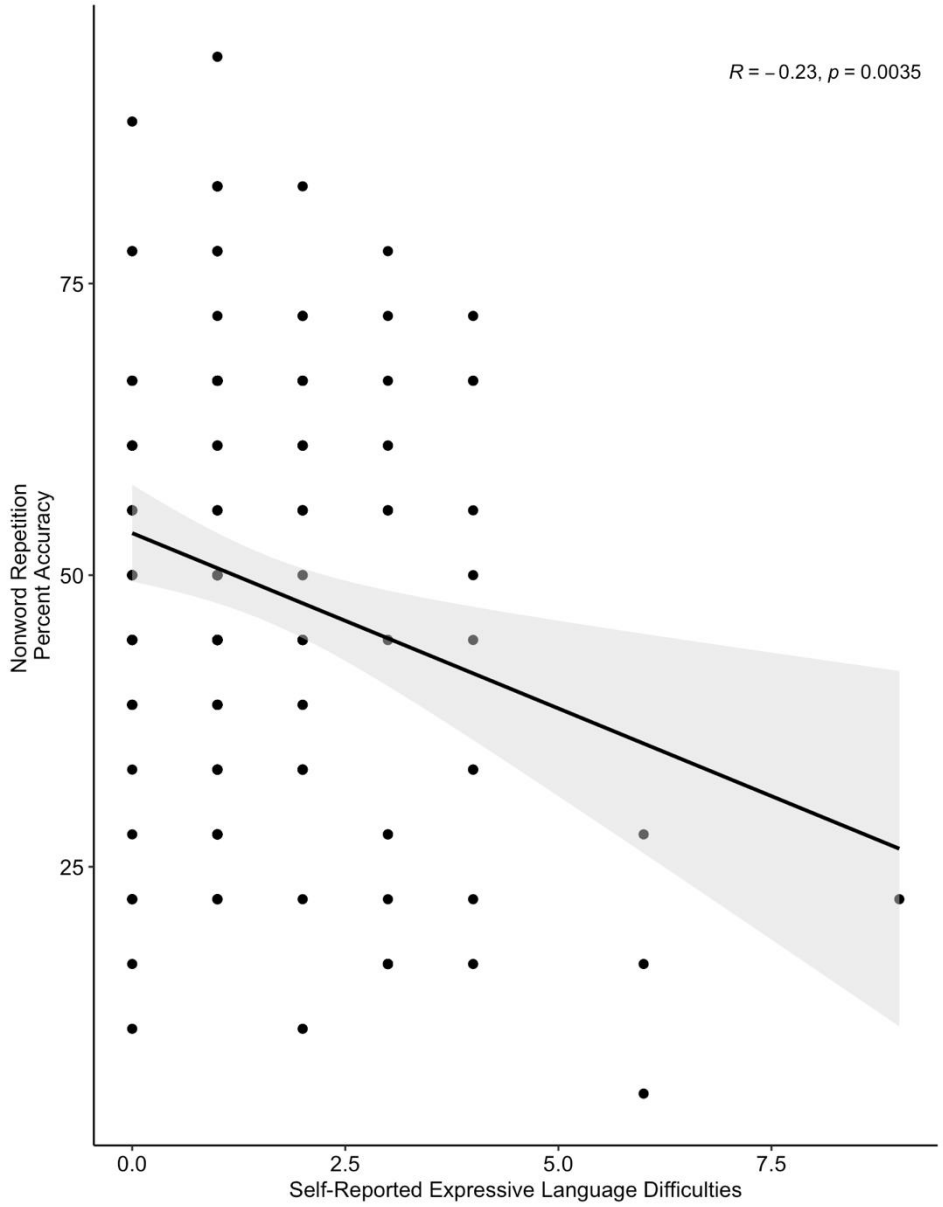
Analysis

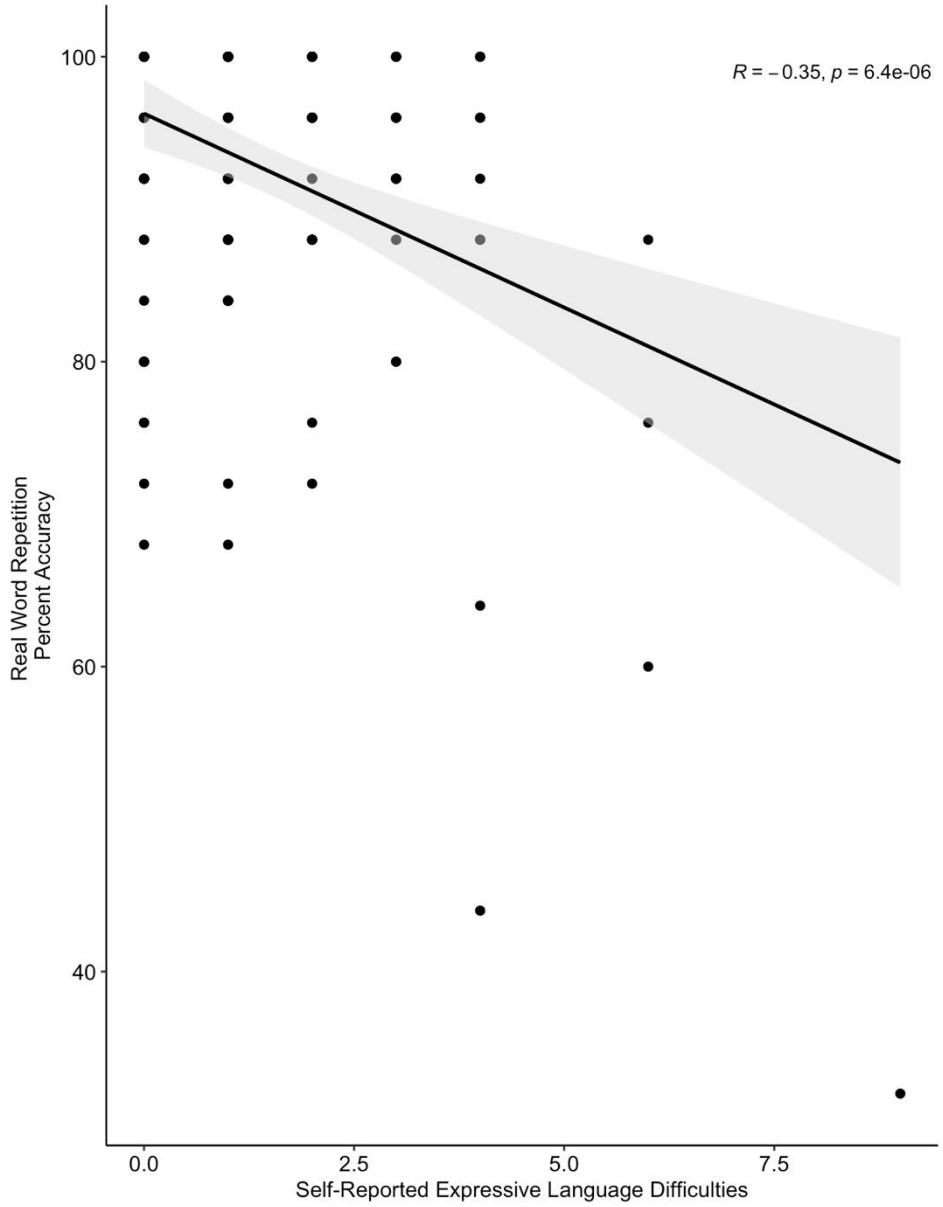
- Linear Regressions:
  - Outcomes: Percent accuracy on each behavioral task
  - Predictor of interest: Self-report expressive language sum score
  - Control variables: Age, language status

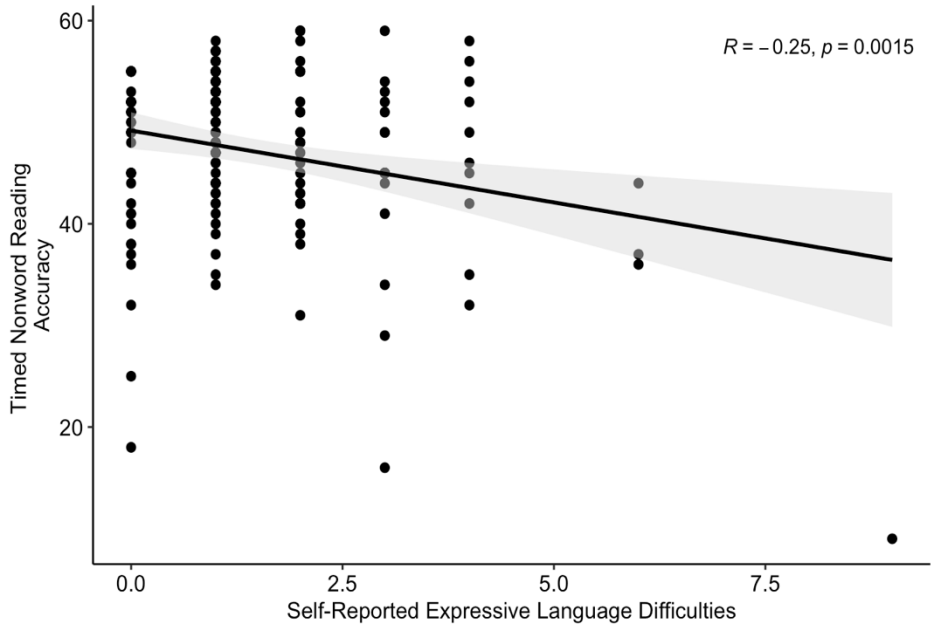
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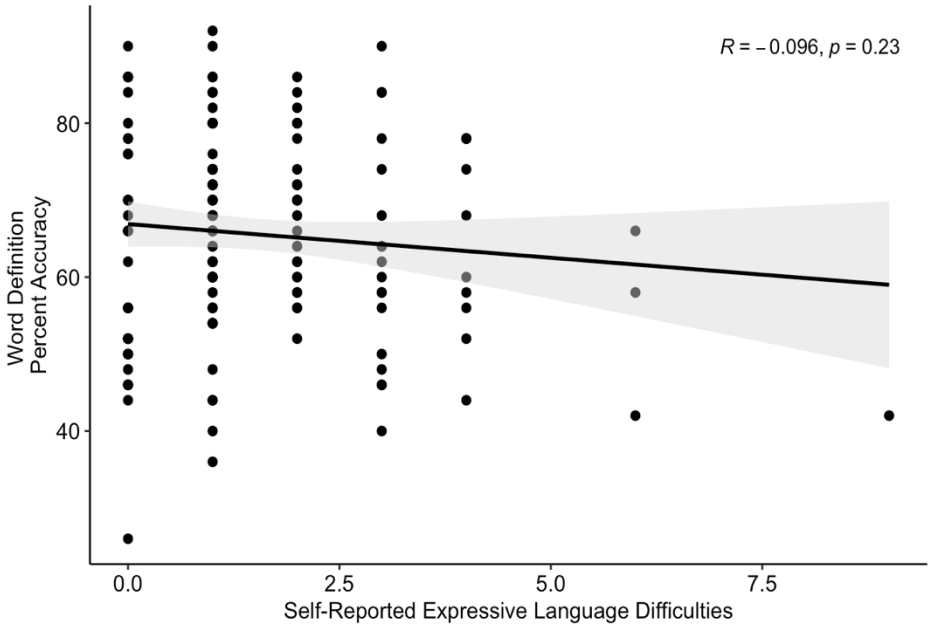
Results

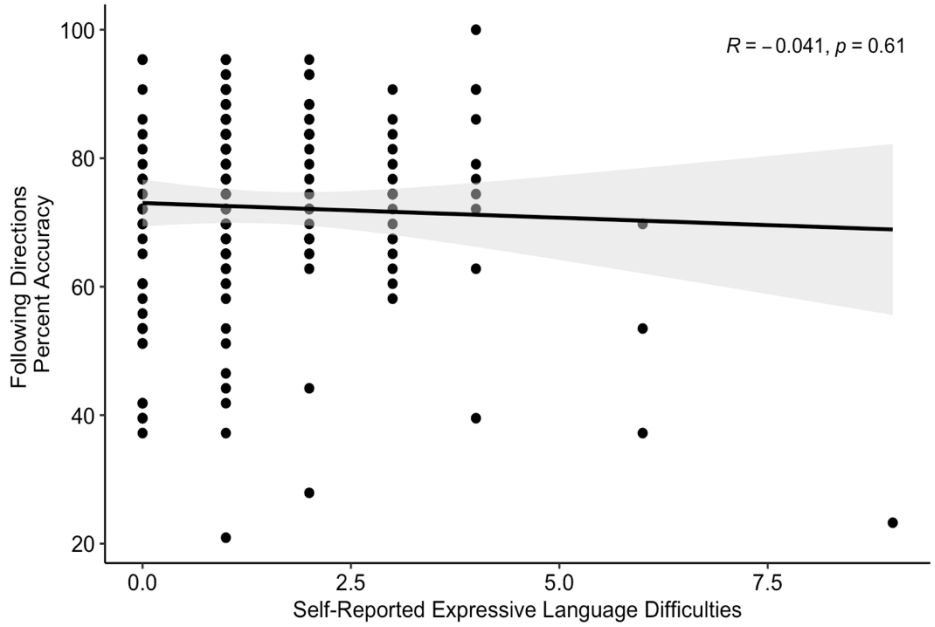
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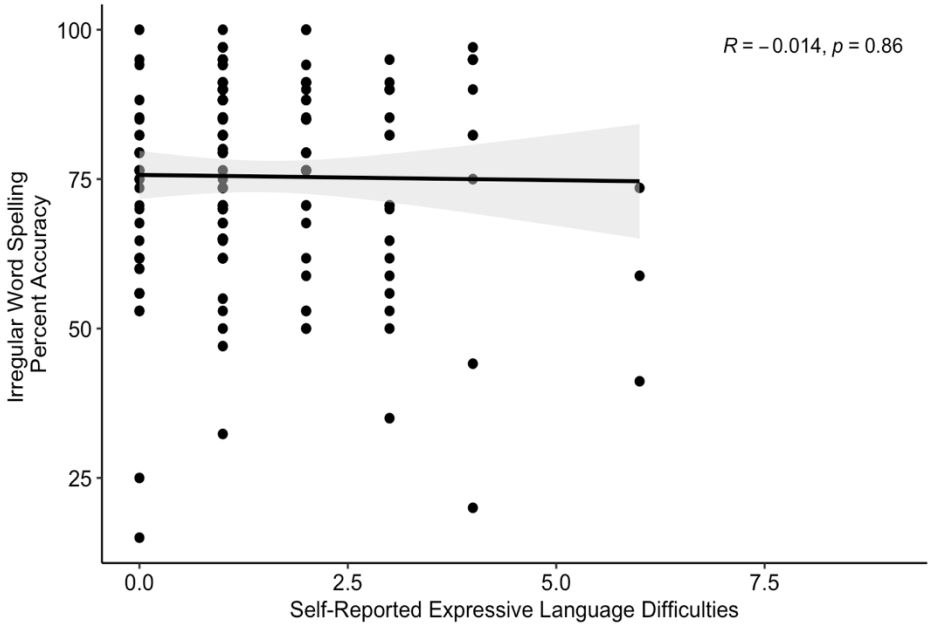

R = −0.23, p = 0.0035
Nonword Repetition
Percent Accuracy
75
50
25
0.0
2.5
5.0
7.5
Self-Reported Expressive Language Difficulties

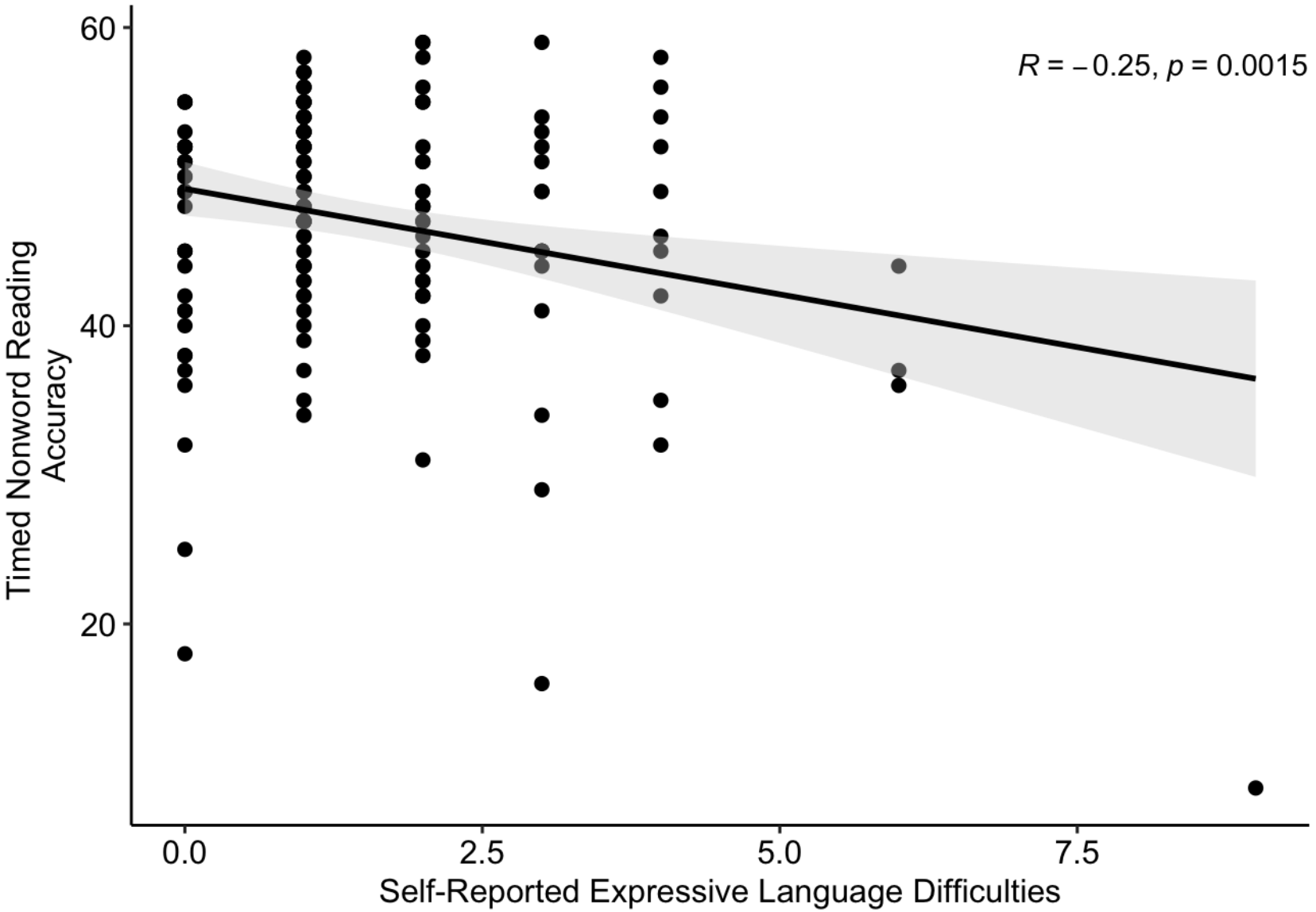

R = −0.35, p = 6.4e-06
Real Word Repetition
Percent Accuracy
100
80
60
40
0.0
2.5
5.0
7.5
Self-Reported Expressive Language Difficulties


R = −0.25, p = 0.0015
Timed Nonword Reading Accuracy
60
40
20
0.0
2.5
5.0
7.5
Self-Reported Expressive Language Difficulties


R = −0.096, p = 0.23
Word Definition Percent Accuracy
80
60
40
0.0
2.5
5.0
7.5
Self-Reported Expressive Language Difficulties


R = −0.041, p = 0.61
Following Directions Percent Accuracy
100
80
60
40
20
0.0
2.5
5.0
7.5
Self-Reported Expressive Language Difficulties


R = −0.014, p = 0.86
Irregular Word Spelling Percent Accuracy
100
75
50
25
0.0
2.5
5.0
7.5
Self-Reported Expressive Language Difficulties



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Discussion

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Conclusion

- Results show that our self-report expressive language questions predict performance on ***three*** remote behavioral tasks.
- Many adults who reported no problems also scored low on these behavioral tasks, indicating a need for refining our questions.

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Thank you!

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