

INTRODUCTION

- Speakers and listeners differ in how quickly they produce and recognize words.
- In both tasks, language users access lexical knowledge [1].
- Speaking and listening are influenced by domain-general skills [2,3].
- Previous studies assessed listening and speaking abilities predominantly in university students.

[1] Schilling et al. (1998). *Memory & Cognition*.
[2] Christopher et al. (2012). *JEP: General*.
[3] Shao et al. (2012). *QJEP*.

RESEARCH QUESTIONS

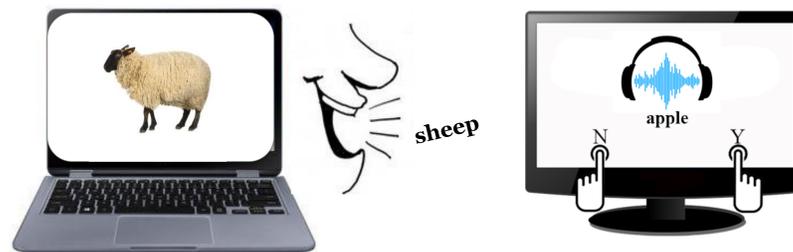
- Using an individual differences approach, we investigated:
 - 1) ...which verbal and non-verbal systems are engaged during word processing
 - 2) ...the relationship between word production and word comprehension performance

METHOD



Participants were recruited from universities (N = 78) and vocational colleges (N = 53) to sample from diverse educational backgrounds.

Individual differences test battery



- Picture Naming (PN)
- Lexical Decision (LD)
- Peabody Picture Vocabulary Test (PPVT)
- Ravens' Advanced Progressive Matrices (IQ)
- Processing Speed tests:
Simple/choice auditory/visual RT,
Letter comparison, DSS

RESULTS

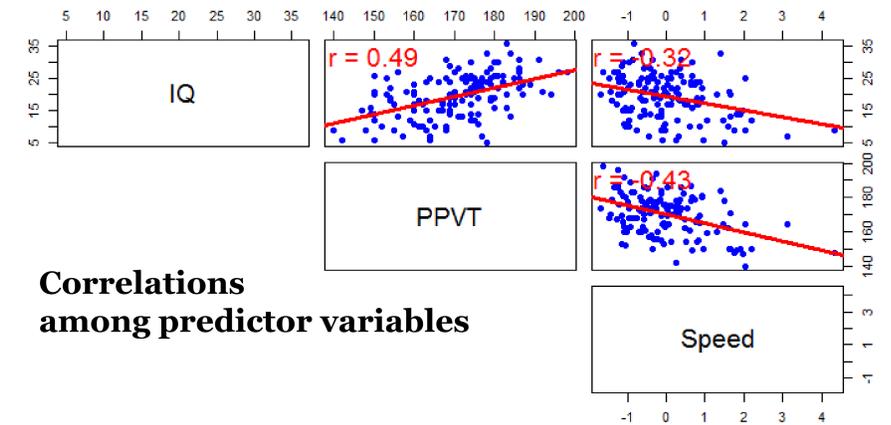
RT outlier removal criterion: 2.5 SD below/above participant mean

Picture Naming – Descriptives

5 items removed due to low name agreement
Mean = 810 ms (SD = 120)
Min = 574, Max = 1210, Range = 636

Lexical Decision – Descriptives

Mean = 972 ms (SD = 115)
Min = 764, Max = 1370, Range = 606



Correlations among predictor variables

Linear mixed-effects model ~ Picture Naming

Only **Processing Speed** predicted naming latencies ($\beta = 40.99$, $SE = 9.48$, $t = 4.32$).

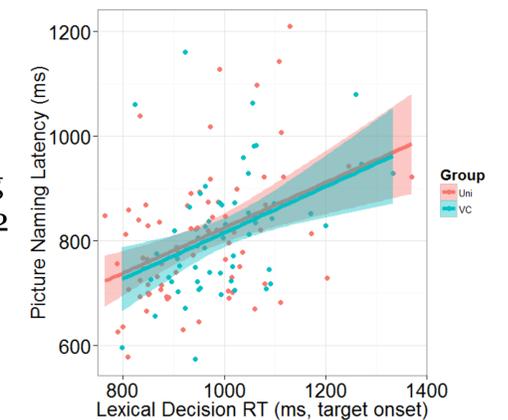
Linear mixed-effects model ~ Lexical Decision

Processing speed ($\beta = 50.8$, $SE = 6.96$, $t = 7.3$) and **IQ** ($\beta = 18.82$, $SE = 7.0$, $t = 2.69$) predicted lexical decision times.

Correlation between latencies and RTs:

$r = 0.41$

Controlling for Processing Speed, IQ, PPVT: $r = 0.32$



DISCUSSION

- As expected, predictor variables correlated moderately.
- Processing Speed contributed to explaining variance in PN and LD performance.
- Partial correlation suggests involvement of domain-specific skills (lexical access) in PN and LD.