London Second Language Acquisition Research Forum (L-SLARF): PhD Conference 2025

University of Reading

Thinking fast, speaking smoother: The Role of Recognition and Recall Knowledge of Adjective–Noun Collocations in L2 Oral Fluency

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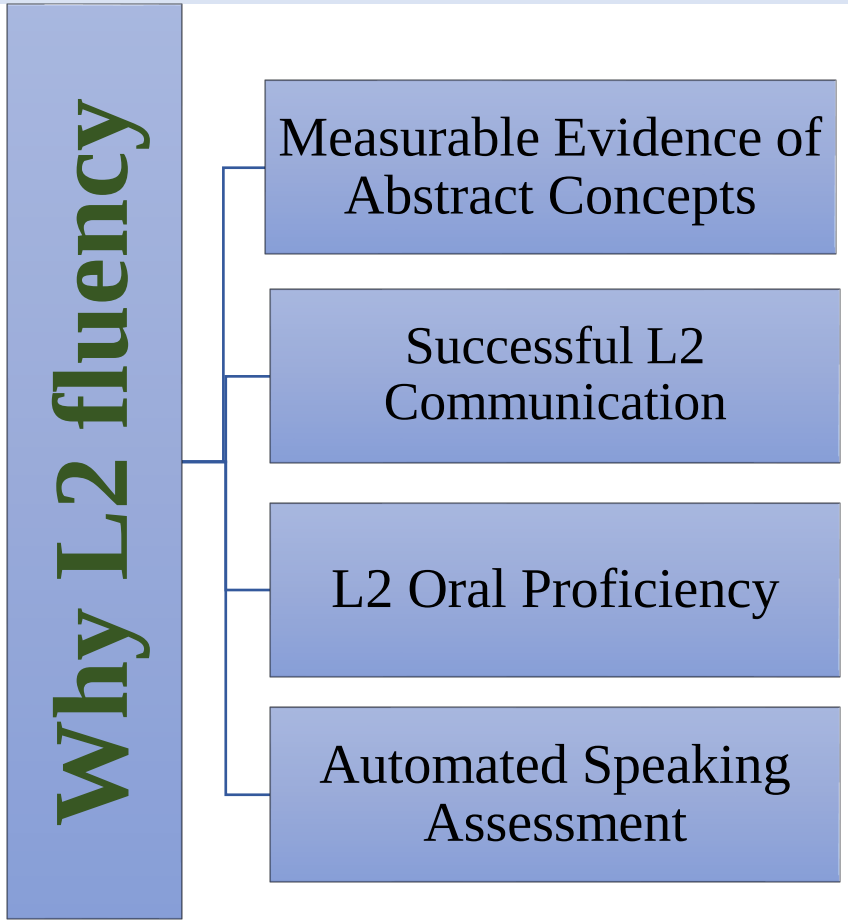
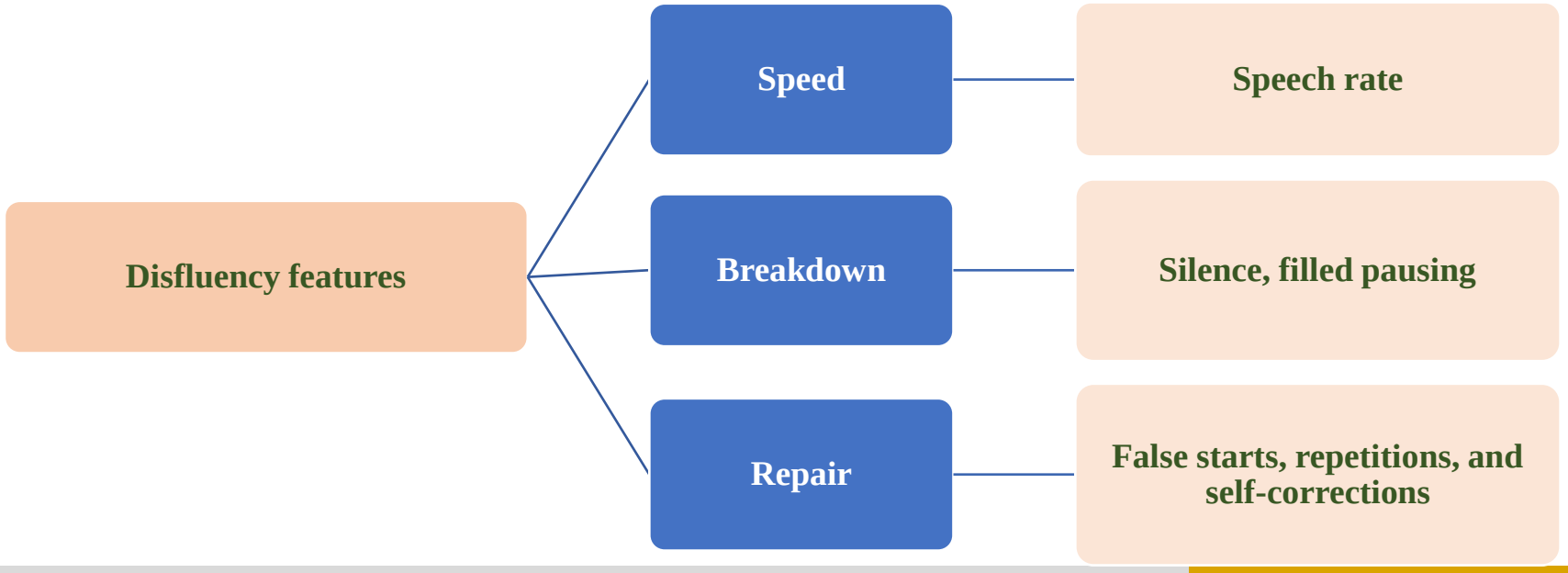
Background: L2 oral fluency



- **Oral fluency refers to the fluid, smooth, and automatic delivery of speech**

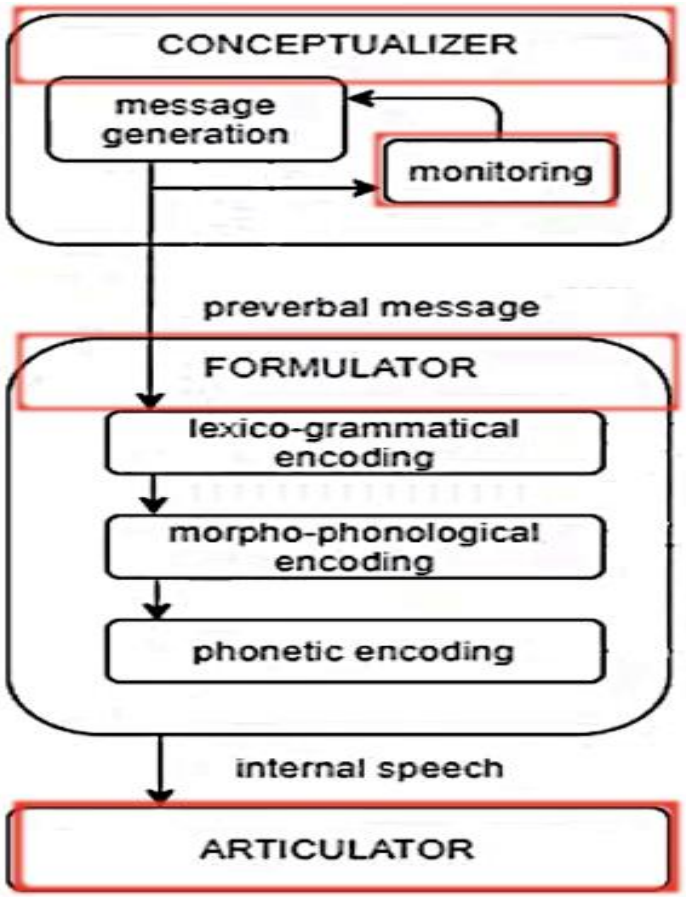
Background: Disfluency features

- People speak at **different speeds**, **pause** in various ways, and use **filled pauses** differently
- This can be the case in one's L1 as well as L2 (de Jong et al., 2015)
- However, disfluency features are more likely to be found in L2 speakers



(Skehan, 2003; Tavakoli & Skehan, 2005)

Background: Why do these disfluency features occur in L2 speech production?



In L1

- L1 speakers' mental lexicon (linguistic repertoire) is large, rich in collocational links and easily accessed

✓ **Incremental**
✓ **Parallel**
✓ **Automatic**

In L2

- L2 speakers' mental lexicon (linguistic repertoire) is still limited, less rich in collocational links and not easily accessed (Kormos, 2011).

✓ **Incremental**
✓ **Serial**
✓ **Controlled**

(Levelt's (1989) model of speech production)

Background: Empirical Research

- **Large repertoire** and **fast access** to **vocabulary and grammar** knowledge significantly contribute to **oral fluency**

  De Jong et al., (2013); Kahng (2020); Segalowitz & Freed (2004); Suzuki & Kormos (2022)

- **Knowledge of L2 collocations** significantly contribute to **oral fluency**

  Koizumi & In'nami (2013) Uchihara et al. (2021) Kahng (2020)

- There is limited research on how L2 learners' collocation processing relates to oral fluency, despite evidence that collocations are processed and produced faster than novel pairs (Sonbul, 2015; Wolter & Gyllstad, 2011). **However, this relationship remains largely unexamined, especially with both recognition and recall processing—a gap the present study addresses.**

Aim of the study

The overarching aim of this study is to investigate the extent to which L2 collocation knowledge—operationalized at two levels (recognition and recall) and measured in terms of both accuracy and processing speed—contributes to different aspects of UF, including speed, breakdown, repair, and composite measures.

Research Questions

RQ1: To what extent does **L2 collocation recognition speed**, as measured by **RT in the AJT**, relate to **UF** in terms of **speed, breakdown, repair, and composite measures** elicited through narrative tasks?

RQ2: To what extent does **L2 collocation recall speed**, as measured by **RT in the ColloPro test**, relate to **UF** in terms of **speed, breakdown, repair, and composite measures** elicited through narrative tasks?

Methodology: Study design

A quantitative predictive correlational design

Dependent Variables (7)

Speed fluency

- Articulation rate (AR)

Breakdown fluency

- Frequency of mid / end-clause silent pauses (FMCP/ FECP)
- Length of mid / end- clause silent pauses (LMCP/ LECP)

Repair fluency

- Total repair (TR)

Composite fluency

- Speech rate (SR)

Independent Variables

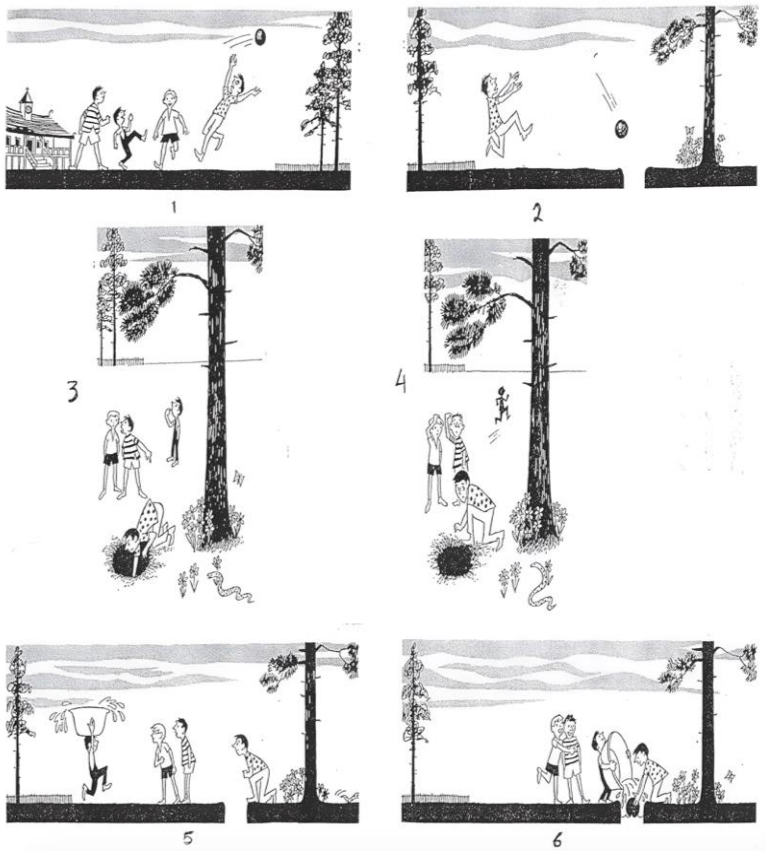
Collocation Recognition Speed

Collocation Recall Speed

Methodology: Data Collection

75 L1 Arabic-speaking learners of English

Completed two narrative tasks

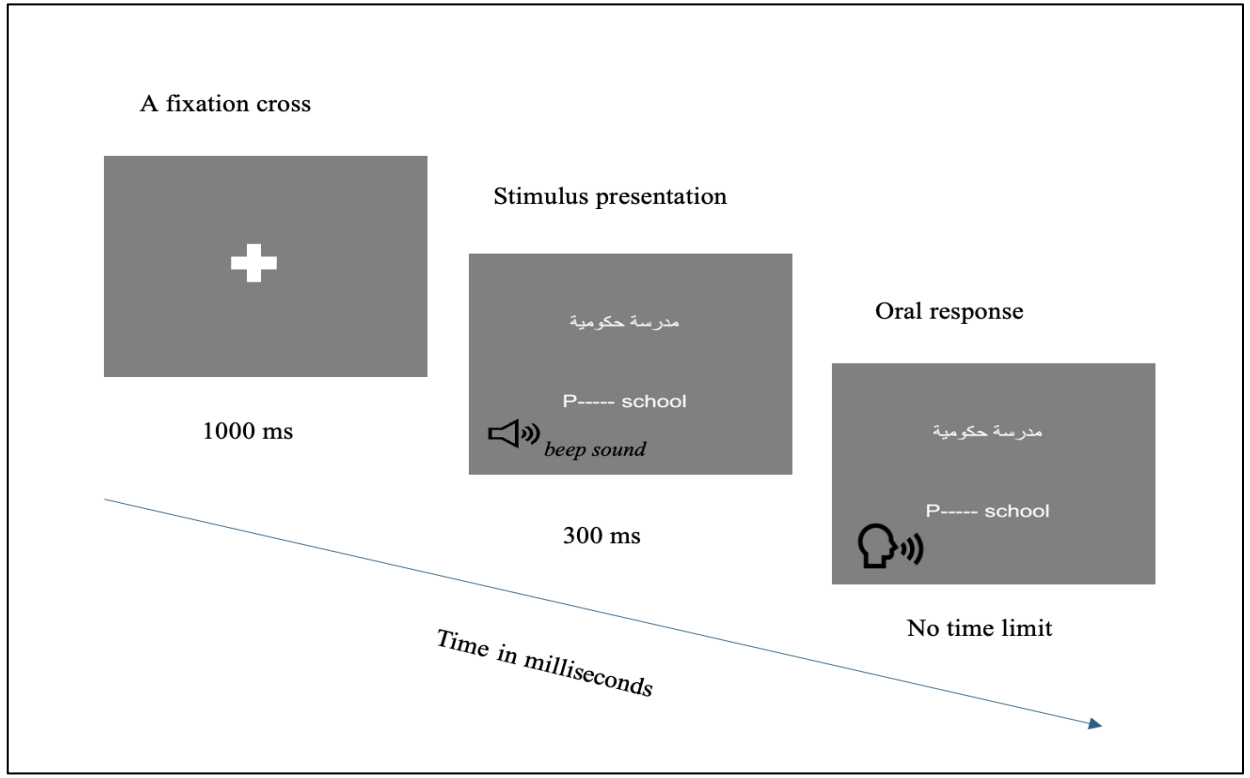


Methodology: Data Collection

A recall test

Collocation Processing Test (ColloPro)

A recognition test
Acceptability Judgment Task (AJT)



- Thirty **adjective–noun collocations** were selected using a **frequency-based approach**.
- The tasks were designed and administered using PsychoPy.
- Participants first completed the **recall test**, followed by the **recognition task**.
- Both tasks measured **accuracy** and **reaction times (RTs)**.
- In **ColloPro**, participants orally produced the missing parts of the 30 collocations.
- In the **AJT**, participants were randomly assigned to **List 1** or **List 2** (15 collocations and 15 control items each) and judged whether each word pair formed an acceptable collocation

✅ Data Analysis

- **150 narrative performances (2 × 75 participants)** were transcribed, annotated in PRAAT, and coded for **speed, pauses, and repair features**.

- **AJT task:** RTs were recorded automatically using PsychoPy (correct responses only; **930**).

- **ColloPro test:** Oral responses were transcribed, coded for accuracy, and annotated for RTs (correct responses only; **912**).

✅ RT Data Cleaning

1. Outliers

- Removed RTs < **300 ms** (no responses met this criterion).
- Removed RTs > **+3 SD** from each participant's mean
  - AJT: **2 out of 930** trials (**0.22%**)
  - ColloPro: **14 out of 912** trials (**1.54%**)

2. Accuracy Criterion

- Participants with **≤ 20% accuracy** were excluded
  - AJT: **0 participants excluded**
  - ColloPro: **11 out of 75 participants** (**14.67%**)

3. Transformation

- Log-transformed using the natural logarithm (ln).

☑ Pre- and Post-Regression Checks

Assumption checks showed some violations
(normality + heteroscedasticity)

All regressions were re-estimated
using **robust HC3 standard errors**

Multiple-comparisons correction applied (Bonferroni)

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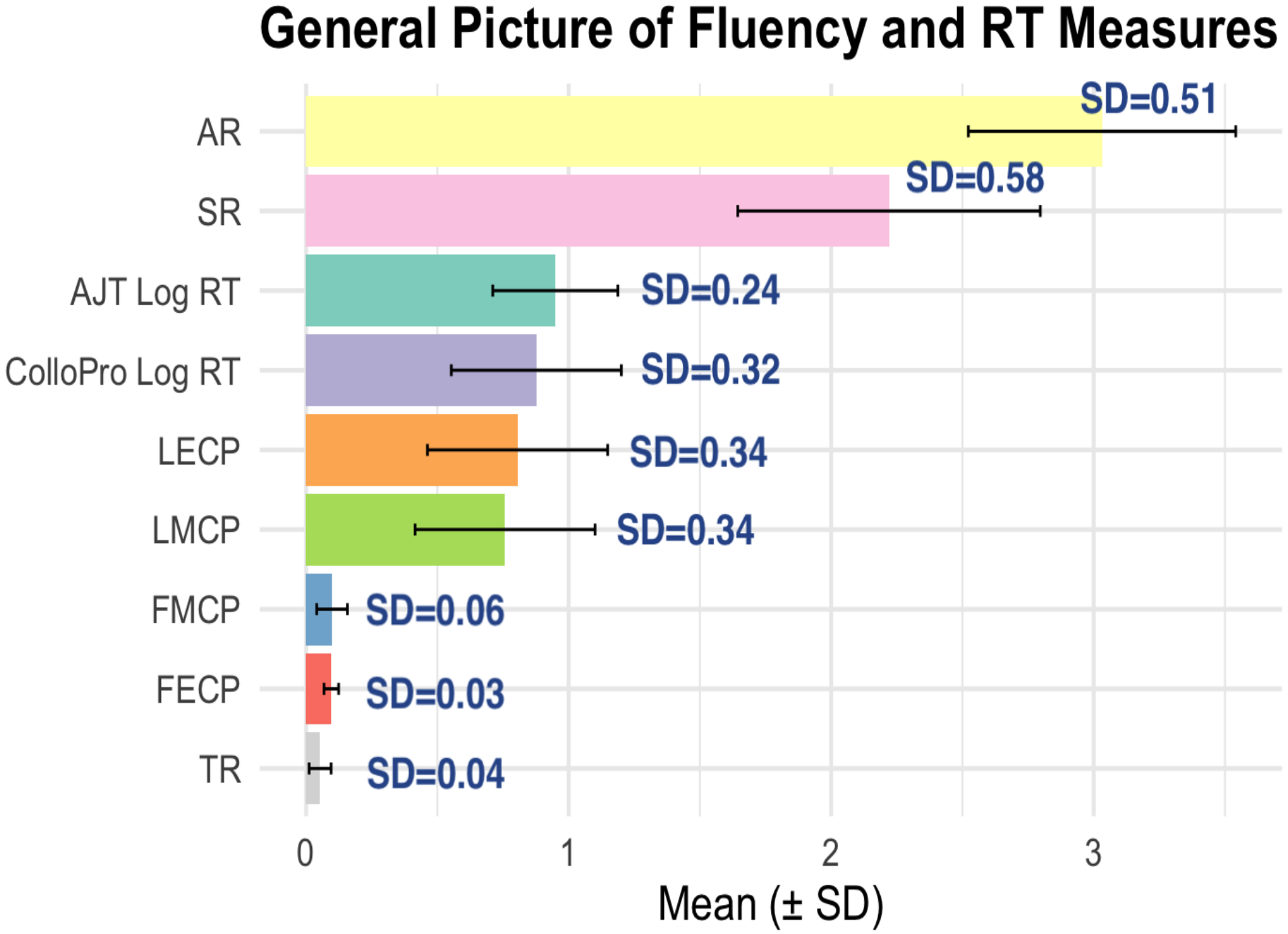
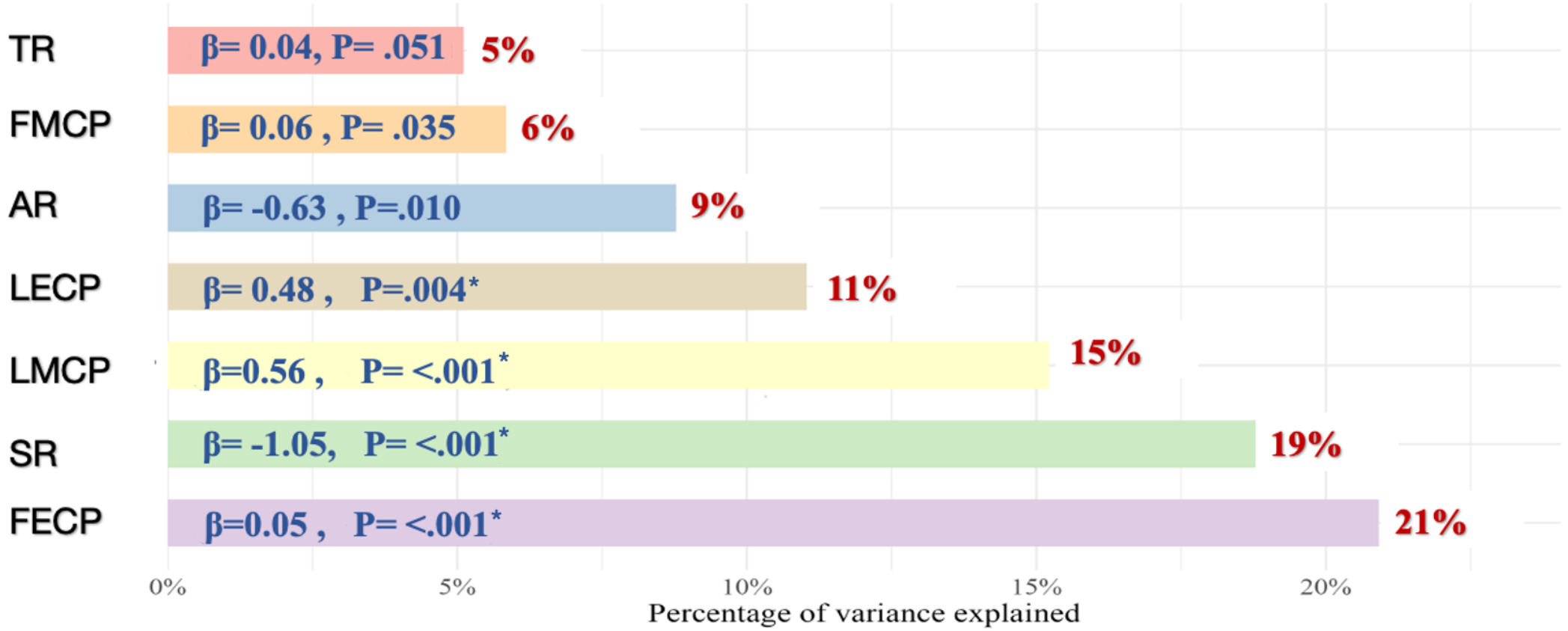
Descriptive Analysis

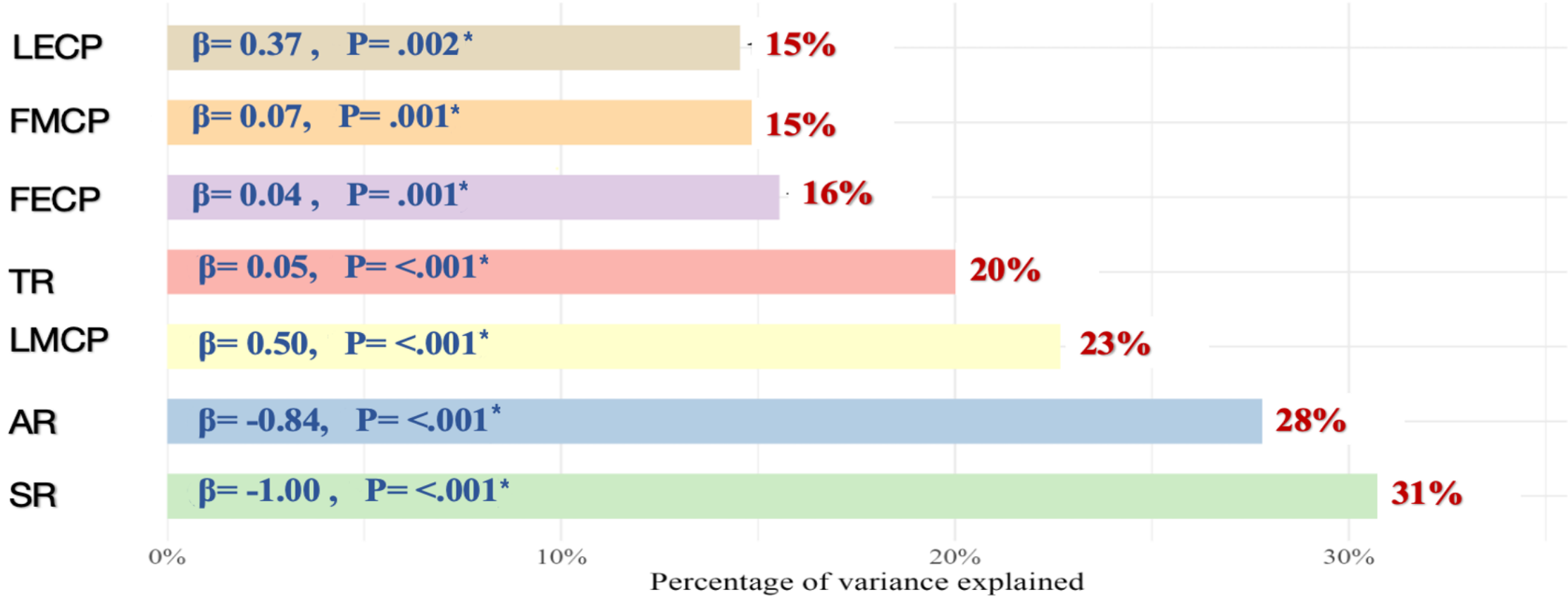


Results for Collocation Recognition Speed



***Note*. * Indicates effect remains significant after Bonferroni correction**

Results for Collocation Recall Speed



***Note*. * Indicates effect remains significant after Bonferroni correction**

Summary of the Findings

- Faster **recognition and recall** of collocations were strongly associated with **faster speaking rates** and **shorter pauses**, indicating smoother speech delivery.
- **Both processing measures** predicted **fewer pauses**—especially end-clause pauses—and **fewer repairs**, reflecting more efficient speech planning.
- Overall, rapid lexical access emerged as a consistent predictor of multiple fluency dimensions, indicating that faster processing leads to more fluent performance.

Thank you