**Supporting Information-S1**

All test resources can be found on the open science platform, L2 Speech Tools, as detailed by Mora-Plaza et al., 2022 at <http://sla-speech-tools.com/>. Demo versions of the tests can be accessed via <https://app.gorilla.sc/openmaterials/663422>.

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**Figure S1**

Phonological Vocabulary Tests (Meaning Recognition, Lexicosemantic Judgement)

**Supporting Information-S2**

The R scripts used in the current analyses are summarized as follows:

Relationships between experience, aptitude, and phonological vocabulary accuracy

# Load necessary packages

if (!require("readxl")) install.packages("readxl")

if (!require("lme4")) install.packages("lme4")

if (!require("performance")) install.packages("performance")

library(readxl)

library(lme4)

library(performance)

#Create MODEL1\_acc

# Set a file path

file\_path <- "submitted\_data\_accyracy.cvs"

# Import the data

data <- read.csv(file\_path)

# Convert 'ID' and 'Test' to a factor

data$ID <- as.factor(data$ID)

data$Test <- as.factor(data$Test)

# Convert 'abroad' to a factor

data$abroad <- as.factor(data$abroad)

# Relevel 'Test' with '1' as the reference level

data$Test <- relevel(data$Test, ref = "1")

MODEL1\_acc <- lmer(DV ~ age\_of\_learning\*Test + total\_past\*Test + listening\*Test + reading\*Test + abroad\*Test + AP\*Test + WM\*Test + (1|ID), data = data)

# Print the summary of the model

summary(MODEL1\_acc)

# Print R squared

performance::r2(MODEL1\_acc)

# Subset data for Test 1 and Test 2

data\_test1 <- subset(data, Test == "1")

data\_test2 <- subset(data, Test == "2")

# Post-hoc Pearson correlation for age\_of\_learning at Test 1 and Test 2

cor\_test1\_age\_pearson <- cor.test(data\_test1$age\_of\_learning, data\_test1$DV, method = "pearson")

cor\_test2\_age\_pearson <- cor.test(data\_test2$age\_of\_learning, data\_test2$DV, method = "pearson")

print(cor\_test1\_age\_pearson)

print(cor\_test2\_age\_pearson)

# Post-hoc Pearson correlation for total\_past at Test 1 and Test 2

cor\_test1\_total\_past\_pearson <- cor.test(data\_test1$total\_past, data\_test1$DV, method = "pearson")

cor\_test2\_total\_past\_pearson <- cor.test(data\_test2$total\_past, data\_test2$DV, method = "pearson")

print(cor\_test1\_total\_past\_pearson)

print(cor\_test2\_total\_past\_pearson)

# Post-hoc Pearson correlation for listening at Test 1 and Test 2

cor\_test1\_listening\_pearson <- cor.test(data\_test1$listening, data\_test1$DV, method = "pearson")

cor\_test2\_listening\_pearson <- cor.test(data\_test2$listening, data\_test2$DV, method = "pearson")

print(cor\_test1\_listening\_pearson)

print(cor\_test2\_listening\_pearson)

# Post-hoc Pearson correlation for WM at Test 1 and Test 2

cor\_test1\_WM\_pearson <- cor.test(data\_test1$WM, data\_test1$DV, method = "pearson")

cor\_test2\_WM\_pearson <- cor.test(data\_test2$WM, data\_test2$DV, method = "pearson")

print(cor\_test1\_WM\_pearson)

print(cor\_test2\_WM\_pearson)

# Subset data for 'abroad' categories for Test 1 and Test 2

data\_test1\_abroad1 <- subset(data\_test1, abroad == 1)

data\_test1\_abroad2 <- subset(data\_test1, abroad == 2)

data\_test2\_abroad1 <- subset(data\_test2, abroad == 1)

data\_test2\_abroad2 <- subset(data\_test2, abroad == 2)

# Independent t-tests for 'abroad' at Test 1 and Test 2

t\_test1\_abroad <- t.test(DV ~ abroad, data = data\_test1)

t\_test2\_abroad <- t.test(DV ~ abroad, data = data\_test2)

# Print t-test results

print(t\_test1\_abroad)

print(t\_test2\_abroad)