

Using the MINT Sprint to Predict Language Proficiency of Chinese-English Bilinguals

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INTRODUCTION

- Self-rating and Boston Naming Test are not always reliable (Li et al. 2021).
- Mint Sprint is a reliable measure of language proficiency for Spanish-English bilinguals (Garcia & Gollan 2021).
- Can we do it faster?

Hypothesis:

- MINT Sprint could predict OPI in both dominant and non-dominant language in Chinese-English bilinguals
- Time pressure could improve proficiency assessment by differentiating people's performance, especially in dominant language.
- Speed of production could predict language proficiency.

METHODS AND MATERIALS

Participants

20 Chinese-English bilinguals

- -12 Chinese Dominant
- -8 English Dominant

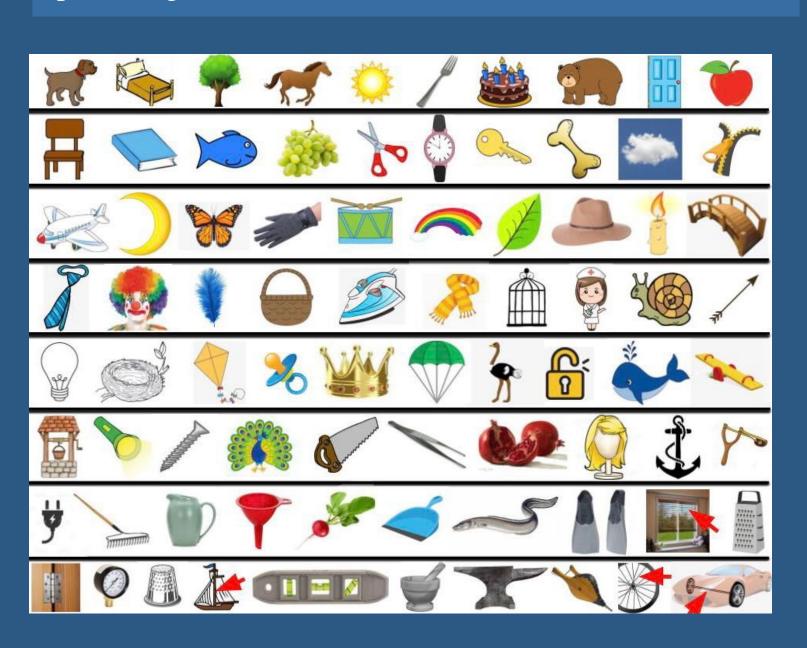
Validate by Oral Interview Proficiency

1st Pass

2nd Pass (total score)

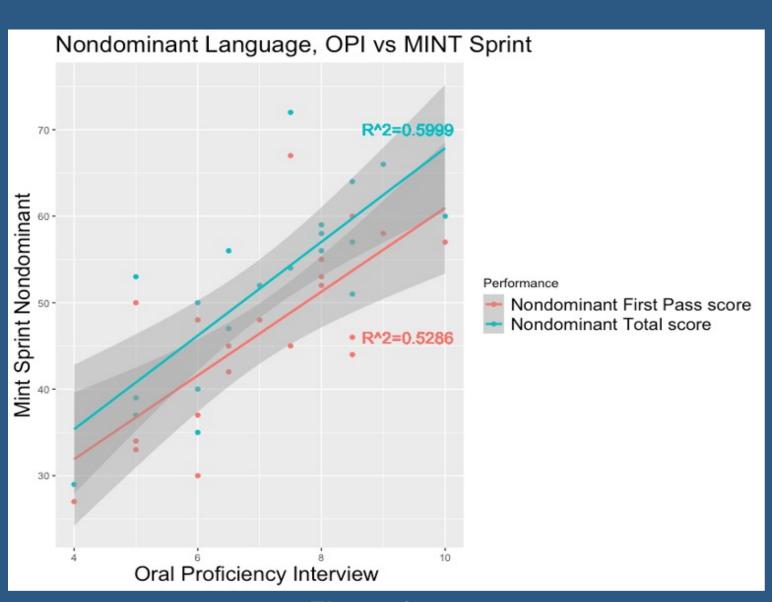
Efficiency score:

Time in minute participants took to complete first pass / percentage correct (Bruyer & Brysbaert, 2011)



RESULTS

Characteristic	Chinese Dominant		English dominant	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
English OPI score	7.6	1.1	9.7	0.5
English MINT Sprint 1st pass	49.5	7.9	69.7	5.1
English MINT Sprint 2nd pass	55.3	7.7	73.0	6.7
Chinese OPI score	9.2	0.8	6.2	2.1
Chinese MINT Sprint 1st pass	63.8	4.8	40.9	12.7
Chinese MINT Sprint 2nd pass	68.6	4.4	44.4	12.7





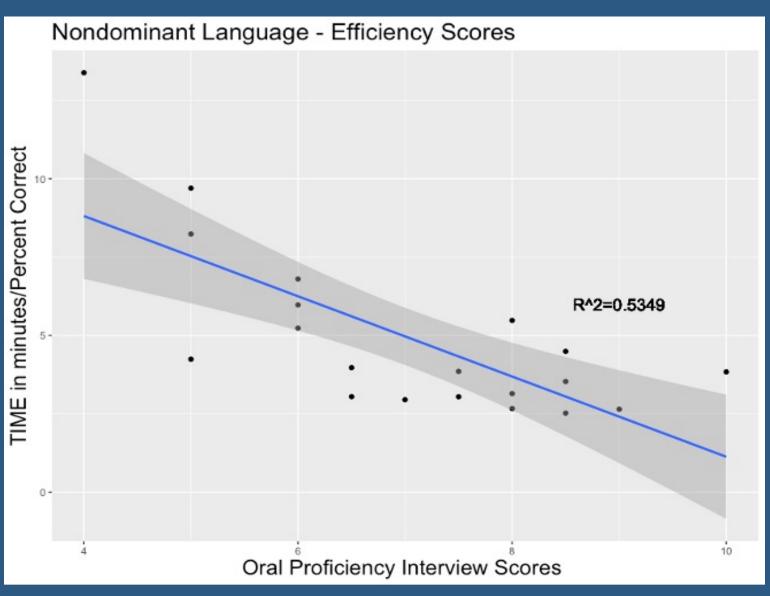
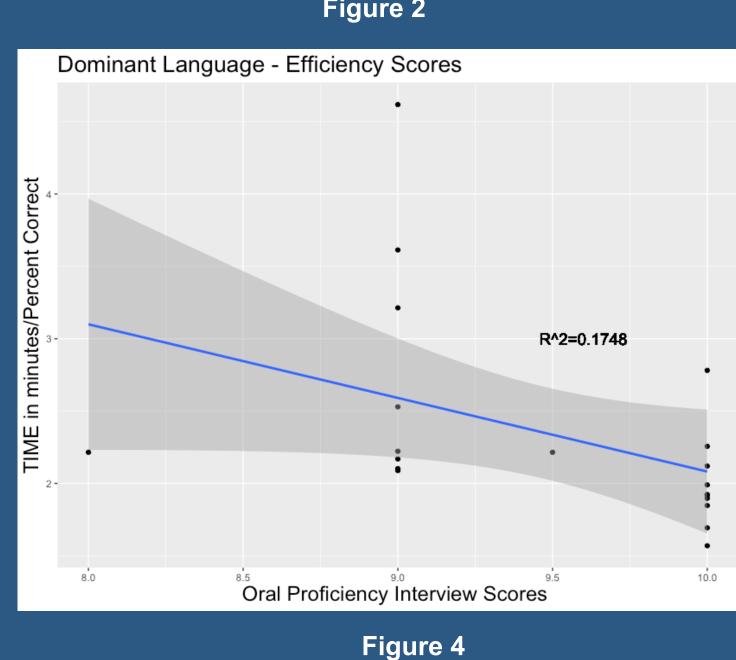


Figure 3



Dominant Language, OPI vs MINT Sprint

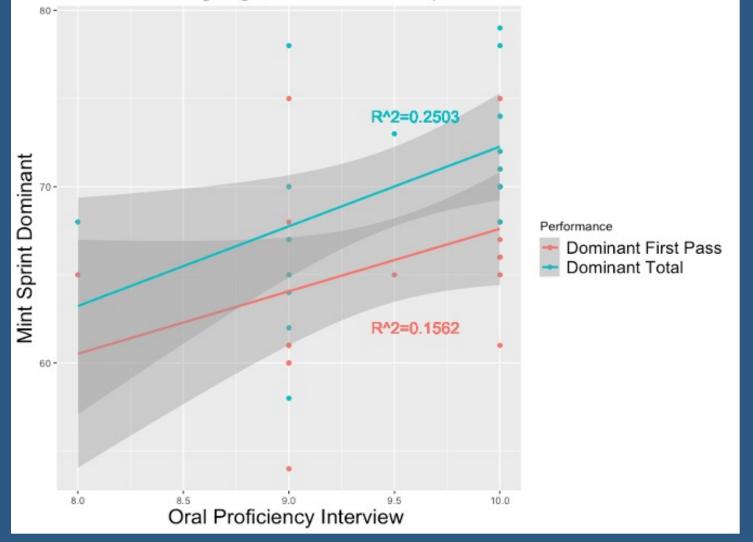


Figure 2

DISCUSSION

- MINT Sprint was a reliable assessment for language proficiency in Chinese-English bilinguals. --could save time and resources in both clinical and research settings.
- Time pressure did not improve or compromise the assessment of language proficiency.
- --However, the first pass score of dominant language only marginally predicted language proficiency
- Speed of production could accurately predict language proficiency, especially in non-dominant language.
 - --Speed constituted critical factor in language proficiency.

Limitation

• Small sample size

REFERENCES

- Bruyer, R., & Brysbaert, M. (2011). Combining Speed and Accuracy in Cognitive Psychology: Is the Inverse Efficiency Score (IES) a Better Dependent Variable than the Mean Reaction Time (RT) and the Percentage Of Errors (PE)?. Psychologica Belgica, 51(1), 5–13.
- 2. Garcia, D., & Gollan, T. (2021). The MINT Sprint: Exploring a Fast Administration Procedure with an Expanded Multilingual Naming Test. Journal of the International Neuropsychological Society
- 3. Li, C., Zeng, X., Neugroschl, J., Aloysi, A., Zhu, C., Xu, M., . . . Sano, M. (2021). The 32-Item Multilingual Naming Test: Cultural and Linguistic Biases in Monolingual Chinese-Speaking Older Adults. Journal of the International Neuropsychological Society,1-9.