



# DOES THIS FEEL FAMILIAR?

Repeated exposure strengthens crossmodal correspondence associations



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## INTRODUCTION

It has been established that persons of many different cultures, language backgrounds, and ages hold an association between abstract shapes and abstract sounds. We tend to associate spikey shapes with sounds like “kiki and titi” and round shapes with “baba and gaga”—as reported by the “Bouba-Kiki” effect. We examined how stable this association is within an individual. Using the method of repeated measures, we quantified how the association strength between a sound and a tactile shape (spikey and “kiki/titi” or round and “baba/gaga”) changes as trials progress, and the participant has practice with the stimuli and can respond faster and more consistently. Here we examine the association strength as a function of time on task and as a function of age.

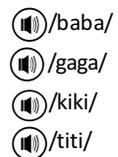
## METHODS

### Procedure:

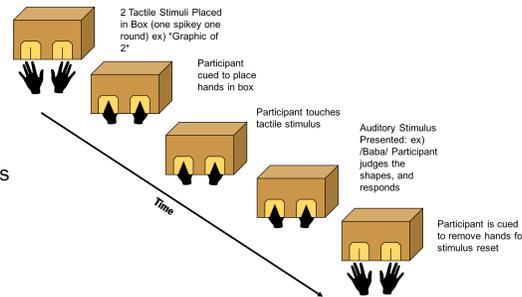
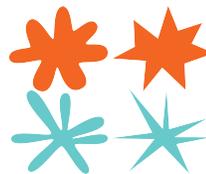
- 4 Auditory Stimuli x
- 2 Tactile Stimuli
- = 8 Stimulus Combinations
- 8 Combinations x
- 4 Presentations
- = 32 Trials

### Stimuli:

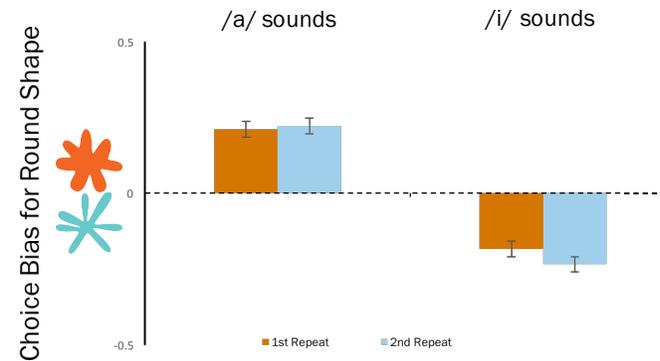
Auditory—  
 Presented through  
 Noise-Cancelling  
 Headphones



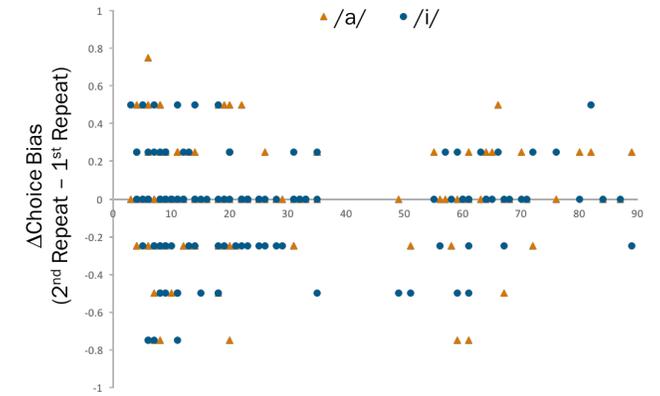
Tactile—  
 Presented as  
 foam cut-outs



## RESULTS



**Association strength across repeats of trials:**  
 Choice Bias tended to increase in strength in the second compared to the first repeat of trials. The same was true for Response Bias.



**Change in choice bias across repeats as a function of age:** There was no significant change in practice effects for Choice Bias as a function of age. The same was true for Response Bias.

## CONCLUSIONS

Our results suggest a strengthening in association strength between a tactile shape and sound pair, /a/ sounds with rounded shapes and /i/ sounds with spikey shapes, across time on task, or repeats of trials with the same shape-sound combination. There is an increase in association through the first two repeats of a given shape-sound combination, but association strength plateaus by the third repeat. This increase in association is thought to result from practice effects with repeated multisensory stimulus exposure.

## ACKNOWLEDGEMENTS

Data collection was made possible by collaboration with the Living Laboratory at the Museum of Science Boston, to whose staff and volunteers we are extremely grateful. This project was funded, in part, by a grant from the UMass Boston Dean's Office.

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