

# FROM BOUBA TO KIKI: CROSS-LINGUISTIC SOUND SYMBOLISM

**Camila Catano-Caballero, Carson DaSilva and Nelu D. Radpour**

## Introduction

- The Bouba-Kiki effect describes how people associate certain speech sounds with specific visual shapes. This suggests a natural connection between sound and meaning in human perception.
- Sharp sounds (e.g., /i/, /k/, /t/) are often linked to small, fast, angular shapes.
- Round sounds (e.g., /u/, /o/, /a/, /m/, /l/) are associated with large, smooth, curved shapes.
- It is unclear whether these associations are universal or influenced by language and culture. This study examines whether Spanish speakers show similar sound-shape associations using pseudo words. Understanding these associations may provide insight into how humans process language, perception, and meaning, and whether these processes are shaped by universal cognitive mechanisms.

## Methods

Participants:

The participants in this study are Spanish-speaking individuals. They are fluent speakers of Spanish and were recruited to examine whether sound-shape associations found in prior research generalize to this linguistic group.

Materials:

The primary materials include pseudo-words generated by large language models (LLMs). These pseudo-words were designed to systematically vary in phonetic structure, containing either sharp features

(high front vowels like /i/ and stop consonants such as /k/ or /t/) or round features (low back vowels like /u/, /o/, /a/ and sonorant consonants such as /m/ or /l/). The main measure collected was participants' three single-word free associations for each pseudo-word. Responses were later categorized based on whether they reflected sharp (small, fast, angular) or round (large, smooth, curved) conceptual qualities.

Procedures:

Participants were presented with a series of pseudo-words one at a time. For each word, they were instructed to write three single-word associations that immediately came to mind. The responses were recorded and later analyzed to determine whether the phonetic properties of the pseudo-words systematically influenced the type of associations produced, allowing researchers to assess whether the Bouba-Kiki sound-shape pattern appears in Spanish speakers.

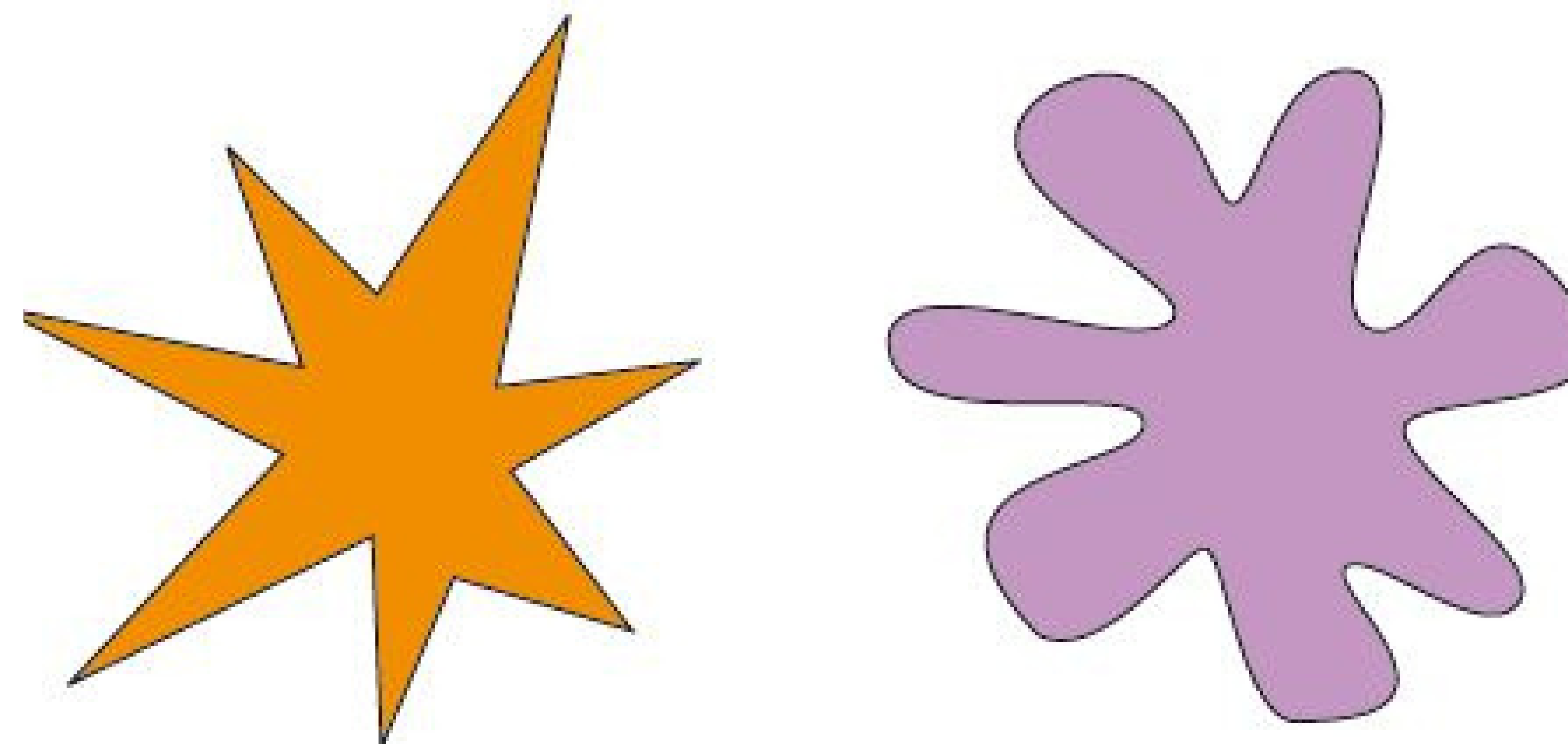
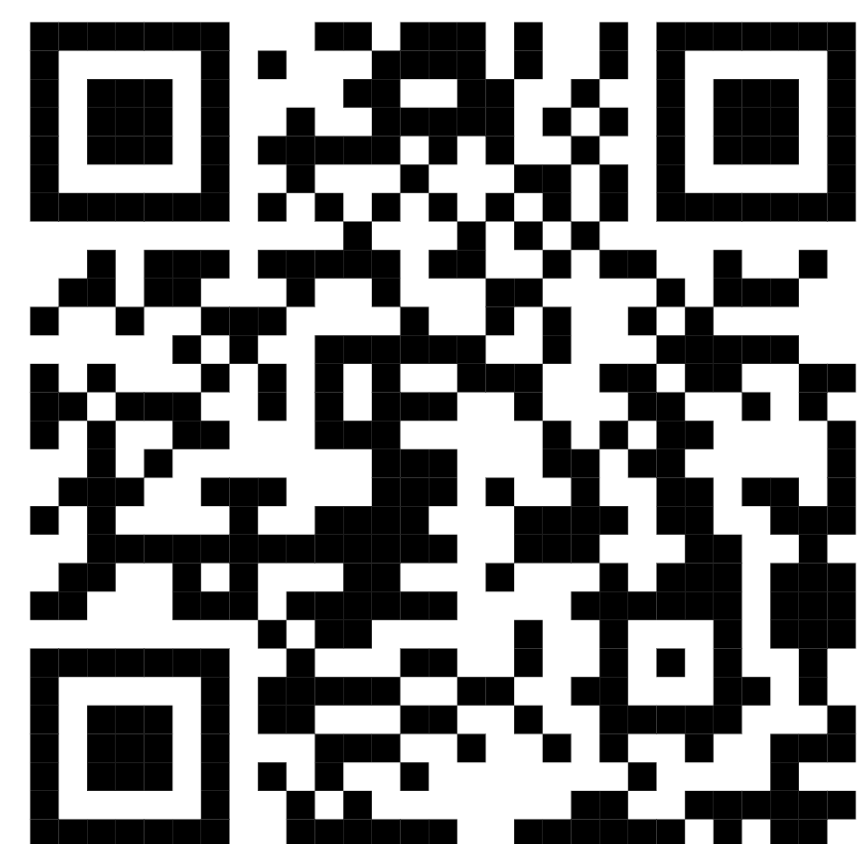
## Results

- Participants are expected to show consistent sound-shape associations similar to those found in research on the Bouba-Kiki effect.
- Sharp phonetic pseudowords (e.g., high front vowels and stop consonants) are predicted to be associated with concepts that are: Small, Fast, Pointed, Angular
- Round phonetic pseudowords (e.g., low back vowels and sonorant consonants) are expected to be associated with concepts that are: Large, Smooth, Slow, Curved
- These patterns would suggest that sound symbolism may reflect universal cognitive patterns, rather than being limited to specific languages.

## Discussion

- Results are expected to support the Bouba-Kiki effect, showing consistent associations between sound patterns and conceptual qualities.
- Pseudowords with sharp phonetic features are predicted to be associated with concepts that are small, fast, pointed, or angular.
- Pseudowords with round phonetic features are expected to be associated with concepts that are large, smooth, slow, or curved.
- These patterns suggest that sound symbolism may reflect universal cognitive tendencies in how people interpret unfamiliar sounds.
- Spanish-English bilinguals may show different associations when pseudowords resemble real words in Spanish.
- Such interlingual homophone effects could demonstrate how a second language influences interpretation of novel sounds.
- Overall, the findings would suggest that both universal sound-symbolic patterns and linguistic background shape how people process new words.

## References



## Acknowledgements

Thank you to our mentor Nelu D. Radpour