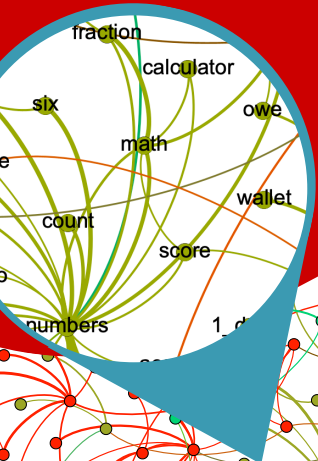


MAPPING THE SEMANTIC STRUCTURE OF AMERICAN SIGN LANGUAGE USING THE ASL-LEX DATABASE



SOFTWARE TO LABEL 113,883 SEMANTIC ASSOCIATES

DATA COLLECTION

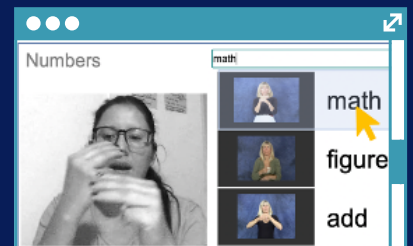
Semantic Free Association Task: For each cue sign in ASL-LEX[1], ~15 deaf ASL signers produced the first three meaning-related signs that came to mind.

NUMBERS -> MATH, COUNT, TWO [2]

- Responses automatically segmented

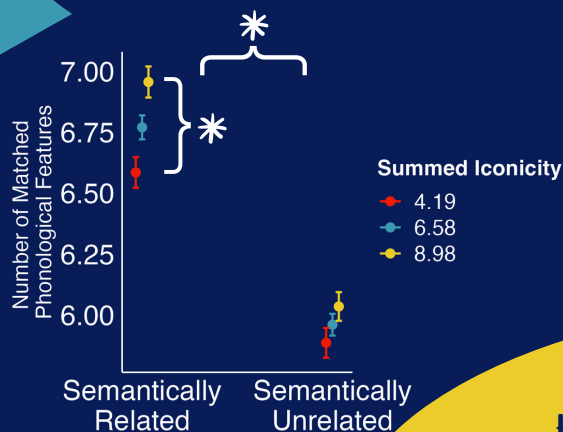
DATA TAGGING

- A native signer matched responses with an item in ASL-LEX, labelling ASL with ASL (not glosses!)
- Rapid collection and labelling
- 65,168 associates were in ASL-LEX and used to build a semantic network.



SEMANTIC ORGANIZATION OF THE MENTAL LEXICON

- "Small worlds" of sparsely interconnected sub clusters
- 2,715 nodes, 41,644 edges
- Average path length = 3.46
- Network density = 0.11



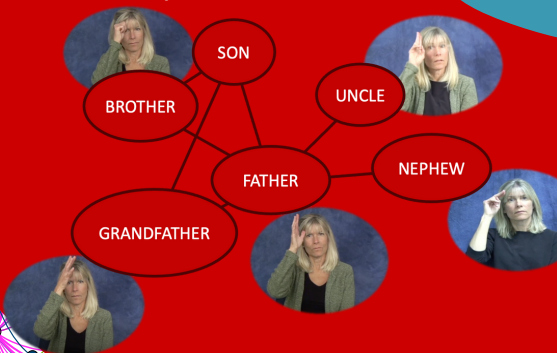
(NON-ICONIC) SYSTEMATICITY

As in previous literature[3,4], sign pairs that were semantically related were more likely to be phonologically similar than those that were semantically unrelated.

ICONICITY SHAPES THE STRUCTURE OF THE ASL LEXICON

ICONIC SYSTEMATICITY

Iconic signs that were semantically related were even more likely to be phonologically related.



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