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Gestures and words in naming: Evidence from cross-linguistic and cross-cultural comparison

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Appendix: Accessible Summary (also publicly available at <https://oasis-database.org>)

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Title of the Summary

The effects of language and culture in gestures and words of toddlers

What this research was about and why it is important

Gesture use is a key predictor of progress in early verbal language ability in children and gestures are likely to scaffold the early language development. This study is an attempt to tease apart the role of cultural and linguistic factors in the gestural (pointing and representational gestures) and early vocabulary development (word comprehension and production). Typically, cross-cultural comparisons are invariably confounded by cultural and linguistic differences between groups; that is, to-be-compared groups usually differ *both* linguistically and culturally. Using a picture naming task, the researchers compared two groups of children who shared the same language but were culturally distinct – Australian and British children – to a group of Italian children, who differ both linguistically and culturally from the former groups.

The spoken language development is primarily influenced by the input language over gesture production, whereas the combination of cultural and language environments affects gesture productions.

What the researchers did

- The researchers analysed data of 87 monolingual children aged 24-30 months who completed an experimental picture naming task measuring the word learning in their own country.
- The sample included 35 British English-speaking children, 30 Australian English-speaking children, and 22 Italian-speaking children.
- The picture naming task is validated for Italian and for British English-speaking toddlers. It measures the comprehension and production of nouns and predicates.
- The researchers investigated also the use of spontaneous gestures identifying the pointing gestures (usually expressed with the extension of the index finger) and the representational gestures (e.g. fingers wrapped around the imaginary handle of a comb, flapping the hands for bird).
- Pointing and representational gestures were also measured when produced in combination with a word (bimodal gesture expressions) or alone (unimodal gesture expressions).
- Then they compared the word comprehension and production and the pointing and representational gestures to British, Australian and Italian children.

What the researchers found

- In terms of spoken word knowledge, the Australian and British English-speaking children were remarkably similar on all measures of vocabulary. In contrast, the sample of Italian children outperformed the English-speaking children on all verbal measures.
- Overall, children produced more pointing and representational gestures in combination with speech than gestures alone.
- Australian and Italian children produced overall more pointing gestures than British children. In particular, British children produced significantly less bimodal pointing expressions compared to the Italian and Australian children, who did not differ from each another.
- The representational gestures of the Italian children significantly outnumbered those produced by the English-speaking groups, who did not differ from each other.

Things to consider

- This study showed that both language and culture affect early vocabulary development and gesture production.

- Spoken language as measured by production and comprehension of words on a naming task is purely affected by the target language, as Australian and British children performed similarly in the naming task but differed from the Italian learners. The fact that the researchers found no differences between Australian and British children in their spoken vocabulary suggests that children from these cultures share great similarity of experience in their early communicative development.
- A combination of language and culture, however, shapes the frequency and the type of gestures produced by children.
 - The Italian children, who grow up in a gesture rich culture and are exposed to a high context communication style, produced significantly more representational gestures than British and Australian children.
 - For the expression of pointing gestures we observed differences between British and Australian children, with Australian children pointing more often – as many as the Italian children - than British children. The reasons why the Australian children used as many pointing gestures as the Italian children are not yet clear. Future investigation on child-rearing practices and the effect of the size of physical space await empirical confirmation.

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