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Disfluencies in American Sign Language and English

What “Ums” and “uhs” Tell Us about Language Production

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INTRODUCTION

How people plan what they want to say has long been a question of interest to psycholinguists and speech scientists, but the question is difficult to answer. One way to explore this issue is by studying disfluencies. Disfluencies (e.g. *um* and *uh*) disrupt the smooth flow of language production and can offer insights on the language planning process. This study examined disfluencies in American Sign Language (ASL) to identify language-specific features based on modality (signed versus spoken).

QUESTIONS

- What types of disfluencies are expressed in ASL? Are they similar to disfluencies in English?
- What is the rate of disfluency production in ASL? Does the rate in ASL mirror disfluency production in English?
- How does language modality affect disfluency production?

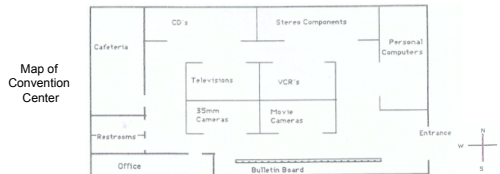
METHODS

We analyzed language samples for four types of disfluencies: 1) pauses, 2) fillers, 3) restarts/false starts, and 4) editing expressions.

Participants: 20 Hearing English speakers
20 Deaf ASL signers

(Re-analysis of Emmorey, Tversky, & Taylor 2000)

Task: Participants were asked to memorize a map of a convention center with 13 landmarks and were videotaped while describing it to a hypothetical person unfamiliar with the layout.



We transcribed and analyzed their productions for type of disfluencies, rate of occurrence per minute, and modality-unique characteristics, such as non-manual markers in ASL.





METHODS (...CONT)

Disfluency Identification

Three Deaf native ASL signers and two native English speakers identified disfluencies produced by the participants. The ASL signers and English speakers agreed 85% and 86% of the time, respectively.

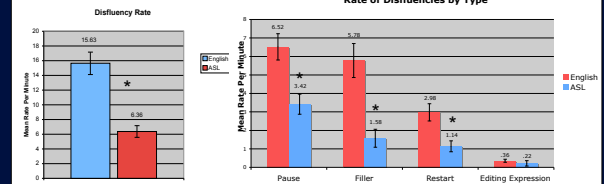
RESULTS

Samples Types of Disfluencies

	English	ASL
Pause	(def.) temporary stop in speech flow	 FROZEN HANDSHAPE
Filler	<i>um, uh</i>	 FINGER WIGGLE
Restart	“And if - and if - and if you go east...”	“ACROSS-FROM (left-right) ACROSS-FROM (front-back)”
Editing Expression	“I mean” “no-no”	 “WRONG”
		 NEGATION HEADSHAKE

RESULTS (...CONT)

English speakers produced a higher rate of disfluencies than ASL signers, both overall and across all four disfluency types.



Modality Unique Characteristics

Headshakes

Signers produced editing expressions both manually (signs) and non-manually (headshakes). In ASL, headshakes are used grammatically to negate phrases.

Gestures

The FINGER WIGGLE and other ASL fillers were not produced by English speakers. This suggests that ASL fillers are not gestures, but rather meaningful signs.

SUMMARY & CONCLUSIONS

- ASL signers produced the same types of disfluencies as English speakers.
- Signers produced disfluencies at a significantly lower rate than speakers.
- This difference in rate may be explained by the slower moving articulators of signing compared to the fast moving articulators of speech. Further, signers may be able to identify errors more efficiently than speakers (Hohenberger, Happ, & Leuninger, 2002).

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