





# Early Language Exposure and the Development of Phonological Representations in Sign Language

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# Why do Deaf Non-Natives resemble Hearing Non-Signers on the semantic items?

**Task Instructions?** No. Participants in all groups gave higher ratings to phonological items than to semantic items. The only

**Lexical Variation?** No. Excluding data from participants who used different signs only strengthens the effects. Data from all trials are reported here.

**Lured by Semantics?** Possible, but this account requires an independent explanation of why HNS showed the same pattern, despite not knowing the items' meanings. A post-hoc analysis confirmed  $\Sigma$ that, although the meanings of some pairs were transparent, HNS gave equally high ratings to non-transparent pairs.



Hyper-sensitive to perceptual cues? DNN hyper-discriminate in categorical perception (Best et al., 2010; Morford et al., 2008). If DNN and HNS attend to the same features, the differences between their ratings and DN's ratings should be correlated.



Stimulus pairs where Deaf Native and Deaf Non-Natives disagreed most

### **DNN saw more similarity than DN**

Target	t Related	Stimulus	DN minus DNN
ltem	ltem	Clas s	(pixels)
priest	: nun	Sem	-119.33
toas t	brea d	Sem	-110.11
candle	matc h	Sem	-102.33
broo m	n vacuum	Sem	-97.33
ring	necklace	Sem	-90.33
bea r	wolf	Sem	-89.22
flute	violi n	Sem	-70.22
footbal	l bat	Sem	-58.78
witch	ghos t	Sem	-56.56
potato	o rock	Phon	-47.44

### DNN saw less similarity than DN Related Stimulus DN minus DNN ltem Item Clas s 39.33 34.11 33.89 Phon lobster

Hearing Non-Signers overlooked sign similarity that Deaf Native signers saw, and saw similarity were Deaf Native signers did not.

Deaf Non-Native signers attended to aspects of signs that Deaf Native signers ignored. Such over-discrimination by Deaf Non-Natives has been found in studies of categorical perception in sign (Best et al., 2010; Morford et al., 2008).

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# Conclusions

# Similarity judgments depend on more than perception.

### Late exposure to L1 influences phonological representations.

### Hearing L2 learners can show near-native judgments.

Unlike studies of categorical perception in ASL, our hearing L2 learners did not differ from the Deaf native signers on any measure (cf. Best et al., 2010; Morford et al., 2008).

### References

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