Morphosyntax studies focusing on heritage speakers (bilinguals whose first language is not their dominant language) have shown L2-to-L1 transfer (Montrul, 2010). However, speech research (Oh et al, 2003; Au et al 2002) has shown that heritage speakers can demonstrate native-like speech perception in both languages. Based on this apparent difference between phonetic and morphosyntactic learning, we further examine the effects of language dominance and early acquisition on speech learning in heritage speakers.

In a speech production study, we embedded recordings of 11 Spanish heritage speakers’ productions of English and Spanish sentences in noise at two signal-to-noise ratios (SNR), -4 dB (easy) and -8 dB (hard). Native Spanish and English listeners then provided speech intelligibility scores for each SHS talker in each language. At the easier SNR, SHS showed equivalent intelligibility in the two languages, yet at the harder SNR, SHS had higher intelligibility in English than in Spanish. In a speech perception study, 12 SHS identified sentence final keywords in English and Spanish sentences with three manipulations known to highlight L1 and L2 speech processing differences: SNR, speech style, and semantic predictability. The SHS recognition scores were compared to those of L2 learners of Spanish and English. Like L2 learners of Spanish (L1-dominant English), SHS failed to benefit from clear speech in Spanish and were more resistant to noise in English than in Spanish. However, SHS showed better overall speech-in-noise recognition across languages compared to the learner groups, and SHS benefitted from semantic predictability in both languages whereas L2 learners only benefited from semantic predictability in their L1.

These results indicate that SHS benefit from their early acquisition of Spanish when compared to L2 learners of Spanish. However, maximally robust, fully native-like speech recognition accuracy was observed in their dominant L2 (English) rather than in their non-dominant L1 (Spanish).