

SPEECH RECOGNITION IN NOISE PERFORMANCE IN YOUNGER AND OLDER  
SPANISH-ENGLISH BILINGUALS' L1 AND L2

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Master's Program in Speech-Language Pathology

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PREVIEW

## **Dedication**

This is dedicated to my mother Sandra Barraza and father Alfredo Barraza. I am eternally grateful for the person you have shaped through your patience, kindness, strength, and love. I would never have made it this far in my education if it was not for you all. You two have shown me what it takes to be outstanding parents and I hope one day I can be as great as a parent as you two. To my Sister Erica, and brother in law Manny. I am eternally grateful for the example you have set for me on how to be a genuine individual inside and out. Your hard work and dedication has only inspired me and always pushed me to be a better person. My future niece or nephew will have the best home filled with love and virtue. The love for my family is endless, they truly have been my support system and have only shaped me into my best self.

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THESIS

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## Abstract

**Background:** Previous research has shown that Spanish/English speaking bilinguals have difficulty understanding English speech in background noise compared to their monolingual counterparts. However, the effects of age on bilinguals' speech understanding performance remains unclear.

**Purpose:** The purpose of this study was to determine whether older Spanish/English bilingual speakers are at an increased disadvantage understanding speech in the presence of background noise compared to older English monolinguals.

**Methods:** 15 younger Spanish-English (S/E) bilinguals, 15 older S/E bilinguals, 15 younger English monolinguals and 15 older English monolinguals participated in the study. Speech recognition performance was measured using the Spanish and English versions of the Hearing in Noise Test (HINT) presented in quiet and in background noise.

**Results:** There were no significant ( $p > .05$ ) differences between groups on the HINT in quiet. The English monolinguals performed significantly better ( $p = .001$ ) on the English HINT in noise than the two bilingual groups. Both younger and older bilingual groups performed significantly better ( $p < .001$ ) on the Spanish than English HINT in noise. Interestingly, younger bilinguals performed significantly ( $p < .001$ ) better in their L1 on the English HINT in noise compared to all other participant groups.

**Conclusions:** Older S/E bilinguals are at an increased disadvantage understanding English in background noise compared to all other participant groups.

**Keywords:** Bilingual, Spanish, Speech understanding, Speech recognition, HINT, speech recognition in noise, speech recognition in quiet, speech understanding.

PREVIEW