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Perceptual learning from exposure to non-traditional speech has been documented within very controlled training conditions: studies have manipulated the perception of ambiguous speech sounds by carefully controlling their placement in words and non-words, or moved listeners' consonant category boundaries by presenting lists of words produced by an accented speaker. This study investigates perceptual learning based on exposure to Spanish-accented English presented in the form of a story. Spanish has lower voice onset times (also known as "VOT"—the amount of time between voicing and articulation of a produced sound) for its stop consonants than American-English; the VOT boundary between /b/ and /p/ phonemes in American-English falls around +25 ms, while the boundary in Spanish can range anywhere from +14 ms in Castilian listeners to (-10)-(-5) ms in Latin American Spanish Listeners.

In this study, subjects performed an initial syllable categorization task in which they identified sounds from a /b/-/p/ VOT continuum. They then listened to one of two stories read by a Spanish-accented talker (either a condition in which /b/ and /p/-initial words were present, or a condition in which they were not). Afterward, they repeated the syllable categorization task. The results from these categorizations indicate that exposure to characteristic Spanish-accented /b/ and /p/-onset words (average VOTs of -80 ms and -1ms, respectively) shifts listeners' perceptual boundaries downward, and, further, that listeners generalize this perceptual shift into their /b/-/p/ categorizations even when only exposed to words starting with other stop consonants.