

# The Effects of Varying Melodic Intervals in Melodic Intonation Therapy for Persons with Aphasia

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**INTRODUCTION:** Broca's Aphasia is an acquired language disorder that most commonly occurs after a stroke. It is characterized by deficits in expressive language, both spoken and written. Melodic Intonation Therapy (MIT) is an evidence-based approach to the treatment of Broca's Aphasia, which emphasizes the musical elements of speech (i.e., pitch and rhythm) to facilitate language recovery. Clients are taught to sing phrases intoned on a single melodic interval while tapping their left hand in rhythm. Many studies have illustrated the importance of the rhythmic component of MIT; however, little research has directly evaluated the effects of using different melodies (i.e., melodic intervals) in therapy.

**PURPOSE:** The purpose of this study was to evaluate the effects of using two different melodic intervals in MIT: a common, perceptually pleasant interval known as the minor third, and an uncommon, perceptually unpleasant interval known as the tritone.

**METHODS:** Two participants received MIT twice a week for six weeks via teletherapy. Each was exposed to twenty-four pairs of phrases equal in number of syllables and intonation pattern. One phrase of each pair was intoned on the minor third and the other on the tritone. Following a Latin-square design, the interval assigned to each phrase within the pair was opposite for the two clients. An assessment of trained phrases measuring syllable intelligibility was administered pre- and post-treatment to monitor progress.

**RESULTS:** An effect size was calculated using a formula designed specifically for single-subject, multiple baseline aphasia studies. It was determined that the effect size for the tritone was greater than the effect size of the minor third for both participants. The researchers believe the difference is meaningful; however, no equation has yet been developed to determine the statistical significance of the difference in effect sizes using the preceding formula. Regardless of pitch both participants showed significant improvement in trained phrases, providing evidence that MIT is efficacious in the teletherapy format.

**CONCLUSION:** The results contradict the researchers' hypothesis that using a common and perceptually pleasant interval would yield greater success in MIT. The findings may have implications for MIT protocol, which recommends intoning phrases on a common interval such as the minor third. Limitations to this study include a small sample size and human error associated with pitch. Future research should continue to evaluate the complex interaction of rhythm and pitch within MIT to ensure treatment is as effective as possible.