

PEANUT BUTTER TWO OF US: HOW SPEECH-TO-TEXT TECHNOLOGY INTERPRETS  
STUTTERED SPEECH

by

MEGAN GRIFFITH

Communication Sciences and Disorders

A FINAL HONORS PROJECT

submitted in accordance with the University Honors Program requirements

Kansas State Speech and Hearing Center  
College of Human Ecology

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

May 2017

Approved by:

Kristin M. Pelczarski, Ph.D., CCC-SLP

## **Abstract**

The iPhone is a popular smartphone that is widely available. It includes many features that are meant to simplify aspects of daily life, including hands-free typing via speech dictation. However, the current speech-to-text technology limits users who have disordered speech such as a stutter (Rudzicz, 2012; Tu, Wisler, Berisha, & Liss, 2016). The purpose of this pilot study was to gather preliminary data on the accuracy of an iPhone's speech-to-text feature when presented with stuttered speech. Three different stutter types were simulated in three different positions (initial, medial, final), and the list of stimuli consisted of six different utterance lengths. The iPhone's responses were recorded, evaluated, and interpreted. Results show that the iPhone made the most errors on repetition stutters, and the most common type of error was the addition of words into the utterance. The staggering amount of errors made by the iPhone when a stutter was present suggest that while the hands-free technology is helpful for many users, there is still a large population that is excluded from its full capabilities. The topic should be further explored in order to create a more inclusive speech-to-text feature for those with disordered speech.