

Title: Minimally Detectable Change and Minimal Clinically Important Difference of Speech Intelligibility and Speaking Rate for Individuals with ALS

Authors: Kaila Stipancic, Yana Yunusova, & Jordan Green

Abstract

Although speech intelligibility and speaking rate are often diagnostic indicators of speech impairment, little is known about the change in these measures that is clinically significant. In this study, we report the detectable and clinically important change of sentence intelligibility and speaking rate in persons with ALS. The findings suggest that declines greater than 12% sentence intelligibility and 37 WPM are required to be outside measurement error, and that these estimates vary widely across dysarthria severities. The findings of this study has implications for clinicians and researchers in regard to how much of a change in sentence intelligibility and speaking rate is needed to have confidence that real, and important, change has occurred. This work will provide a framework for future endeavors to estimate detectable and clinically relevant improvements in speech outcomes as a result of speech-language therapy in a variety of measures and populations.