

Comparing visual-analog-scale ratings and orthographic transcription estimates of intelligibility

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Reduced intelligibility has a significant effect on communication; therefore, a clear methodology for interpreting intelligibility is needed to assess progression of voice symptoms. This is particularly relevant for Parkinson's disease (PD): over 90% of patients develop hypokinetic dysarthria, a motor speech disorder, which can affect speech intelligibility. Thus, the current work examines measures of intelligibility in speakers with PD using two tasks: (1) orthographically transcribing Speech Intelligibility Test (SIT) sentences, or (2) perceptually rating SIT sentences with a computerized visual-analog scale (VAS) from 0 (completely unintelligible) to 100 (perfectly intelligible). Recent work found a strong relationship between these two intelligibility estimates, but incorporated many listeners, making the process costly and time-consuming. This project aims to determine the reliability of these measures across varying numbers of listeners and sentences. Preliminary results show a strong relationship ($R^2 > 0.8$) between VAS ratings of intelligibility and orthographic transcription scores. Future work aims to yield recommended numbers of listeners and sentences necessary to generate VAS ratings that reliably estimate the orthographic scores, making clinical assessment of intelligibility more accessible.