Introduction

Core Lexicon Measures
- Lexicon-based analysis is time-efficient and highly reliable for quantifying word retrieval ability at the discourse level (e.g., Dalton, Kim, Richardson, & Wright, 2020).
- Based on previous research, the core lexicon measure was able to differentiate PWA's impaired lexical access from healthy controls (Dalton & Richardson, 2015) and identify overall language severity (Kim et al., 2019 & 2021).

Validity and Reliability of Core Lexicon Measures
- Significant correlations were found with other discourse measures.
- Main concept (Dalton & Richardson, 2015)
- Micro and Macro-linguistic measures (Kim & Wright, 2020)
- High inter-rater reliability was found (Kim & Wright, 2020).

Different Criteria for Core Lexicon Measures
- Percentage criterion: Lexical items produced by greater than 50% of the sampling cohorts are selected as "core lexicon" (Dalton & Richardson, 2015).
- Frequency criterion: 25 most frequently produced lexical items are selected (Kim, Kintz, Zelnosky & Wright, 2019).
- Lack of statistical guidance for the criterion poses a serious challenge to the robustness of the measure, and the potential use of the measure in clinical settings.

Purpose of the study
- Examine the better criterion (frequency vs percentage) for identifying core lexicon items to enhance the quality of measurement in core lexicon measures.
- Explore possibility of context-invariant core lexicon measures for clinical purposes.

Selected references

Language Samples
- Study 1 – 470 cognitively healthy adults
- Study 2 – 272 persons with aphasia from AphasiaBank

Flow chart for analysis

Study 1
- Frequency vs. Percentage

Study 2
- Frequency analysis
- Residual correlations

Results

Structure Equation Modeling

<table>
<thead>
<tr>
<th>Function Words</th>
<th>( \chi^2 )</th>
<th>Difficulty</th>
<th>Discrimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.18</td>
<td>-1.03</td>
<td>2.30</td>
</tr>
<tr>
<td>And</td>
<td>4.80</td>
<td>-1.52</td>
<td>6.02</td>
</tr>
<tr>
<td>Be</td>
<td>2.89</td>
<td>-1.43</td>
<td>4.05</td>
</tr>
<tr>
<td>For</td>
<td>5.00</td>
<td>0.28</td>
<td>1.98</td>
</tr>
<tr>
<td>Her</td>
<td>8.61</td>
<td>-0.52</td>
<td>3.28</td>
</tr>
<tr>
<td>His</td>
<td>9.78</td>
<td>1.53</td>
<td>1.11</td>
</tr>
<tr>
<td>On</td>
<td>9.60</td>
<td>0.93</td>
<td>1.20</td>
</tr>
<tr>
<td>They</td>
<td>9.51</td>
<td>-0.29</td>
<td>2.92</td>
</tr>
<tr>
<td>To</td>
<td>6.80</td>
<td>-0.87</td>
<td>3.29</td>
</tr>
<tr>
<td>With</td>
<td>9.20</td>
<td>-0.03</td>
<td>2.10</td>
</tr>
</tbody>
</table>

Conclusions
- Using frequency as a criterion for core lexicon measures may induce more accurate scoring interpretation for content words, while the percentage criterion seems to be better suited for function words.
- Universal core function words may be viable for clinical purposes; however, use of a universal core function word checklist needs further investigation to determine its clinical applicability.