Supplementary table 3. Statistical details of acoustic analysis for emotional conveyance sentences

Part A. Descriptives

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>PD Female</th>
<th>All</th>
<th>Male</th>
<th>CP Female</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensity H</td>
<td>61.71 (5.21)</td>
<td>65.22 (3.61)</td>
<td>63.12 (4.86)</td>
<td>66.55 (2.43)</td>
<td>64.49 (3.57)</td>
<td>65.21 (3.30)</td>
</tr>
<tr>
<td>Mean F0 H</td>
<td>168.98 (35.75)</td>
<td>204.39 (28.97)</td>
<td>183.15 (36.96)</td>
<td>155.97 (12.36)</td>
<td>240.15 (28.59)</td>
<td>210.69 (47.56)</td>
</tr>
<tr>
<td>SD of F0 H</td>
<td>35.63 (14.04)</td>
<td>43.97 (12.16)</td>
<td>38.96 (13.64)</td>
<td>35.70 (11.54)a</td>
<td>63.40 (15.94)</td>
<td>55.16 (18.57)</td>
</tr>
<tr>
<td>Speech rate H</td>
<td>4.33 (0.63)</td>
<td>4.18 (0.51)</td>
<td>4.27 (0.57)</td>
<td>4.90 (0.49)</td>
<td>3.90 (0.38)</td>
<td>4.25 (0.63)</td>
</tr>
<tr>
<td>Adjusted speech rate H</td>
<td>4.46 (0.57)</td>
<td>4.19 (0.51)</td>
<td>4.35 (0.55)</td>
<td>4.91 (0.49)</td>
<td>3.91 (0.38)</td>
<td>4.26 (0.64)</td>
</tr>
<tr>
<td>Pause H</td>
<td>0.00 (4.53)a</td>
<td>0.00 (0.00)a</td>
<td>0.00 (3.00)a</td>
<td>0.00 (0.00)a</td>
<td>0.00 (0.00)a</td>
<td>0.00 (0.00)a</td>
</tr>
<tr>
<td>Intensity N</td>
<td>58.83 (5.33)</td>
<td>60.96 (4.45)</td>
<td>59.68 (4.99)</td>
<td>61.77 (3.46)</td>
<td>60.09 (4.28)</td>
<td>60.68 (4.00)</td>
</tr>
<tr>
<td>Mean F0 N</td>
<td>132.84 (19.30)</td>
<td>172.90 (30.85)</td>
<td>148.86 (31.17)</td>
<td>117.66 (13.49)</td>
<td>186.46 (18.23)</td>
<td>162.38 (37.43)</td>
</tr>
<tr>
<td>SD of F0 N</td>
<td>18.50 (5.59)a</td>
<td>29.67 (13.02)</td>
<td>20.82 (9.83)a</td>
<td>27.19 (4.31)</td>
<td>34.60 (9.35)</td>
<td>32.01 (8.62)</td>
</tr>
<tr>
<td>Speech rate N</td>
<td>4.45 (0.73)</td>
<td>4.60 (0.65)</td>
<td>4.51 (4.46)</td>
<td>4.77 (0.55)</td>
<td>4.21 (0.28)</td>
<td>4.41 (0.47)</td>
</tr>
<tr>
<td>Adjusted speech rate N</td>
<td>4.53 (0.67)</td>
<td>4.62 (0.63)</td>
<td>4.57 (0.64)</td>
<td>4.82 (0.54)</td>
<td>4.22 (0.27)</td>
<td>4.38 (0.47)a</td>
</tr>
<tr>
<td>Pause N</td>
<td>0.00 (1.62)a</td>
<td>0.00 (0.00)a</td>
<td>0.00 (0.82)a</td>
<td>0.00 (1.14)a</td>
<td>0.00 (0.00)a</td>
<td>0.00 (0.00)a</td>
</tr>
<tr>
<td>Intensity S</td>
<td>57.81 (6.19)</td>
<td>62.15 (3.69)</td>
<td>59.55 (5.65)</td>
<td>62.78 (2.50)</td>
<td>59.88 (4.88)</td>
<td>60.89 (4.36)</td>
</tr>
<tr>
<td>Mean F0 S</td>
<td>133.00 (27.26)</td>
<td>172.45 (33.36)</td>
<td>148.78 (35.12)</td>
<td>116.04 (15.11)</td>
<td>186.91 (25.09)</td>
<td>162.10 (40.90)</td>
</tr>
<tr>
<td>SD of F0 S</td>
<td>17.83 (8.95)a</td>
<td>31.64 (9.71)</td>
<td>25.29 (12.06)</td>
<td>23.86 (5.39)</td>
<td>34.60 (11.02)</td>
<td>30.85 (10.65)</td>
</tr>
<tr>
<td></td>
<td>Speech rate $S$</td>
<td>Adjusted speech rate $S$</td>
<td>Pause $S$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.00 (0.74)</td>
<td>4.02 (0.73)</td>
<td>0.00 (NA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.79 (0.56)</td>
<td>3.80 (0.56)</td>
<td>0.00 (0.53)$^a$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.92 (0.66)</td>
<td>3.93 (0.66)</td>
<td>0.00 (0.00)$^a$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.03 (0.64)</td>
<td>4.03 (0.64)</td>
<td>0.00 (NA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.40 (0.44)</td>
<td>3.41 (0.44)</td>
<td>0.00 (0.56)$^a$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.62 (0.59)</td>
<td>3.63 (0.59)</td>
<td>0.00 (0.00)$^a$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Descriptives are shown as mean (SD), unless marked with ‘a’ in which case they refer to median (IQR). H = happy mood, N = neutral mood, S = sad mood.

PD = people with Parkinson’s disease, CP = conversation partner controls, $F_0$ = fundamental frequency.

**Part B. Mean differences associated with predictors**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensity</td>
<td>4.83$^*$</td>
<td>-3.49?</td>
<td>5.54$^*$</td>
<td>1.86</td>
<td>-3.23</td>
<td>-3.58</td>
<td>-0.52</td>
<td>0.02</td>
<td>-1.59</td>
<td>-1.25</td>
<td>-0.97</td>
<td>-0.76</td>
</tr>
<tr>
<td>Mean $F_0$</td>
<td>-6.43</td>
<td>41.47**</td>
<td>36.32**</td>
<td>17.27</td>
<td>-32.24</td>
<td>-32.60</td>
<td>-5.10</td>
<td>-4.41</td>
<td>-12.09</td>
<td>-19.34</td>
<td>-12.75</td>
<td>-13.12</td>
</tr>
<tr>
<td>SD of $F_0$</td>
<td>9.91$^*$</td>
<td>13.58**</td>
<td>4.44</td>
<td>4.06</td>
<td>-12.03</td>
<td>-11.65</td>
<td>-7.29</td>
<td>-5.08</td>
<td>-7.28</td>
<td>-7.22</td>
<td>-6.37</td>
<td>-9.36$^*$</td>
</tr>
<tr>
<td>Speech rate</td>
<td>0.47?</td>
<td>-0.24</td>
<td>-0.66$^*</td>
<td>0.65$^*$</td>
<td>0.09</td>
<td>-0.42</td>
<td>0.37$^*$</td>
<td>0.15</td>
<td>0.01</td>
<td>-0.21</td>
<td>-0.17</td>
<td>-0.32$^*$</td>
</tr>
<tr>
<td>Adjusted speech rate</td>
<td>0.38</td>
<td>-0.32</td>
<td>-0.61$^*$</td>
<td>0.56$^*$</td>
<td>0.07</td>
<td>-0.51</td>
<td>0.37$^*$</td>
<td>0.21</td>
<td>0.03</td>
<td>-0.11</td>
<td>-0.13</td>
<td>-0.26</td>
</tr>
<tr>
<td>Pause</td>
<td>-2.03$^*$</td>
<td>-1.85$^*$</td>
<td>0.99</td>
<td>-2.07</td>
<td>-1.27$^*$</td>
<td>-2.56</td>
<td>0.64</td>
<td>1.78$^*$</td>
<td>0.92</td>
<td>1.76</td>
<td>1.14</td>
<td>1.49$^?$</td>
</tr>
</tbody>
</table>

$F_0 =$ fundamental frequency, MoCA = Montreal Cognitive Assessment, H = happy mood, N = neutral mood, S = sad mood. * = p < 0.05, ** = p < 0.01, *** = p < 0.001, ? = 0.05 < p < 0.1.