

Supplemental Material S5. Analysis of gender impact on findings.

Gender-based data on F0 variability

The analyses included 25 effect sizes from 7 articles for a total of 217 PwPD and 158 controls. The Bayesian hierarchical model showed an overall estimated effect size of -0.75 with a 95% CrI of [-1.34, -0.16], as well as an overall estimated heterogeneity of 0.47 (95% CrI [0.16, 1.1]). Evidence ratio and credibility score for estimated effect size were 66.8 and 99%, respectively. The data did not exhibit any likely publication bias (Kendall's tau = 0.14, $p = .32$).

To examine a potential impact of gender on differences in F0 variability impairments in PwPD, the intercept model was compared to a model including gender as a fixed-effect factor using stacking weights (Yao et al., 2018). This indicates the probability that the model including gender is better than the model without this predictor. The results showed that the intercept model provides a better account of the data (stacking weight, 0.999) than the model including gender.

Figure 5.1. Forest plot for Gender-based data on F0 variability estimates according to article. Shaded areas represent posterior probability density for each estimate. Numbers on right provide estimated Hedges' g and 95% CrI. Results for pooled effect are displayed at bottom of plot, providing a comprehensive summary of the findings.

Group-based data on F0 variability

The analyses included 22 effect sizes from 13 articles for a total of 211 PwPD and 205 controls. The Bayesian hierarchical model showed an overall estimated effect size of -0.75 with a 95% CrI of [-1.17, -0.28], as well as an overall estimated heterogeneity of 0.39 (95% CrI [0.05, 0.81]). Evidence ratio and credibility score for estimated effect size were 172.91 and 99%, respectively. The data did not exhibit any likely publication bias (Kendall's tau = 0.07, $p = .67$).

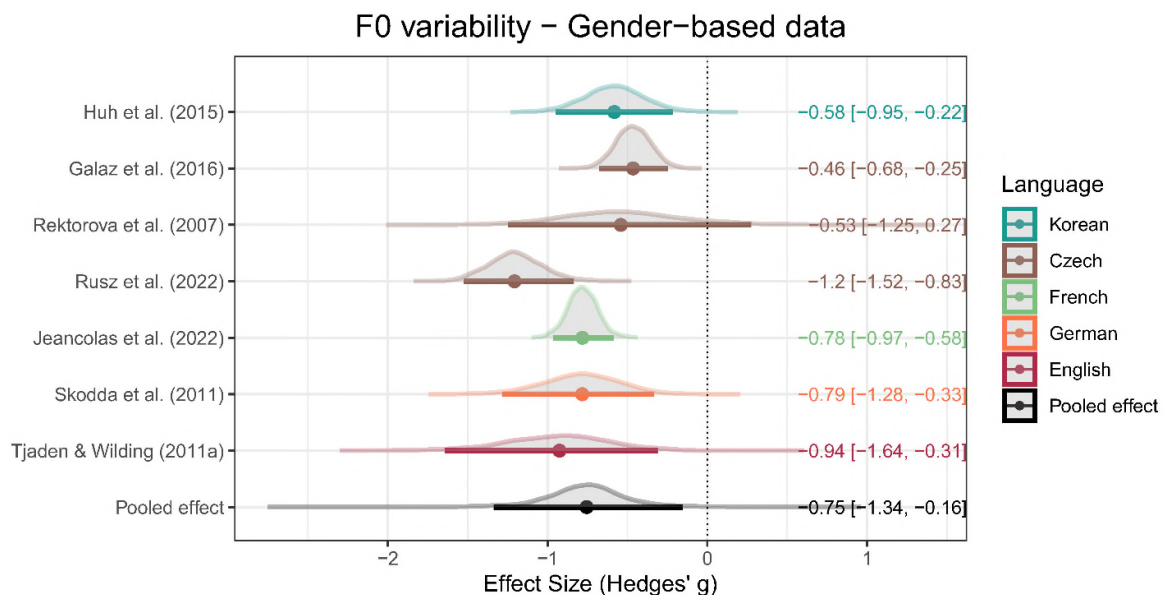


Figure 5.2. Forest plot for Group-based data on $F0$ variability estimates according to article. Shaded areas represent posterior probability density for each estimate. Numbers on right provide estimated Hedges' g and 95% CrI. Results for pooled effect are displayed at bottom of plot, providing a comprehensive summary of the findings.

Yao, Y., Vehtari, A., Simpson, D. & Gelman, A. (2018). Using stacking to average Bayesian predictive distributions (with discussion). *Bayesian Analysis*, 13, 917–1007.

