

Supplemental Material S1. LMER summary table for the main effect of Trial in the AV Full condition, reporting the model estimate, standard error of the estimate, degrees of freedom for the fixed factor, and the *t*- and *p*-values.

| Fixed effect | Estimate | Std. Error | <i>df</i> | <i>t</i> -value | Pr(> <i>t</i>) |
|--------------|----------|------------|-----------|-----------------|-------------------|
| Intercept | 31.51 | 3.948 | 73.01 | 7.892 | < .0001 |
| Trial | 0.379 | 0.3652 | 1718 | 10.377 | < .0001 |

Supplementary Analysis 1 – AV Full block

In the main paper, stepwise model building indicated that the main effect of trial better captured variance than the main effect of block. However, as outlined in pre-registration number ##41527 “Transcribing distorted audiovisual speech,” we proposed a by-blocks analysis of adaptation. This analysis is therefore detailed here.

The model submitted to backwards model selection therefore contained the main effect of trial and random by-participants intercepts and by-block slopes. However, the inclusion of the by-participants ($p = .296$) and by-items slopes ($p = .767$) slopes did not significantly improve model fit. The best fitting model therefore included only by-participants and by-items random intercepts, and the main effect of block (see Supplemental Material S2 for the full model syntax). In this analysis, H_1 was that participants should adapt to the noise vocoded speech over training, evidenced by a main effect of block (BIC = 17197). The null hypothesis would be that participants would show no adaptation, in this case, a model excluding the main effect of block (BIC = 17275). The resulting BF_{10} was > 150 , indicating that the evidence in favour of the alternative hypothesis was very strong, following Raftery (1995).

Supplemental Material S2 shows the summary of the final model. As Block was coded as a factor, we established whether performance in a given block (e.g., Block 2) differed from the subsequent block (e.g., Block 3) by releveling the factor to set each subsequent block as the reference factor (in Supplemental Material S2, this is illustrated in the “Block Ref. Level” column). Doing so revealed that there were significant differences between Blocks 1 and 2 ($p < .001$), and 3 and 4 ($p = .004$), however performance did not differ significantly between Blocks 2 and 3 ($p = .127$). This effect is illustrated in supplementary Figure S1 below which displays the model estimates of performance by Block. To conclude, participants showed a difference in performance across the four blocks of the AV Full condition.