Figure S1. Behavioral performance in the scanner. (A) SSS-test outcome. Histogram of 388 PLVs obtained in a previous work\(^1\) with two different versions of the SSS-test. Black dots represent the participants selected to complete the fMRI protocol. Black line represents the threshold value adopted in this work to separate high and low synchronizers: PLV\(_{\text{threshold}}\)=0.49. A k-means clustering algorithm using a squared Euclidean distance metric was applied over this distribution (N=388). The threshold value is the midpoint between the two clusters’ centers. (B) Scatterplot displaying participants’ PLV during AS inside the scanner as a function of the PLV from the SSS-test. Red line represents the correlation of the data. (C) Percentage of correct responses for the statistical word-learning task during PL and AS conditions inside the scanner on the entire sample. (D) Percentage of correct responses for the statistical word-learning task during PL and AS conditions inside the scanner for the low (blue color) and the high (orange color) synchronizers. Dots represent individual participants. *p<0.05. Mann-Whitney-Wilcoxon for between-group and Wilcoxon Signed-Rank for within-group comparisons. Black lines: mean across participants. Shadowed region: SD. AS: Articulatory Suppression; PL: Passive Listening.
Figure S2. **Brain networks significantly activated during PL.** The different networks are shown over a canonical template with MNI coordinates on the upper portion of each slice. Neurological convention is used with a p<0.05 FWE-corrected threshold at the cluster level and an auxiliary p<0.001 threshold at the voxel level. In addition to the auditory (green) and fronto-parietal (red) networks described in the main manuscript, a sensorimotor (magenta) and a right lateralized fronto-temporo-parietal (yellow) networks were also activated during PL. All these networks were significantly activated during PL for both high and low synchronizers, except the fronto-parietal, which was only active for the high. *p<0.05 Mann-Whitney-Wilcoxon between-group comparison, FDR corrected.
Figure S3. Brain networks significantly activated during AS. The different networks are shown over a canonical template with MNI coordinates on the upper portion of each slice. Neurological convention is used with a p<0.05 FWE-corrected threshold at the cluster level and an auxiliary p<0.001 threshold at the voxel level. In addition to the auditory (green) and fronto-parietal (red) networks described in the main manuscript, a left (light blue) and a right (yellow) lateralized fronto-temporo-parietal network were also activated during AS. All networks were significantly activated during AS for both high and low synchronizers, except for the fronto-parietal which was only active for the high and the auditory, which was marginally significant for the lows (p_unc=0.03).