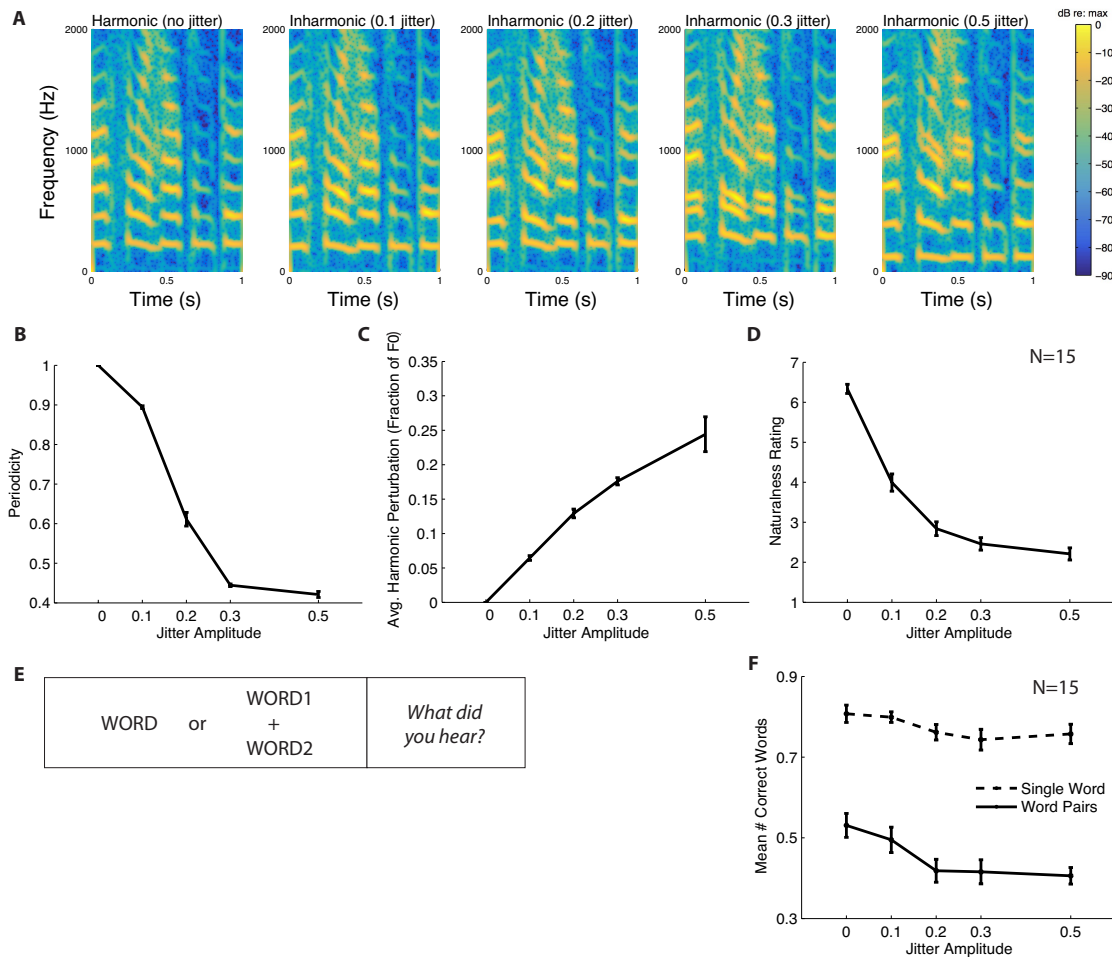


Supplementary Information

Inharmonic speech reveals the role of harmonicity in the cocktail party problem

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Supplementary Figure 1. Results of parametric inharmonicity manipulation with jitter patterns unconstrained by the minimum frequency spacing (Experiment S1). **A.** Spectrogram of excerpt of harmonic and inharmonic utterances with harmonics jittered by 10%, 20%, 30%, and 50% of the F0, respectively. **B.** Waveform aperiodicity (the height of the peak of the autocorrelation function) for each jitter condition. **C.** Average absolute harmonic perturbation for each jitter condition. Error bars here and in (B) plot standard deviation. **D.** Ratings of naturalness of spoken sentences for different degrees of inharmonicity (N=15). There was a modest difference in naturalness between the .3 and .5 jitter conditions, unlike when the jitter was constrained to minimize beating ($t(14) = 3.36$, $p=0.0047$). **E.** Schematic of trial structure for word segregation task (same as in Experiment 2). **F.** Intelligibility of single words and concurrent word pairs as a function of the degree of inharmonicity (N=15). Unlike when jitter was constrained to minimize beating, the jitter manipulation affected intelligibility of single words in quiet ($F(4, 56) = 4.7415$, $p=0.0023$). However, the effect of inharmonicity on mixture intelligibility again leveled off once the jitter magnitude exceeded .3 ($t(14) = 0.5$, $p=0.63$), suggesting that the limited effect of inharmonicity in Experiment 2 was not an artifact of the constraint imposed on the frequency jitter. Error bars here and in (D) plot SEM.