A parametric investigation of binaural beats for brain entrainment and enhancing sustained attention

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Supplemental analyses

Despite random assignment, the proportion of males was greater in the White Noise compared to the No White Noise group, $\chi^2(1)= 6.0$, p=.02, and the proportion of people who considered themselves white was greater in the condition in which auditory stimulus onset was with the task, compared to auditory stimulus onset before the task, $\chi^2(1)= 6.9$, p=.01 (see Table 1); all other parameter x sex and parameter x race white vs. all other races ps>.21. Because of the confounds between sex and white nose and between race and timing of auditory stimulus onset, we ran supplement models. When Noise condition was replaced with Sex, the effects observed with Noise were all non-significant (Percent Hits: Sex x Treatment, $F(1,53)=1.28$, p=0.264; PDS2N: Sex x Treatment, $F(1,52)=1.87$, p=0.178), suggesting that noise, rather than sex, was driving these effects. When timing of auditory stimulus onset was replaced with race (white vs. all other races), there was a significant Race x Treatment x Block Linear interaction on percent CPT hits (Treatment x Block x Race, $F(1,53)=6.404$, p=.014). The pattern for non-white participants was similar to that observed for before+during condition (even though there were fewer non-white participants in the before+during condition), suggesting that the modest impact of duration on binaural beats influence on vigilance was driven by non-white participants.