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Advancement in neuroscience has rapidly increased knowledge of neural correlates with several musical engagements. Researchers have endeavored to identify brain responses that are related to experiences of music participation. However, interest in neuroscientific study of music is hard to find in Ghana. There seems to be a paucity of research on brain response to music stimuli as well as its relationship to brain development. The objective of this study was to investigate brain responses, focusing on the frontal lobe. The study was conducted within the framework of brain behavior and human development. The one-way repeated-measures ANOVA was conducted to evaluate the null hypothesis that there was no significant difference between brain response to music and non-music stimuli. One hundred students (N=100) were randomly sampled to participate in the study. Data for the study were collected using the EmotivEPOC+ EEG and EmotivPRO interface. The results indicated a significant difference between brain responses to music and non-music stimuli; Walks' Lambda = .999, F (1, 98) = 294.6, p < .05, Pr = 1.0. It was observed that student's brain activities to non-music stimuli were higher (u = 4181.59) than to music stimuli (u = 4176.99) in the frontal lobe.

Keywords: Neuroscience of Music, Musical engagement, Neural Correlates, Myelination, Synaptogenesis