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Motor and Cognitive Tasks Effects on Pre-Frontal Theta

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The effects of social rejection on pre-frontal theta were recently studied by Dr. Joseph Williams and Dr. Doran French in a chat room environment. By deceiving their participants into believing they were chatting with two students from other college campuses in Illinois, Williams and French easily socially rejected the participant using confederates and scripts. During the time of social rejection, the participants typed less and read less text on the computer screen. Although Williams and French found an increase in pre-frontal theta during this time, two possible confounds arose: less cognition and less motor from the participants. Therefore, the current study determined whether pre-frontal theta increased during motor and cognitive tasks, and if this increase is significant when compared to the increase in pre-frontal theta during social rejection. Pre-frontal theta has been measured using electroencephalograms since 1929, proving the effects of various types of activities on theta, including cognition and motor skills. Males and females from Illinois Wesleyan University general psychology classes completed sets of short and long motor and cognitive tasks. In an effort to recreate the exclusion phase of Williams and French’s study, participants were asked to retype sentences echoing the amount of sentences typed during social exclusion in the previous study, which were presented in phases of fourteen lines and twenty-four lines. Participants were also asked to comprehend a chat between three students, one of which was socially excluded. The chats also echoed the amount of sentences read during the exclusion phase of the previous study, as the cognition phases were presented in fourteen and twenty-four line segments. It is predicted that the motor and cognitive activities will not produce a significant change in theta, as compared to the theta increase in reaction to social rejection. Results will be discussed during the presentation.