Analysis of brainwaves using Flanker Paradigm

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Analysis of Flanker Paradigm

Abstract

This study done was used to look at how a stimulus that may be distracting or unimportant can impact brainwaves. The study used a test called the flanker paradigm which gives the participants multiple stimuli of X's or O's in a line of three. Only the middle stimuli were important, requiring the participant to select the left button for O and right for X. On either side of the central target, the flanker stimuli could be neutral if the stimuli were not a letter, mismatch if they were different from the target letter, and match if the stimuli were the same letter as the target. An electroencephalogram (EEG) was used to monitor brainwave activity. Based on the analyses of the study it appeared that the waveform with the neutral stimulus had a larger peak than either match or mismatch, and match and mismatch both had the presence of an N2 wave whereas neutral did not. This could show that there is some component in the match and mismatch stimuli that is absent in the neutral stimuli and could have implications for how the brain processes irrelevant stimuli.