The Concealed Information Test -- Utilizing P300 data to determine the presence of crime-related information in a suspect's memory

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Abstract

The Concealed Information Test (CIT) is frequently used to determine the presence of crime-related information in a suspect's memory. In this paper, we conducted a meta-analysis to test the validity of the CIT to differentiate between guilty and innocent individuals based on ampli-tude differences of the P300 component of the event-related potential. We included experimental studies that used either the mock-crime paradigm or the personal-item paradigm. The results show a large mean effect size (d*) of 1.70 for the P300. Moderation analysis showed that P300 effects in CIT are affected by the choice of paradigm (personal item vs. mock-crime paradigm), the chosen trial protocol (complex vs. original) and the likelihood of subjects to employ countermeasures. Based on our findings, we conclude that the P300 is useful to determine the presence of crime-related information and that people interesting in using the CIT should use the mock-crime paradigm with the complex trial protocol.

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