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OBJECTIVE:
To determine if there is a significant difference in classification accuracy between Conners' Continuous Performance Test - II (CPT-II) and the Test of Variables of Attention (TOVA) for Attention Deficit Hyperactivity Disorder (ADHD). It was hypothesized the TOVA would better predict a diagnosis of ADHD, and that response time variability would have the strongest relationship with diagnosis.

METHOD:
Participants were 50 children referred for neuropsychological evaluation; 30% were female and 70% male. Mean age was 12.59 (SD = 2.87). Participants were administered the CPT-II and TOVA within the same neuropsychological evaluation.

RESULTS:
The majority of the sample (86%) received a diagnosis of ADHD as a result of the evaluation. Receiver Operating Characteristic (ROC) was used to assess classification accuracy of various aspects of the two tests. Neither standard scores for commission errors nor omission errors of the CPT-II or the TOVA resulted in a ROC significantly above chance. ROCs for response time and response time variability were also near chance for the CPT-II but slightly better for the TOVA (AUCs of .571 and .629, respectively). The TOVA's API produced a ROC with better than chance classification (AUC = .618). When the CPT-II's confidence index was transformed into a continuous variable, the resulting ROC had an area under the curve of .687, which was the highest of any variable examined.

CONCLUSION(S):
Given the number of cognitive diagnoses which can be accompanied by attentional difficulties, the poor classification accuracies demonstrated here for ADHD are not unexpected, but the CPT-II's slightly better performance for total score was unanticipated.