Modification to the Attention Network Test for Children Between the Ages 3 to 5 years old

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Abstract

The Attention Network Test (ANT) is a computerized test developed by Fan and collaborators (2002) to measure the efficiency and independence of the Attention Networks. On this study the investigators created an adaptation of the test for children of three to five years.

Visual and auditory stimuli, stimulus presentation timing and number of trials were modified to make the test child friendly. Thirty four subjects participated in the study (9 females and 25 males, Mean age: 42 months, SD: .71). Informed consent from parents was obtained and assent was given from children before beginning the test. A pre-post test methodology was used with a factorial design using flanker and cueing stimuli and age group as dependent variables (2x4x2); and reaction timing (RT) and accuracy scores as independent variables.

ANOVAs results indicate significant RT effect for cueing and flanker type ($P<.001$). Percentage of error was significant for age group ($P<.001$) and session ($P<.05$). No significant effect was found for each network ($F<1$).Correlation analysis indicate reliable scores just for the Executive Attention network ($p=.004$).

Results suggest that the test can be used for measuring Executive Attention at 46 months of age. Also, no significant effect was found on network scores suggesting the independency of the networks as the theory proposes (Petersen and Posner, 2012).

These findings suggest that the Young Child ANT can be used to get reliable measures of attention networks at 46 months of age. Further investigation is suggested using a bigger subject sample and a new instruction design.

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