

Attention and Creative Problem-Solving: Cognitive Differences between Adults with and without Attention Deficit Hyperactivity Disorder

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Abstract : Introduction: It has been proposed that distractibility, a key diagnostic criterion of Attention Deficit Hyperactivity Disorder (ADHD), may be associated with higher creativity levels in some individuals. Anecdotal and empirical evidence has shown that ADHD is therefore beneficial to creative problem-solving, and the generation of new ideas and products. Previous studies have only used one or two measures of attention, which is insufficient given that it is a complex cognitive process. The current study aimed to determine in which ways performance on creative problem-solving tasks and a range of attention tests may be related, and if performance differs between adults with and without ADHD. Methods: 150 adults, 47 males and 103 females (mean age=28.81 years, S.D.=12.05 years), were tested at Edinburgh Napier University. Of this set, 50 participants had ADHD, and 100 did not, forming the control group. Each participant completed seven attention tasks, assessing focussed, sustained, selective, and divided attention. Creative problem-solving was measured using divergent thinking tasks, which require multiple original solutions for one given problem. Two types of divergent thinking task were used: verbal (requires written responses) and figural (requires drawn responses). Each task is scored for idea originality, with higher scores indicating more creative responses. Correlational analyses were used to explore relationships between attention and creative problem-solving, and t-tests were used to study the between group differences. Results: The control group scored higher on originality for figural divergent thinking ($t(148) = 3.187, p < .01$), whereas the ADHD group had more original ideas for the verbal divergent thinking task ($t(148) = -2.490, p < .05$). Within the control group, figural divergent thinking scores were significantly related to both selective ($r = -.295$ to $-.285, p < .01$) and divided attention ($r = .206$ to $.290, p < .05$). Alternatively, within the ADHD group, both selective ($r = -.390$ to $-.356, p < .05$) and divided ($r = .328$ to $.347, p < .05$) attention are related to verbal divergent thinking. Conclusions: Selective and divided attention are both related to divergent thinking, however the performance patterns are different between each group, which may point to cognitive variance in the processing of these problems and how they are managed. The creative differences previously found between those with and without ADHD may be dependent on task type, which to the author's knowledge, has not been distinguished previously. It appears that ADHD does not specifically lead to higher creativity, but may provide explanation for creative differences when compared to those without the disorder.

Keywords : ADHD, attention, creativity, problem-solving

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