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Analyzing Performance Differences in Artists and Engineers- An RPM Study

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Abstract

Analytic reasoning differences, as gauged from intelligence metrics, in students engaged in streams requiring a predominantly divergent (arts) or convergent thinking (science and engineering) is a topic of interest. In this paper we have examined this difference by a modified sequence of two sections (D & E) of the Standard Ravens Progressive matrices (RPM). The scan path gaze behavior was analyzed with an eye tracker. The 30 engineering students (half of them are also trained in fine arts) scored higher than the 15 fine arts students. In the former cohort, the artistic and the non-artistic set show no difference in performance but the scan path, fixation count and time taken indicate possible differences in visual strategies for pattern identification. From the detailed analysis, we argue that intelligence as measured by RPM is enhanced by training in reasoning and logic as in engineering streams and might not reflect an innate ability.