

The Concurrent Effect of Autistic and Schizotypal Traits on Convergent and Divergent Thinking

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Abstract : Convergent and divergent thinking are two main components of creativity that have been viewed as complementary. While divergent thinking refers to the fluency and flexibility of generating new ideas, convergent thinking refers to the ability to systematically apply rules and knowledge to arrive at the optimal solution or idea. These creativity components have been shown to be susceptible to variation in subclinical expressions of autistic and schizotypal traits within the general population. Research, albeit inconclusively, mainly linked positive schizotypal traits with divergent thinking and autistic traits with convergent thinking. However, cumulative evidence suggests that these trait dimensions can co-occur in the same individual more than would be expected by chance and that their concurrent effect can be diametric and even interactive. The current study aimed at investigating the concurrent effect of these trait dimensions on tasks assessing convergent and divergent thinking abilities. We predicted that individuals with high positive schizotypal traits alone would perform particularly well on the divergent thinking task, whilst those with high autistic traits alone would perform particularly well on the convergent thinking task. Crucially, we also predicted that individuals who are high on both autistic and positive schizotypal traits would perform particularly well on both the divergent and convergent thinking tasks. This was investigated in a non-clinical sample of 142 individuals (Males = 45%; Mean age = 21.45, SD = 2.30), sufficient to minimally observe an effect size $f^2 \geq .10$. Divergent thinking was evaluated using the Alternative Uses Task, and convergent thinking with the Anagrams Task. Autistic and schizotypal traits were respectively assessed with the Autism Quotient Questionnaire (AQ) and the Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE). Regression analyses revealed that the positive association of autistic traits with convergent thinking scores was qualified with an interaction with positive schizotypal traits. Specifically, positive schizotypal traits were negatively associated with convergent thinking scores when AQ scores were relatively low, but this trend was reversed when AQ scores were high. Conversely, the positive effect of AQ scores on convergent thinking progressively increased with increasing positive schizotypal traits. The results of divergent thinking task are currently being analyzed and will be reported at the conference. The association of elevated autistic and positive schizotypal traits with convergent thinking may represent a unique profile of creative thinkers who are able to simultaneously draw on trait-specific advantages conferred by autistic and positively schizotypal traits such as local and global processing. This suggests that main-effect models can tell an incomplete story regarding the effect of autistic and positive schizotypal traits on creativity-related processes. Future creativity research should consider their interaction and the benefits conferred by their co-presence.

Keywords : autism, schizotypy, convergent thinking, divergent thinking, comorbidity

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