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Different Forms of Creativity Are Rooted in Distinctive Evolutionarily-Ancient Foraging Strategies

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Abstract

Some have speculated that higher-order cognitive functions repurpose mechanisms that evolved for perception and action. Expanding on these ideas, we explored whether creativity builds on our ability to strategically navigate through space ('Creativity as Strategic Foraging'). We establish a connection between different types of creative thinking—divergent and convergent—and corresponding spatial search strategies. Participants completed tests of both divergent and convergent creativity. Before each creativity trial, they searched a city map for which we manipulated the search pattern: half the participants searched for multiple dispersed locations, the rest converged repeatedly on a single location. Participants who engaged in divergent spatial search exhibited superior divergent thinking but poorer convergent thinking, while the opposite held true for participants who repeatedly converged on a single location. These findings highlight a targeted association between spatial foraging and creativity, contributing to a deeper understanding of the underpinnings and mechanisms of high-level cognitive processes.