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Mapping the Structure of Metaphorical Concepts of Undergraduate Research Mentoring

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Abstract

Many scientists describe themselves metaphorically as a "gardener" or "sculptor" of the undergraduate students in their lab and the students' own research ideas. Across two preregistered studies (N = 1200), we applied existing methods for mapping the entailments of metaphorical concepts to provide insight into lay conceptions of undergraduate research mentoring. Participants were presented with one of several mentoring metaphors and rated how closely a series of mentor attributes fit the metaphor. Iterated exploratory factor analysis revealed a small set of dimensions along which the metaphors differed systematically, reflecting the mentor's role as a nurturer, authority figure, communicator, and collaborator. The metaphors were also associated with different intuitions about mentors' responsibility for and power to influence student learning in the lab. Our findings show that mentoring metaphors capture distinct mentor attribute profiles, with implications for how scientists understand and communicate the value of their mentoring approach to their students.

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