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State vs. Trait: Examining Gaming the System in the Context of Math Perception Tasks

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Abstract

In the development and analysis of interventions designed to improve student learning, it is important to consider potential influences of student behavior. Unproductive behaviors, such as "gaming the system," have been studied for their potential impacts on the measurement and assessment of student knowledge within these interventions. Conversely, less attention has been given to factors that may influence gaming behavior. Gaming may be attributed to student-level traits, but could also be a temporary state brought on by systemic causes such as the perceived difficulty or presentation of a problem. We leverage prior research in this area to develop a data-driven measure of gaming and address whether this behavior occurs as a "state" or "trait" within a randomized controlled trial. We find that these factors are differential across the two study conditions, suggesting that context contributes to the underlying causes of gaming behavior.