

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Measuring strategy adaptivity

Permalink

<https://escholarship.org/uc/item/15p936jx>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 40(0)

Authors

Barnes, Kevin

Wong, Aaron

Bradshaw, Gary

et al.

Publication Date

2018

Measuring strategy adaptivity

Kevin Barnes

Mississippi State University, Mississippi State, Mississippi, United States

Aaron Wong

Mississippi State University, Mississippi State, Mississippi, United States

Gary Bradshaw

Mississippi State University, Mississippi State, Mississippi, United States

Jarrold Moss

Mississippi State University, Mississippi State, Mississippi, United States

Abstract

Adapting ones strategy involves two steps: assessing and then modifying a strategy in a problem-solving environment based on performance. Schunn and Reder demonstrated a positive correlation between working memory and strategy adaptivity measured with the Air Traffic Control Task, though Schunn, Lovett, and Reder found no relationship between working memory and adaptivity measured with the Building Sticks Task (BST). We explored this discrepancy by administering a battery of individual differences measures, including BST adaptivity, fluid intelligence, working memory span, and a new measure of set effects based on the BST, administered to 109 Mississippi State undergraduate participants. Fluid Intelligence and BST adaptivity were positively correlated, though the relationship was weak. Our measure of set-effect adaptivity exhibited internal consistency and obvious individual differences, but was uncorrelated with other tasks. Thus strategy adaptivity may not rely heavily upon working memory and may draw upon distinct cognitive resources, depending on the underlying task.