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Shea Stewart

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Overlooking Subtraction

Psychology study finds people prefer adding tasks, items when making changes

APRIL 29, 2021 BY SHEA STEWART

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When faced with improving a situation, people tend to add to their workload instead of finding ways to lighten the load by subtracting tasks, a team of researchers, including UM psychology professor Andrew Hales, has found. But often, subtraction yields better results. Adobe Stock photo

OXFORD, Miss. – When it comes to improving objects, ideas or situations, such as with home upgrades or recipes, people tend to add to their workload rather than subtract when faced with a variety of improvement problems.

An exploration of that tendency is the subject of a new **Nature** study from a group of psychology researchers that includes a **University of Mississippi** psychology professor.

People’s disposition “to overlook subtraction may be implicated in a variety of costly modern trends, including overburdened minds and schedules, increasing red tape in institutions and humanity’s encroachment on the safe operating conditions for life on Earth,” the researchers wrote.

“We began our research by noticing that people have a strong and robust tendency to improve things by adding,” said co-author Andrew Hales, an assistant professor of psychology at UM who specializes in social psychology. “Why might that be the case? Maybe people think of subtractive ideas, but decide not to go with them, or they may not even think of subtraction in the first place.”

Titled “**People systematically overlook subtractive changes,**” the study involved 1,153 participants **performing eight improvement problem experiments** in which solutions involving subtraction were preferable.

Some of the experiments involved having participants stabilize a Lego structure, improve a miniature golf course and transform a digital grid pattern.

“We found that people were more likely to subtract under conditions that allow them to consider all possible options: when they have a chance to generate more possible solutions, when they are reminded that subtraction is an option and when they are free from distraction so they can focus completely on the task at hand,” Hales said.

“It’s not that subtraction is always better, but it does seem to be a problem that people systematically overlook subtraction as an option.”

In a world where reminders such as “less is more” and “remove barriers” are constant prompts, the study was inspired by the apparent need for subtractive counseling. The reminders seem to presume

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OXFORD, Miss. – The University of Mississippi is asking the community to help spread a little joy this holiday season by donating to the 25th annual Books and Bears program. Donations such as toys, books, dolls, bicycles and other children’s play items are being accepted through Dec. 14. All donations will be collected and sorted

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Mississippi Excellence in Coaching Fellowship Aims to Build Leaders

OXFORD, Miss. – Twenty-five inaugural recipients of the Mississippi Excellence in Coaching Fellowship – a program hosted by the University of Mississippi School of Education in partnership with the Mississippi Association of Coaches and the Mississippi High School Activities Association – are expected to increase their impact on student-athletes and their communities. The coaching fellowship

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Ole Miss In the News

Clarion-Ledger: New Essay Collection Tells the Story of Meredith’s Enrollment

Essays celebrate 60th anniversary of James Meredith’s enrollment at University of Mississippi By Lauren Rhoades Oct. 1 marks the 60th anniversary of James Meredith’s 1962 enrollment at the University of Mississippi as the school’s first African-American student.

that people who are searching for transformations will otherwise overlook or undervalue subtraction as a way to improve objects, ideas or situations.

People who default to adding rather than subtracting when making transformations may be missing opportunities to make their lives more fulfilling, their institutions more effective and their planet more livable.

"Importantly, people are more likely to subtract if the task is set up in a way that slows them down and encourages them to consider alternatives," Hales said. "People identify superior subtractive solutions more when they are less distracted, when they have more chances to practice generating solutions and when they are reminded that subtraction is an option."



Andrew Hales, UM assistant professor of psychology, is a co-author of a new *Nature* paper that explores how people overlook subtractive changes when faced with a variety of improvement problems. Submitted photo

Joining Hales on the study were former colleagues from the University of Virginia, where he worked as a postdoctoral researcher before joining the Ole Miss faculty in 2020. The other authors are Gabrielle Adams and Benjamin Converse, both assistant professors in the Frank Batten School of Leadership and Public Policy, and Leidy Klotz, Copenhagen associate professor in the School of Engineering and Applied Science.

"This work began with insights from my collaborators in public policy, psychology and engineering, who noticed that there is untapped potential for making improvements through subtraction rather than addition," said Hales, who **earned his Ph.D. in psychology** at Purdue University in 2017.

"The fact that people seem to default to improving things by adding to them motivated our research. My background in experimental psychology enabled me to contribute especially to the design and testing of hypotheses in this program of research."

The paper represents years of cross-disciplinary collaboration, Hales said.

"Having an interdisciplinary team greatly enhanced this research," he said. "Different perspectives allowed us to address research questions in a way that would be broadly interesting and applicable. Hopefully, a result will be that more people who learn about this research will become more mindful of the potential for subtractive improvement."

The next step for the group of researchers is developing the practical implications of the research and extending it into systems and organizations.

Primarily a social psychologist who is fascinated by all aspects of social life and decision-making, Hales' research focuses on the causes and consequences of social ostracism and social influence.

Hales' research advances the **Department of Psychology's** mission to be a leading contributor to the field of psychology and to enhance the human experience through a commitment to **excellence in research**, teaching and mentoring in an open and inclusive environment.

"I am so pleased for Dr. Hales that this important work is being recognized through selection for publication in this very prestigious outlet," said Rebekah Smith, chair and professor of psychology. "In addition, this brings positive attention to the department as a whole, which will support our future efforts at recruiting the very best doctoral students and excellent faculty, such as Dr. Hales."

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"James Meredith: Breaking the Barrier," a collection of essays edited by UM professor of journalism Kathleen Wickham, honors this historic milestone with

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