

Study finds not all failures lead to learning

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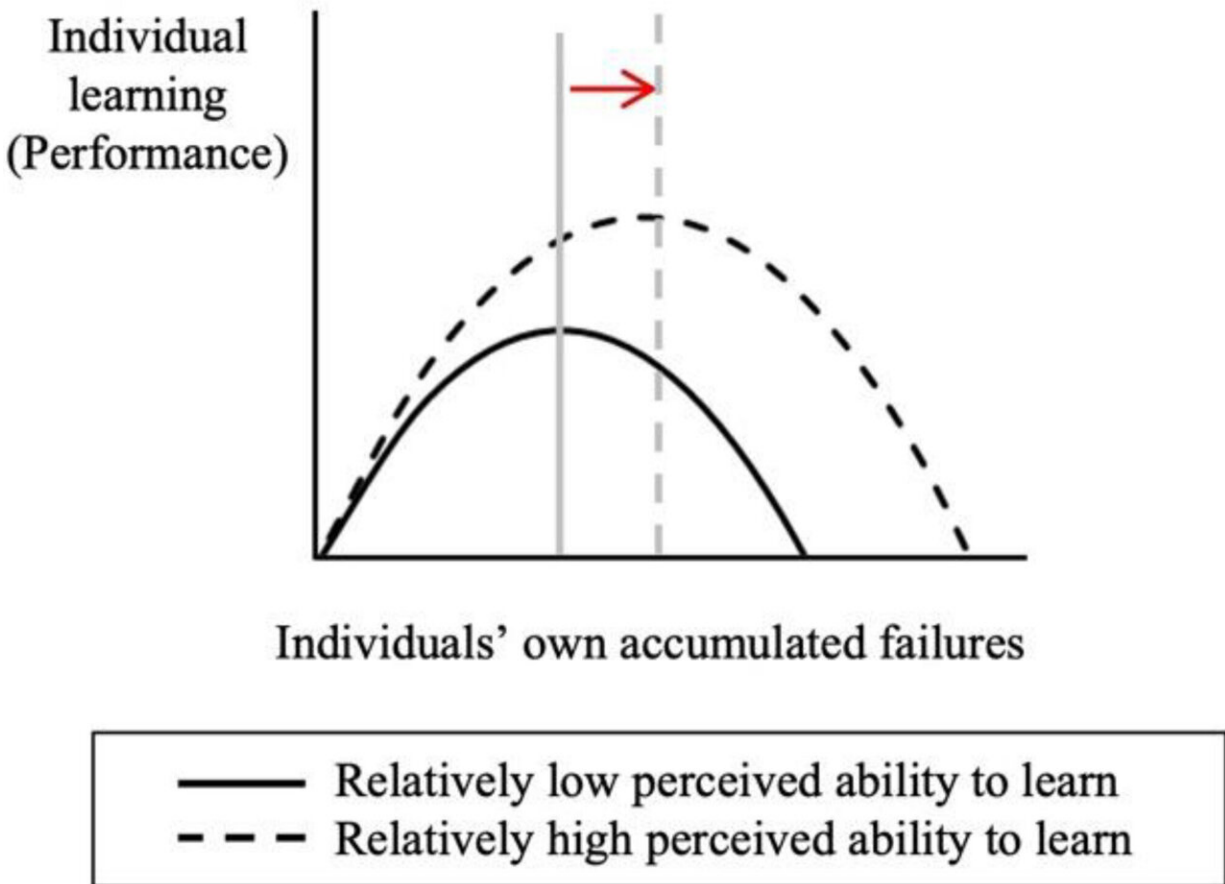


Illustration of the relationship between individuals' own accumulated failures and individual learning based on individuals' perceived ability to learn. Credit: *Strategic Management Journal* (2024). DOI: 10.1002/smj.3609

Do people learn from their failures? In a new study, researchers have examined the high-stakes field of cardiothoracic surgery to assess the

relationship between individuals' experiences with failures and the learning outcomes associated with them. The study found that individuals reach a threshold at which they stop learning from their failures and that this threshold is higher for surgeons with a higher perceived ability to learn.

Conducted by researchers at Carnegie Mellon University and Clark University, the [study](#) is published in the *Strategic Management Journal*.

Individual learning is an important foundation of organizational learning, and individuals' own experiences of failure have been highlighted as important sources of individual learning. But studies on this issue have yielded starkly contrasting findings and provided different theories to explain the results. Theoretically, it is unlikely that failures trigger only processes conducive to learning and not those that prevent learning, and vice versa. Rather, these processes likely co-exist but vary in their relative strengths, with one dominating the other under certain conditions.

"Understanding this [dynamic process](#) is crucial to predicting more effectively how a particular failure affects learning," said Sunkee Lee, associate professor of organizational theory and strategy at Carnegie Mellon's Tepper School of Business, who co-authored the study. "This understanding becomes especially important in contexts where failures carry high stakes, such as patient-care settings."

Researchers developed existing theories on the effect of individuals' own failures on their learning. They also proposed and tested a theoretical model on individual learning from failure that considers the effects of individuals' opportunity, motivation, and perceived ability to learn from their failures. They used data on more than 300 California-based cardiothoracic surgeons who performed [coronary artery bypass graft](#) (CABG) surgeries in 133 hospitals between 2003 and 2018. Failure was

defined as patient deaths resulting from CABG surgeries, and individual learning was captured through improvements in surgeons' performance after such experiences.

Surgeons' performance increased as a function of their accumulated failures up to a point, then declined, the study found. The findings suggest that accumulating one's own failures triggers forces that both increase the opportunity to learn and decrease the motivation to learn, and that learning depends on which force dominates.

The inflection point came later (i.e., at higher levels of accumulated failures) for surgeons who were hypothesized to have higher perceived abilities to learn—those with elite training, certified expertise, and specializations in patient care. These individuals' higher level of perceived ability to learn likely resulted in stronger motivation to learn, and thus reduced their vulnerability to negative emotions and attribution biases—which is the tendency to attribute outcomes to personal traits rather than situational conditions—associated with repeated failures.

"Our findings suggest that not all experiences necessarily lead to learning, and that repeated failures can have both beneficial and harmful impacts on individuals' learning processes," explained Jisoo Park, assistant professor of management at Clark University's School of Management, who co-authored the study. "Therefore, both impacts must be considered simultaneously to understand and improve individuals' performance."

Because learning by individuals affects organizational learning, the study has implications for organizational design, especially in hiring and training. Organizations can improve performance by hiring employees who are more resilient to repeated failures or by training them to become so, the authors suggest.

Among the study's limitations, the authors note that because they studied cardiac surgeons, for whom failure involved patient deaths, the [negative emotions](#) triggered by these failures or the likelihood of attribution biases were likely larger than they would be for individuals in organizations in which the stakes are lower. In addition, the study involved situations where repeated failures were sometimes beyond individuals' control, which might have made those individuals more likely to attribute their failures to external causes, especially as failures accumulated.

More information: Sunkee Lee et al, Giving up learning from failures? An examination of learning from one's own failures in the context of heart surgeons, *Strategic Management Journal* (2024). [DOI: 10.1002/smj.3609](#)

Provided by Tepper School of Business, Carnegie Mellon University

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