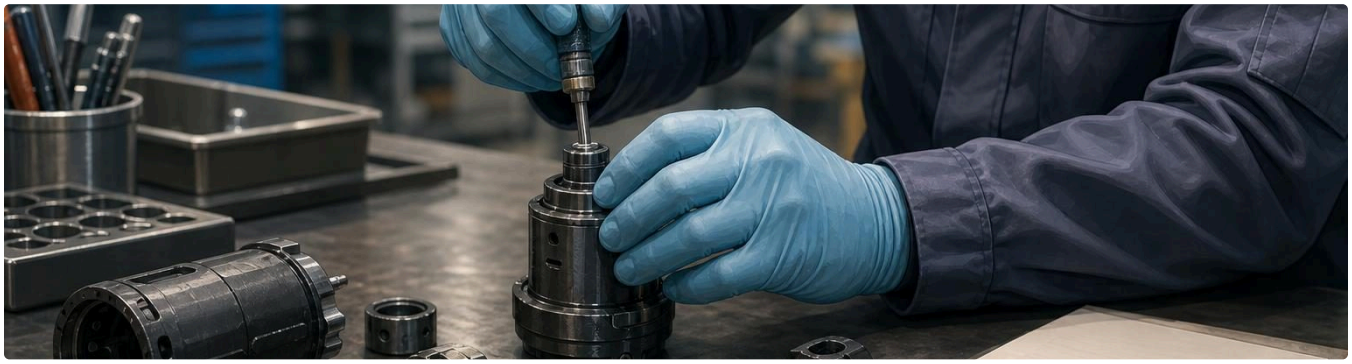
Pressure Does More Than Distract Us

A new research framework says high-stakes moments can change how people process information, with lessons for skilled work.



A gloved technician works carefully at a bench with tools and parts nearby, suggesting skilled performance under pressure.

Researchers in sport and cognitive science have proposed a new way to understand why skilled people sometimes fail under **pressure** and sometimes do their best work. According to reporting by Phys.org on a recently published article in the journal Trends in Cognitive Sciences, researchers from the German Sport University Cologne and colleagues in New Zealand argue that pressure does more than shift **attention**. It may also change the **complexity** of how a person processes information and turns it into action.

That matters far beyond a penalty kick or tennis match point. Many technical jobs include moments when the stakes rise: a machine goes down during production, a patient's condition changes, a customer needs a safe repair before a vehicle leaves the bay, or a supervisor watches a candidate complete a skills test. In those moments, the question is not just whether someone knows the **procedure**. It is whether that person can use the right amount of information, in the right order, while still doing the physical or mental work correctly.

For years, researchers have often explained pressure problems through attention. Attention means what the mind focuses on. Under pressure, a person might get distracted by an audience, a grade, a supervisor, or the consequences of making a mistake. Another possibility is that the person starts consciously controlling movements that normally run automatically. An **automatic** movement is a practiced action, such as making a consistent weld bead or shifting through a familiar **diagnostic** routine, that no longer requires thinking through every tiny step.

The new framework does not reject attention as important. Instead, it asks a second question: once attention lands on something, how is that information being handled? The researchers call this information-**processing** complexity. In plain terms, that means how many pieces of information a person is combining, how many rules are being used, and whether a movement or decision is being controlled as one overall action or as many separate parts.

Simpler processing is not the same as worse processing. A worker under pressure might use one clear rule, one cue, or one practiced routine. That can help if extra information would only create noise. For example, a technician following a safety-critical shutdown procedure may benefit from a direct sequence rather than trying to rethink the whole system in the moment. But simplifying can hurt if important information gets ignored. If a diagnostic problem requires several clues, dropping all but one clue may lead to a fast but wrong answer.

More complex processing is not automatically better either. Combining several pieces of information can improve a decision when the task demands it. A skilled troubleshooter may need to connect a sound, a reading, a recent repair, and a customer complaint before choosing the next test. However, complexity can also overload the person doing the job. If a candidate in a timed performance assessment tries to manage every hand position, every measurement, every possible fault, and every observer reaction at once, the process may become too difficult to carry out reliably.

The researchers use the phrase task-matched complexity to describe the goal: the level of processing should match both the job and the individual. A task-matched approach does not tell everyone to think less, and it does not tell everyone to gather as much information as possible. It asks what the task actually requires and what the person has trained enough to do under pressure. A beginner and an experienced worker may need different supports, even if they are facing the same situation.

That idea has clear implications for training and hiring in career fields. A performance test should not create pressure just for the sake of pressure. If a job truly requires quick decisions with limited information, then a hiring test may need to measure that. If the job requires careful integration of several clues, then the test should allow the candidate to show that skill instead of rewarding only speed. Trainers may also need to teach when to use a **checklist**, when to rely on a practiced routine, and when to slow down to gather more **evidence**.

The article is a theoretical paper, meaning the authors are building a framework from existing research rather than reporting a new experiment with new test results. The predictions still need **empirical** testing; empirical means based on observed evidence collected through studies or experiments. That limitation is important. The framework is not a finished training manual. It is a way to ask better questions about why pressure changes performance.

For skilled work, the most useful takeaway is that choking under pressure and rising to the occasion may come from the same system changing in different directions. Pressure can push a person toward simpler processing or more complex processing. Whether that helps depends on the task, the worker's preparation, and whether the chosen way of thinking can actually be carried out when the stakes are high.

Written from reporting by Phys.org.

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THINK IT THROUGH

1. In a high-stakes skills test for a technical job, should the test designer try to reduce pressure so candidates show their best work, or include pressure because the job itself has pressure? Defend a position.

2. Choose one trade or technical field and argue when simpler information processing would be an advantage and when it would become a risk.

3. What evidence would you want before a school, employer, or certification program changed its training based on this framework?

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R	S	T	E	A	I	O	D	O	C	P	E	A	R	E	C	R	A
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R	E	H	E	P	E	P	E	K	N	E	L	T	E	O	F	A	O

ATTENTION AUTOMATIC CHECKLIST COMPLEXITY
DIAGNOSTIC EMPIRICAL EVIDENCE PRESSURE PROCEDURE
PROCESSING

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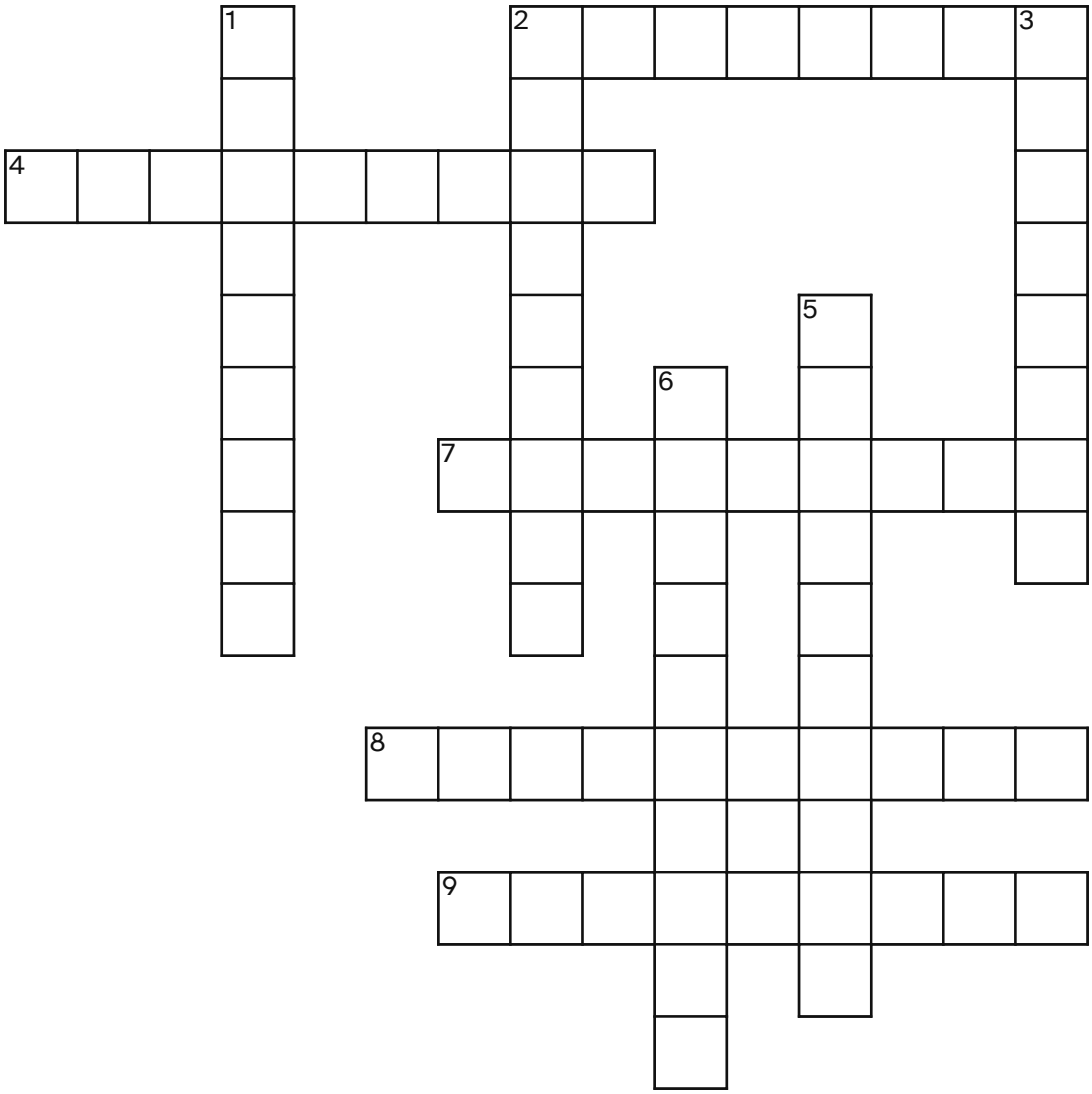

ACROSS

2 High-stakes demand felt during a task

4 Mental focus directed toward a person, object, or task

7 Describing a well-practiced skill done without conscious step-by-step thought

8 Mental work that turns incoming information into decisions or actions

9 Grounded in observations or findings from studies and experiments

DOWN

1 Written guide for reviewing required steps, items, or conditions

2 Ordered steps for doing a job safely and correctly

3 Facts, observations, or measurements supporting a conclusion

5 Related to identifying a problem's cause through clues and evidence

6 Amount of interconnected parts, rules, or links in handling information

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Where this came from

This article was written for 3andB from the reporting below. It is not a reprint — the wording is ours and the facts are theirs.

Phys.org

"Performance under pressure: A new perspective on why we fail—or rise to the occasion"

Published	Friday, October 16, 2026
Read by us on	Friday, October 16, 2026

https://phys.org/news/2026-10-pressure-perspective-occasion.html

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