Jared Cooney Horvath
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Exam fear: why students go blank during tests

Jared Cooney Horvath explains the hormonal release behind mind-blanks and how to deal with them

One moment, thinking is clear and easy. The next, everything is gone. Your heart beats fast, your skin gets clammy, you struggle to remember something … anything … but the harder you fight the further away salvation feels.

During typical learning, when the environment and expectations are predictable, students will largely be engaged in cold-cognition.

Mediated by the prefrontal cortex (which coordinates a number of important cognitive processes, including working memory, behavioural inhibition and task-switching) and the hippocampus (a brain structure that orchestrates the formation of new memories), cold-cognition is marked by calm, rational thinking during which new information is retained, old information is freely accessed, and concepts are constructed.

Unfortunately, whenever a student perceives a threat or experiences a sudden emotional shift, this can trigger hot-cognition. Mediated by the hypothalamus (a brain structure that triggers the release of chemicals and hormones throughout the body), hot-cognition is marked by two important processes.

First, norepinephrine is released, a hormone that serves to mobilise the body for fight-flight response. Unfortunately, within the brain, norepinephrine floods into the prefrontal cortex where it acts to inhibit communication thereby impairing rational thought.

Next, cortisol is released, another hormone that serves to ready the body for fight-flight response. Unfortunately, within the brain, cortisol floods into the hippocampus where it begins to damage (and ultimately kill) brain cells thereby impairing memory formation and access.

If a student interprets an exam (or a particularly difficult exam question) as threatening, it's possible they will quickly swing from cold-cognition into hot-cognition. In less than a second, the hypothalamus will trigger a chemical cascade that essentially short circuits logic and cuts off access to memory.

This is why, seemingly out of the blue, students will go from smooth sailing to a complete halt.

Except, we now know that this response isn't out of the blue; rather, it occurs owing to how a situation is interpreted. And it's here that we can find possible ways to address mind-blanks.

Too often, we highlight the importance of academic performance for future personal, social and professional prospects. Under these circumstances, it's no wonder some students perceive exams as threatening (if I don't pass, I'll never have meaningful life opportunities).

As such, it is certainly worth considering how we can better frame tests. Are there ways to contextualise assessment so that it becomes less a judgement and more a source of feedback to engender learning?

Additionally, it's worth considering how students prepare for exams. A good rule of thumb is to "practice how you intend to perform". A disconnect between study and testing contexts can enhance emotional sensitivity and increase the likelihood of threat response.

If students do find themselves undergoing a mind-blank during an exam, the first step is to abate hot-cognition. First, shut the test-booklet and shift focus away from the threat at hand. Next, stop the flow of norepinephrine and cortisol using a de-stressing routine: mindful meditation, body scan, muscle tension-release, etc.

Once cold-cognition is achieved, find an easy entrance point back into the exam. Don't immediately return to the section or question that triggered hot-cognition. Rather, jump forward or backwards to an easier section. Another option is to simply begin free-writing about any topic of comfort. Doing this will allow rational thought to comfortably re-emerge while boosting confidence before returning to the exam at hand.

Jared Cooney Horvath is an educational neuroscientist at the Melbourne Graduate School of Education at the University of Melbourne. He tweets @JCHorvath

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