

## **Studies Link Students' Boredom to Stress**

Published by *Education Week Online*, October 9, 2012

By Sarah D. Sparks

One glance, and any teacher knows the score: That student, halfway down the row, staring blankly at his tapping pen, fidgeting, sneaking glances at the wall clock roughly every 30 seconds, is practically screaming, "I'm bored!"

While boredom is a perennial student complaint, emerging research shows it is more than students' not feeling entertained, but rather a "flavor of stress" that can interfere with their ability to learn and even their health. An international group of researchers argues this month in *Perspectives on Psychological Science* that the experience of boredom directly connects to a student's inability to focus attention.

"I think teachers should always try to be relevant and interesting, but beyond that, there are other places to look," said John D. Eastwood, an associate professor of psychology at York University in Toronto, Canada, and the lead author of the study. "By definition, to be in the state of boredom is to say the world sucks out there in some way. But often that's not the case; often it's an interior problem, and [students] are looking in the wrong place to solve the problem."

Boredom is one of the most consistent experiences of school and one that can be frustrating and disheartening for teachers. According to findings in the High School Survey of Student Engagement, conducted by the Indiana University Bloomington, boredom is nearly universal among American students. Of a representative sample of more than 275,000 high school students surveyed in 27 states from 2006 to 2009, 65 percent reported being bored in class at least once a day.

### **Lack of Focus**

Under Mr. Eastman and his colleagues' definition, a student who is bored cannot focus attention to engage in the class activity—and blames that inability to focus on the outside environment. A dry lecture style or an uninteresting topic might trigger boredom, Mr. Eastman said, but so can other issues that interfere with a student's attention and working memory.

### **Getting to the Roots**

When students feel bored, research shows they are aware of their own difficulty paying attention. A student may attribute the experience to not being interested in the material or the lecture style. But new studies show that any stress or distraction that takes up working memory—from emotional trauma to attention deficit hyperactivity disorders—all could be contributing to the problem.



For example, students with attention deficit hyperactivity disorder are more likely to report feeling bored than students with normal attention. Students tackling material that is too difficult for them—and thus taking up more working memory—also are more likely to report it is "boring" rather than simply frustrating, Mr. Eastman and other researchers found.

"When people are in a negative emotional state, discouraged, or down, we know that causes attention problems," Mr. Eastman said. "We know when people are stressed it makes it harder to focus and pay attention at a very basic, fundamental level."

Like any type of stress, boredom hampers the prefrontal cortex, the brain area positioned just behind that student's furrowed brow that allows a student to reason and hold different facts in working memory.

Disrupting the brain's executive function also allows its emotional center, the amygdala, to take over, which might explain why bored students are more likely to feel tired, anxious, or depressed, and why they sometimes respond by either "acting out or zoning out," according to Judy Willis, a neurologist and teacher educator from Santa Barbara, Calif., who was not part of the report.

In fact, boredom and other types of stress appear to feed on each other. Students who are stressed due to emotional trauma, for example, are more likely to disengage and feel bored, which adds to their stress.

Likewise, everyday stresses, like a noisy classroom, can sap students' attention and contribute to their boredom.

In a separate study, Clark University psychologists Robin Damrad-Frye and James D. Laird asked students in 1989 to listen to material while a television played in the next room—either silently, at full volume, or low enough to be heard but not noticed. Students were still distracted by the television even when played at the lowest setting, and they misinterpreted their inability to focus as boredom.

Physically, a bored student will go through cycles of higher and lower energy; he or she might fall asleep during a down period, then squirm or doodle in an attempt to "wake up" and pay attention. Teachers often try to stop the fidgeting, but a 2009 study suggests doodling can help focus attention. In that study, researchers from the University of Plymouth, England, asked adults to listen to a monotonous voice recording that identified guests coming to an event.

Participants who were allowed to shade in shapes while listening were better at identifying the guests; later, they recalled 29 percent more information on a surprise memory test.

### **'Reappraising' Dull Tasks**

Reducing boredom and its underlying stress can reduce misbehavior and increase focus—in both the bored child and in surrounding students, Ms. Willis said.

Effective ways to reduce boredom can be counterintuitive to students looking for a quick fix, though. "I think if someone is bored, the worst thing you can do is respond to it by overstimulating," Mr. Eastman said. "It's like quicksand; if you just thrash around, you're even more stuck."

Ulrike E. Nett, a student motivation researcher at the University of Konstanz, Germany, studied the coping strategies of 976 students in grades 5-10 who were given a mathematics problem selected to be potentially boring and difficult. Some "avoided" the task, either by studying a different subject or by talking with friends. Others criticized it and asked for more interesting material or assignments. Still others "reappraised" the situation for themselves, considering ways it could be relevant to them and how to combat their own boredom.

For the student, "it's important to learn, when I feel bored, that's an opportunity for me to become aware of my disengagement and address it," said Mr. Eastman, who was not part of Ms. Nett's study.

The last group of students had higher academic achievement in the task and reported both more enjoyment and less anxiety. Moreover, Ms. Nett found that students who were able to identify and reappraise their own feelings of boredom had fewer bored episodes over time.

"Although teachers try to create interesting lessons, they must be aware that despite their best intentions, some students may still perceive interesting lessons as boring," Ms. Nett concluded. "What is imperative to underscore at this point is that both teachers and students must take some responsibility for boredom, and both must be involved in finding an adequate way to reduce this emotion in their classrooms."