What is this research about?
This study investigated the relationship between classroom environment and secondary students' self-handicapping behaviour.

The researchers define self-handicapping as a “proactive, avoidance behaviour... designed to manipulate other people’s perceptions of performance outcomes so that the self-handicapping student appears worthy to other people in the school” (p. 2). Examples of self-handicapping behaviour include deliberately not trying in class, fooling around the night before an examination, and putting off studying until the last minute (Ferguson et al, 2003).

Specifically, the researchers examined students’ perceptions of their mathematics classroom environment — whether it was a competitive or constructivist class environment — and examined whether either of these two environments had an association with self-handicapping behaviours.

What you need to know:
This study examined the relationship between classroom environments and self-handicapping by secondary students in mathematics’ classes. The researchers found that self-handicapping was more closely related to competitive conventional mathematics classroom environments compared to constructivist classrooms that encourage student involvement and helping peers.

Conventional classroom environments were considered those that involved teacher-directed and competitive learning opportunities, while constructivist classrooms were considered to be those that involved student-centred learning and increased interaction between peers.

What did the researchers do?
The researchers surveyed 952 grade 9 and 10 high school students from four high schools in southern Ontario. The 461
females and 491 males were enrolled in either applied mathematics or academic mathematics classes.

Assessment of classroom environment: To assess students’ classroom environment, the researchers administered items from Fraser’s (1998) *What is Happening In the Class questionnaire (WIHIC)* and items from Taylor and associates (1997) *Constructivist Learning Environment Survey (CLES)*.

Items from the WIHIC questionnaire assessed class environment by measuring the level of cohesiveness, support, involvement, investigation, task orientation, cooperation, and equity that existed in students’ classrooms. For example, students were asked to respond to statements such as: “the teacher takes a personal interest in me”; “I explain my ideas to other students”; “I carry out investigations to test my ideas”; etc. Students were asked to respond to each statement by choosing one of five pre-set responses: “almost never”, “seldom”, “sometimes”, “often” and “almost always”.

Items from the CLES questionnaire measured the level of personal relevance, shared control and student negotiation in students’ classrooms. For example, students were asked to respond to items such as: “I talk to others about how to solve problems” and “I learn how mathematics can be part of my out-of-school life”. Students were asked to respond to each statement by choosing one of five pre-set responses ranging from: “almost never” to “almost always”.

Assessment of students’ self handicapping behaviour: To assess students’ self-handicapping, the researchers administered a modified version of Urdan and associates (1998) self-handicapping survey. This survey included statements such as “Some students purposefully get involved in lots of activities. Then if they don’t do well on their math, they can say that it is because they are involved in other things. How true is this for you?” and “Some students put off doing their math work until the last moment so if they don’t do well on their work, they can say that is the reason. How true is this for you?”. Students were asked to respond to statements by choosing one of three possible responses: “not at all true,” “sometimes true,” “very true”.

The researchers used statistical analysis to analyze their data.
What did the researchers find?
The researchers found that:

- Conventional classrooms that involved teacher-directed and competitive learning opportunities were found to have a greater associated with self-handicapping behaviour by students, than constructivist classrooms that involved student-centred learning and increased interaction between peers;

- Higher levels of student involvement in the mathematics classroom (constructivist environment) were associated with significantly lower levels of self-handicapping by students;

- The level of task orientation displayed by a student (the importance of the task for the student) was related to lower levels of self-handicapping

While the researchers do not claim a causal relationship between classroom environment and student self-handicapping, they conclude that mathematics classrooms that are goal oriented and competitive have a greater association with student self-handicapping than classrooms that encourage student participation, talk, and peer helping.

How can you use this research?
Teachers and administrators may wish to use this research as a starting point for discussions about the benefits and drawbacks associated with different class environments, and the type of instructional strategies associated with higher levels of student engagement. Educators will also want to consult the wider body of research on teaching and learning in mathematics, constructivist and conventional approaches to teaching mathematics, and student self-handicapping.

Original article:
To learn more about this research study, we invite you to read the original article:

Other references:


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Keywords:
Self-handicapping, constructivist, conventional, classroom environment, mathematics, students

About this summary
The Ontario Education Research Exchange (OERE) is a project of the Knowledge Network for Applied Education Research, an Ontario network promoting the use of research in education. The OERE’s clear language summaries of academic research aim to support this mandate.

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