

# Academic Self-efficacy Predicts Exam Performance in University Courses

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## Background:

Self-efficacy beliefs reflect one's confidence in the capability to complete a particular task (Pajares, 1996). One's self-efficacy is related to decisions regarding *whether* to engage, *level* of engagement, and *persistence* of engagement in the task (Pajares, 1996; Zimmerman, 2000). Academic self-efficacy is related to students' engagement with academic tasks.

Students' degree of confidence is associated with performance outcomes (Bandura, 1993; Pajares, 1996). High degrees of confidence are associated with optimism and continued effort and perseverance, whereas low degrees of confidence are associated with pessimism and diminishing efforts and perseverance.

A systematic pattern develops when performance outcomes are measured with respect to self-efficacy and student ability (Bandura, 1993). In a laboratory study, Collins (1982, in Bandura, 1993) found not only that children with high academic self-efficacy performed better on a math task than their low-belief counterparts, but that this result occurred at each of three levels of math ability (low, moderate, high).

Research has yet to explore whether there exists a performance advantage for college students reporting high self-efficacy, and whether this pattern is consistent in a variety of college courses.

## Predictions:

We predict that

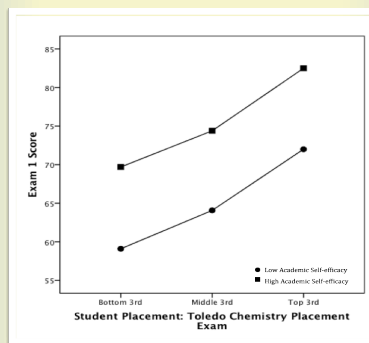
- students with higher academic self-efficacy will perform better on the first major exam than their lower self-efficacy counterparts
- a systematic pattern of higher exam performance for students reporting high academic self-efficacy at all levels of background ability

## Method:

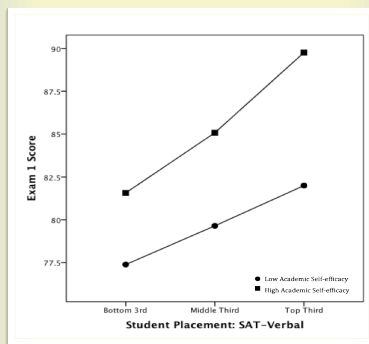
### Participants:

Participants were undergraduate volunteers enrolled in two lower-division university courses: 191 students in chemistry for engineers and 307 students in a nursing course on reproductive biology.

#### Chemistry:



#### Nursing:



## Procedure:

During the second week of the semester, and prior to the first exam, students completed a measure of academic self-efficacy related to their current course (Clark & Benassi, 1997).

Evaluation of background ability was assessed by the Toledo Chemistry Placement Exam (a nationally-normed chemical background knowledge test widely used to assess chemical knowledge) for chemistry students, and SAT-Verbal scores for nursing students. We then partitioned students into one of the three "ability" groups (low, moderate, high).

## Results and Discussion:

- As predicted, at each level of background knowledge for both the chemistry and nursing classes, students with high self-efficacy performed better than their lower self-efficacy counterparts.
- As predicted, a systematic performance pattern of higher exam performance emerged for students reporting high academic self-efficacy at all levels of background ability.

Our study demonstrates a performance advantage, regardless of background ability, for students who report higher academic self-efficacy, consistent with Collins' research with children. In addition, we found the same pattern in two different fields, and using two different measures of background ability. We have replicated these findings in courses in other academic areas.

**Let's discuss the implications of this study for educational practice.**

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## Suggested Readings

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