

Study Strategies and Exam Grades in CS1

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What are study strategies? How do they relate to success?

- Study strategies considered:
 - Surface - memorization, repetition
 - Deep - interacting with material
 - Disorganized - lack of strategy
- Relation to success in Psychology¹:
 - Deep - positive predictor
 - Surface - null predictor
 - Disorganized - negative predictor
- Hypothesis:
 - Students with deep study strategies will outperform students with surface and disorganized study strategies in CS1

¹A. Elliot, H.A. McGregor, and S. Gable. Achievement goals, study strategies and exam performance: A mediational analysis. *Journal of Educational Psychology*, 91(3):549-563, 1999

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Deep Study strategies

- When learning new concepts in this class, I try to relate them to concepts that we learned earlier
- When I'm taught how to solve a problem, I try to think of other ways it could be done
- I treat the course material as a starting point and explore topics and questions relating to it
- I try to think through concepts and decide what I'm supposed to learn rather than simply reviewing the material presented

Surface Study strategies

- When I study for a quiz or a test, I learn as many facts as I can
- When I study for this course, I go through the lecture slides and try to find the most important ideas to memorize
- When studying for this course, I review the slides and my notes over and over to help me remember the material
- I try to memorize everything that I think will be on the quiz or test

Disorganized Study Strategies

- I'm not sure what concepts from the lectures are important
- I don't know how to study when I prepare for a test or a quiz
- It's difficult to decide what concepts I should spend time studying

Results:

- Deep study strategies correlate positively with exam scores (3.92***)
- Surface study strategies correlate negatively with exam scores (-2.87**)
- Disorganized study strategies correlate negatively with exam scores (-2.02*)

We also considered gender and lecture section, but with no significant results

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