Mitigating the Misery

Using an Application and Reflection Sequence to Reduce Student Anxiety in a Graduate-Level Applied Statistics Course

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Introduction

- Students
- Department
- Class

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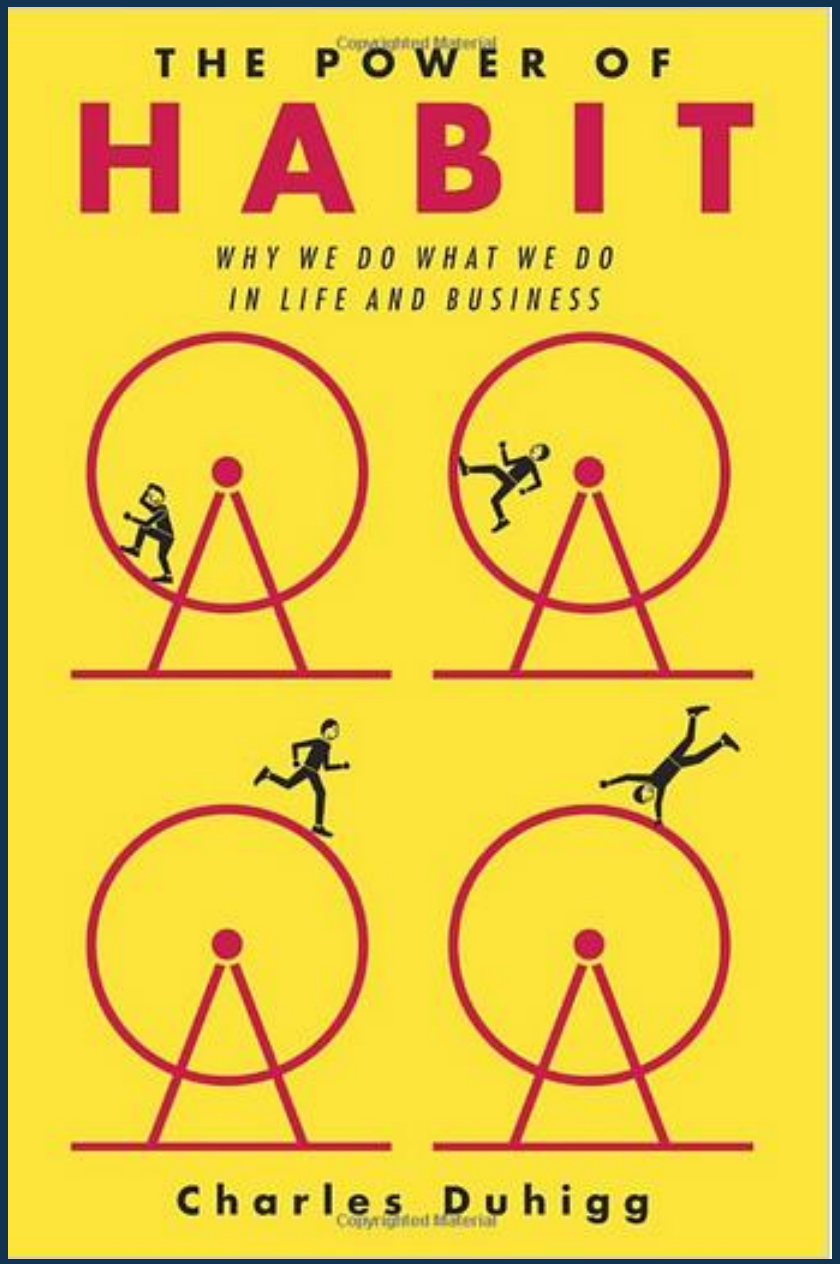

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Simplified Framework

- Triune Brain Theory (MacLean, 1978)
  - Reptilian Complex >> Old Mammalian >> New Mammalian (Neocortex)
- Cognitive Downshifting (Hart, 1983)
  - Anxiety UP = Level of Cognition DOWN

Overview of the Study

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Objective

- Examine the efficacy of one way to mitigate student anxiety and increase student learning in an applied graduate statistics course at a regional university.

Methods

- "Stats Time"
  - Every week
  - 30 minutes outside of class
  - Apply statistics from the most recent lesson in a real-world setting
  - First 10 minutes of a 3 hour class
- End of course instrument concerning student anxiety toward the course, knowledge gain, and perception of the activity
- N = 17

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Results - Likert Items

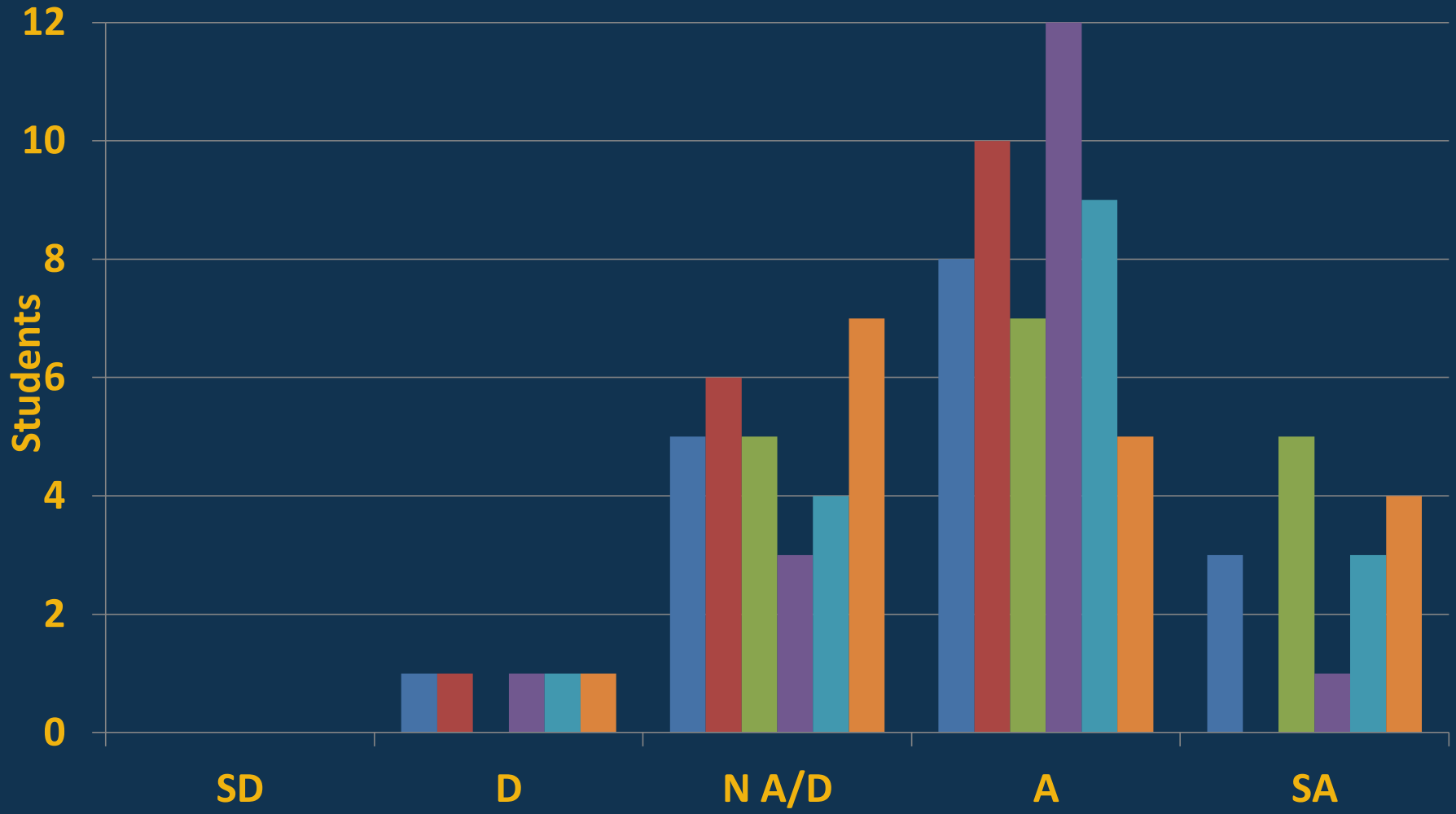
"Stats time" helped me…

- to be less anxious about this course in general.
- to be less anxious about specific concepts covered in the course.
- learn statistics in general.
- learn specific concepts in the course.

"Stats time"…

- should be used in other courses I take.
- will be used in courses I teach in the future.

Likert Item Results



Statistical Results

- Effort on “Stats time” (1 to 100)
  - M = 58.2
- Grades aside, how well do you feel you learned the material covered in class? (1 to 100)
  - M = 82.9
- At the start of the semester, how anxious or nervous were you about taking this class?
  - M = 73.1

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Results - Correlations

- ["Stats Time" Effort] x [Learning, Grades Aside]
  - r = .68
  - p = 0.002566
- ["Stats Time" Effort] x [Anxiety]
  - r = 0.25
  - p = 0.333986

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Students' Thoughts on "Stats Time"

- "At first I thought this activity was pointless, but the more I did it the more I started to see that the information was sticking."
- "The activity made you make statistics a part of your week and gave you a better understanding of statistics as a whole."
- "I think that this activity was a great example for students to honestly apply what they have learned throughout the semesters."

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Conclusions & Recommendations

- Admitting you have a problem is the first step.

- Increased learning
- Decreased anxiety?
  - Separate constructs?
- Instrument
- Other high anxiety courses in agriculture?

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References

Hart, L. A. (1983). *Human brain and human learning.* Village of Oak Creek, AZ: Books for Educators.

MacLean, P. D. (1978). A mind of three minds: educating the triune brain. In J. Chall & A. Mirsky (Eds.) Education and the brain. (pp. 308-342). Chicago, IL: University of Chicago Press.

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