

Impact of Mindset on Learning Outcomes in Physical Therapy Students

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INTRODUCTION

- Mindset is an individual's belief about their innate characteristics, like intelligence, and the ability of those characteristics to be developed, growth mindset, or remain fixed, fixed mindset (Dweck, 2006).
- Mindset's impact on learning outcomes has been studied in many populations, though not widely within the graduate health professions (Williams and Lewis, 2021).
- The purpose of this pilot investigation was to explore the mindset of first-semester Doctor of Physical Therapy (DPT) students and to examine if and how mindset is associated with educational behaviors and outcomes.

METHODS

- Seventeen first-semester DPT students (10 females, 7 males; 23±2 years old) completed a survey on mindset, including collection of demographic information.
- During the first semester, behaviors and outcomes including attendance in office hours, participation in exam review, and course grades were tracked.
- Pearson correlations (r, normally distributed data) and Spearman correlations (ρ, non-normally distributed data) were calculated to identify relationships between mindset score, grades, office hours and exam review sessions as well as age and undergraduate GPA (α=0.05).

RESULTS

- Significant relationships found between mindset and office hours, Neuroscience exam review, and Neuroscience final exam score. There were no significant relationships between Anatomy grades, review or mindset.

	Mindset TOTAL	P
Office Hours TOTAL	r = .485	.048
Exam Review 710	ρ = .524	.031
Final Exam: 710	ρ = .551	.022

DISCUSSION

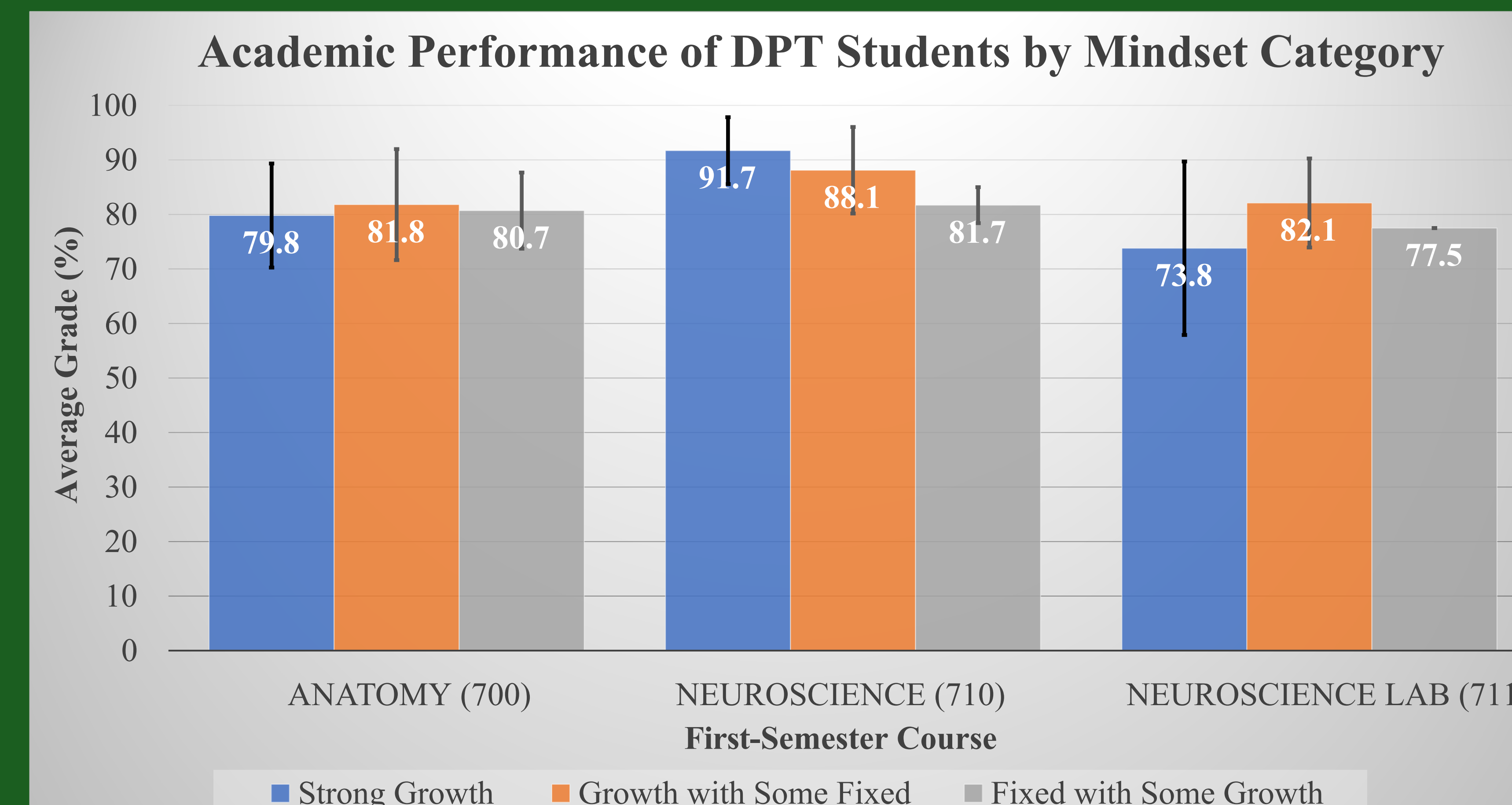
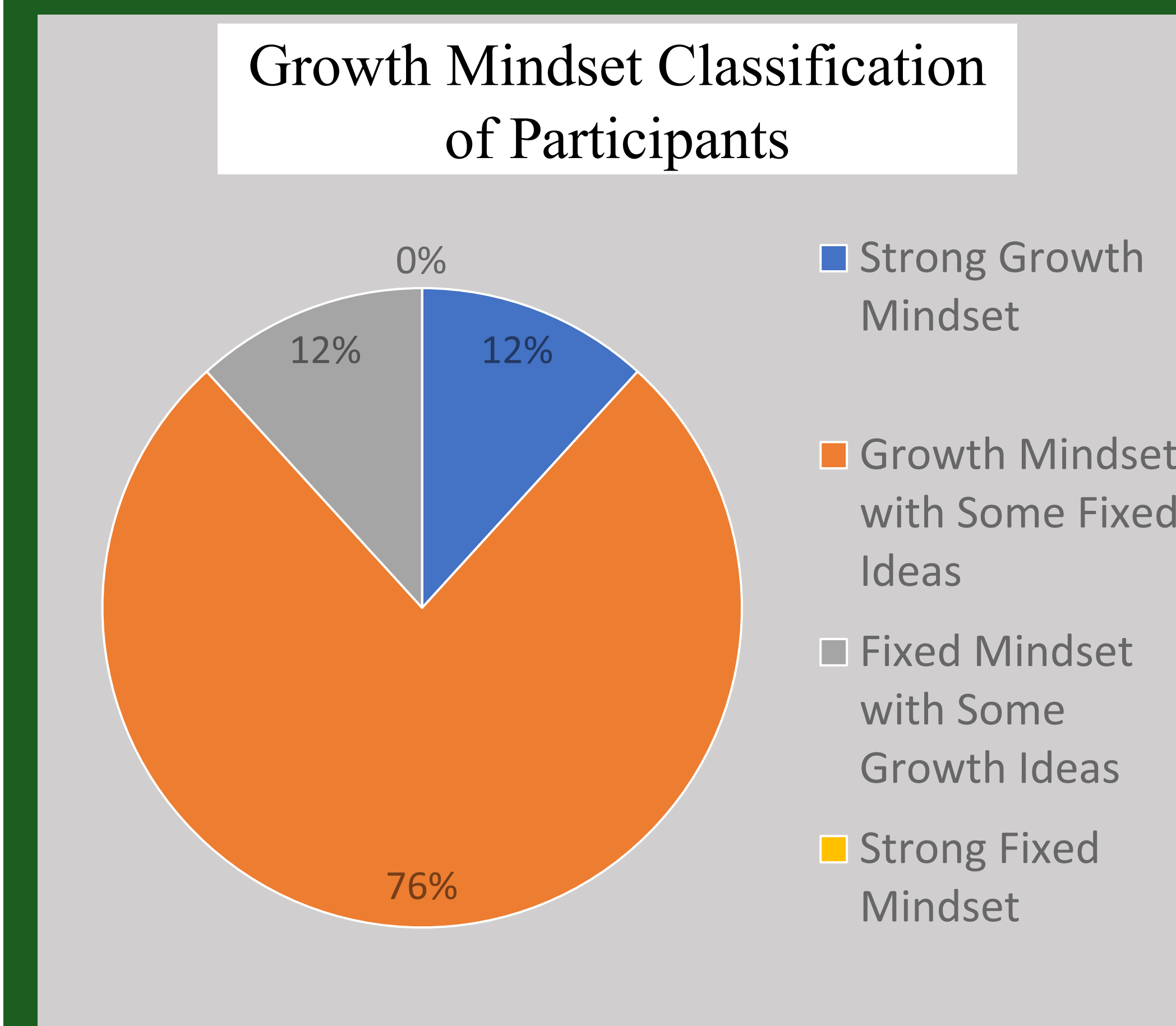
- The main findings may support research that suggests growth mindset is associated with improved ability to monitor errors and receive constructive feedback (Ng, 2018).
- With the exception of one exam, the findings do not demonstrate an association between mindset score and academic performance.

Mindset largely does not demonstrate a relationship with academic performance in DPT students.

→ **BUT**, findings support previous work that suggests mindset IS associated with improved ability to monitor errors and receive feedback.

Students with stronger growth mindset were more likely to attend office hours and participate in exam reviews in one course--positive learning behaviors.

Could mindset impact inter-student ability to maximize their potential??



More questions? Ask us! elinichj@Moravian.edu / rompolskik@Moravian.edu

ADDITIONAL RESULTS

- No significant relationships found between other collected variables

	Mindset TOTAL	P
Overall UG GPA	r = -0.034	0.896
Pre-Req GPA	r = 0.287	0.264
Exam Review 700	ρ = -0.044	0.867
Exam 1: 710	r = 0.312	0.223
Exam 2: 710	r = -0.018	0.947
Exam 1: 700	r = 0.098	0.709
Practical 1: 700	r = 0.067	0.799
Exam 2: 700	r = -0.142	0.585
Practical 1: 700	r = -0.146	0.577
Final Quiz: 711	r = -0.085	0.745

THE MORE YOU KNOW....

- Research examining the relationship between mindset and academic performance is mixed and requires further investigation (Dweck, 2006; Liu et al., 2018; Sisk et al., 2018; Williams and Lewis, 2021; Li and Bates, 2020; Root Kustritz, 2017; Bazelaï et al., 2018).
- 13/17 (76%) students were characterized as "growth mindset with some fixed ideas." Sample size and the homogeneity of mindset among the sample may have limited the ability to identify significant relationships between mindset, academic performance and academic behaviors.

FUTURE DIRECTIONS

- Follow up study is planned for Summer 2022 to increase sample size and incorporate all first-semester rehabilitation science students, which will hopefully provide a more heterogeneous representation of mindset.
- Plan to include follow-up interviews for qualitative analysis.

WHY DOES THIS MATTER???

- Can we intervene to cultivate growth mindset??
- Could this influence the learning behaviors of students in a positive manner??
- Could more positive learning behaviors allow students to maximize their unique learning potential by creating greater improvement from one assessment to the next?