Trajectories of Autonomous Motivation Over the First Semester of College:

Links to Shifts in Self-Efficacy and Belonging

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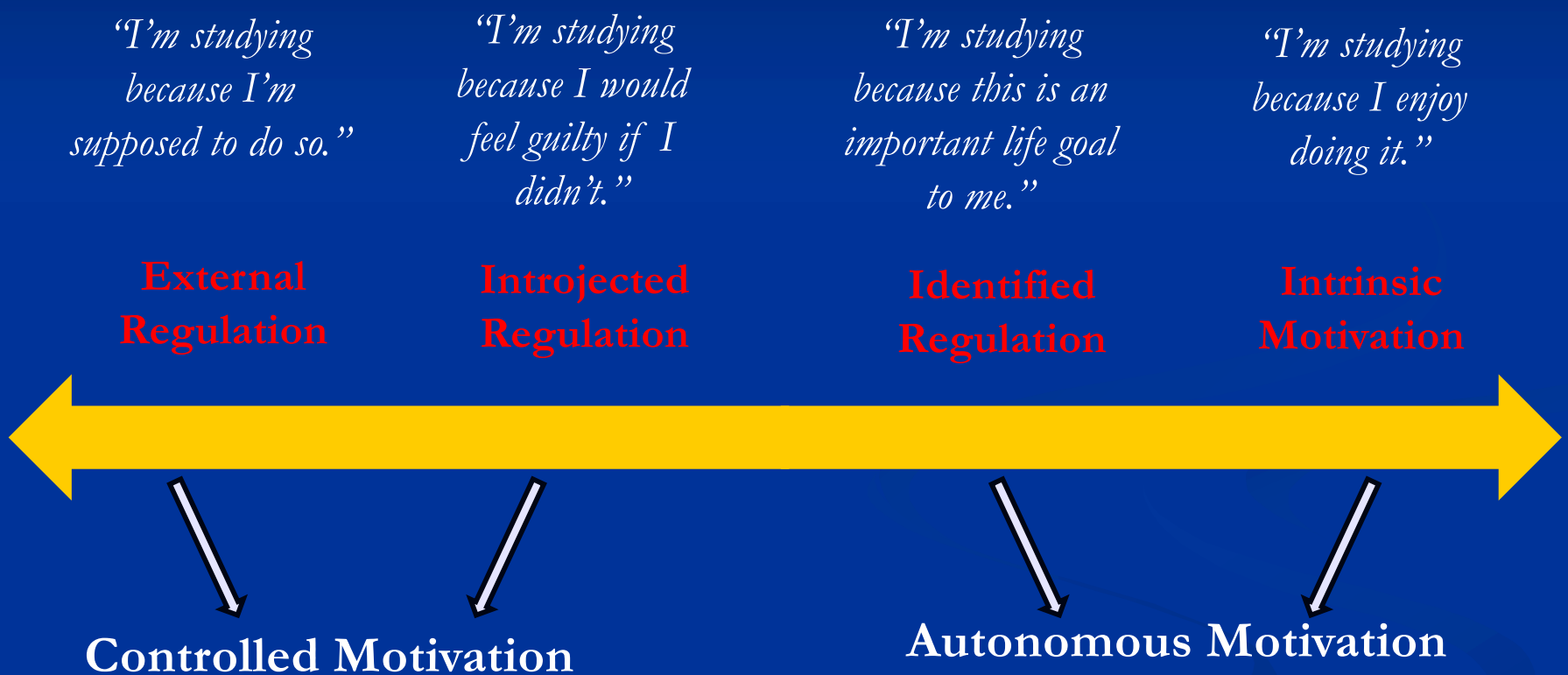
Reed College

Self-Determination Theory



Adapted from Ryan & Deci (2000)

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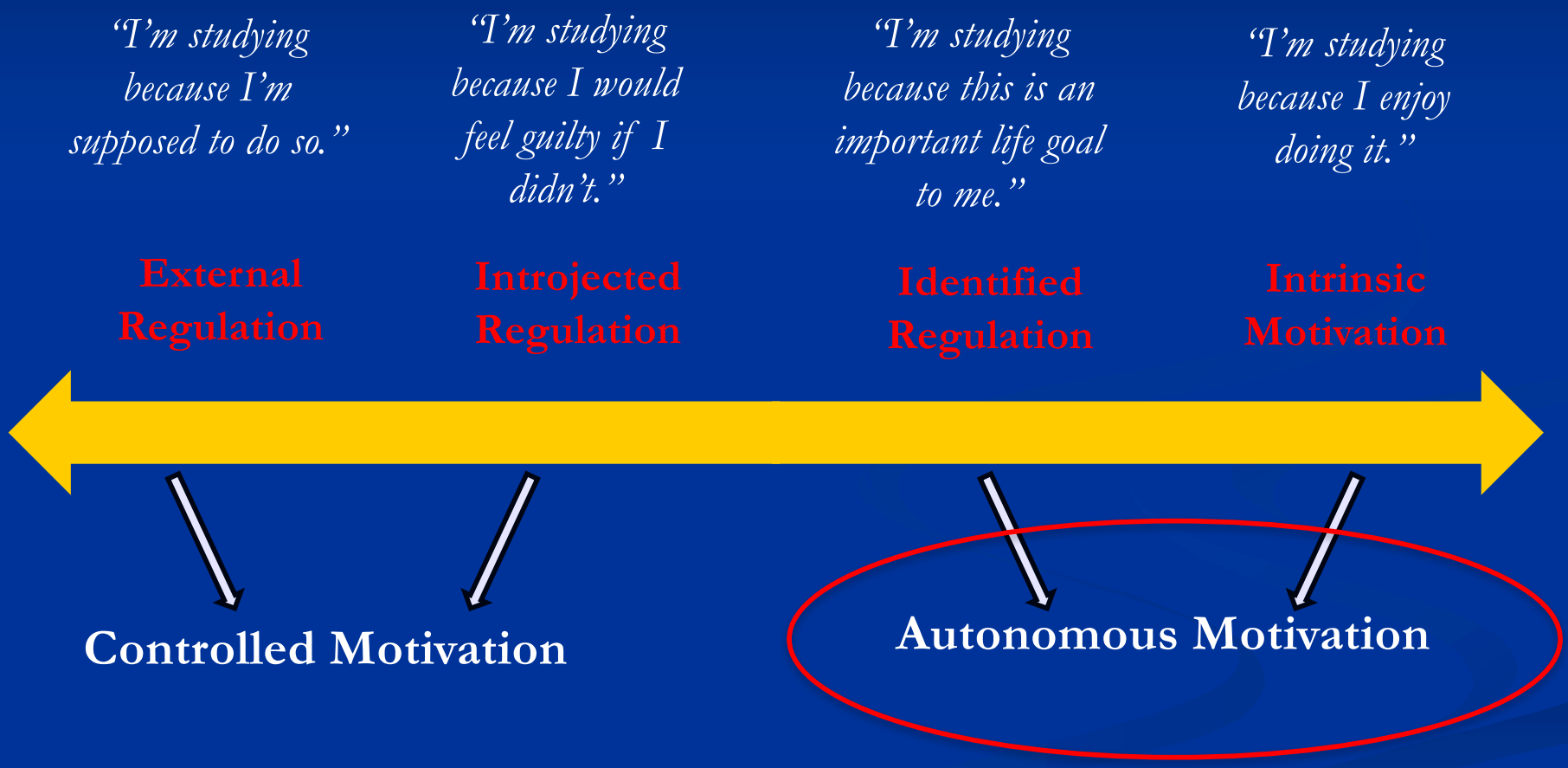

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    (Kyndt et al., 2015; Ratelle et al., 2004)
  - Mixed evidence on changes *during* collegiate years

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- What about higher education?
  - Increase from high school to college
    (Kyndt et al., 2015; Ratelle et al., 2004)
  - Mixed evidence on changes *during* collegiate years
  - BUT:
    - No data on *within-semester* change
    - Not all students show the same patterns of change
      (Archambault et al., 2010; Ratelle et al. 2004; Wang et al., 2017)

Research Goals

1. Examine change in autonomous motivation *within* the first semester of college
2. Identify subgroups with *distinct trajectories* of autonomous motivation
3. Examine correlates of motivational change using both *quantitative* and *qualitative* methods
    - Shifts in Self-Efficacy
    - Shifts in Belonging

Method

- Participants
  - Entire Reed College freshman class invited at Orientation; 71% participation (n = 268)
  - Complete data: n = 178 (66% retention)

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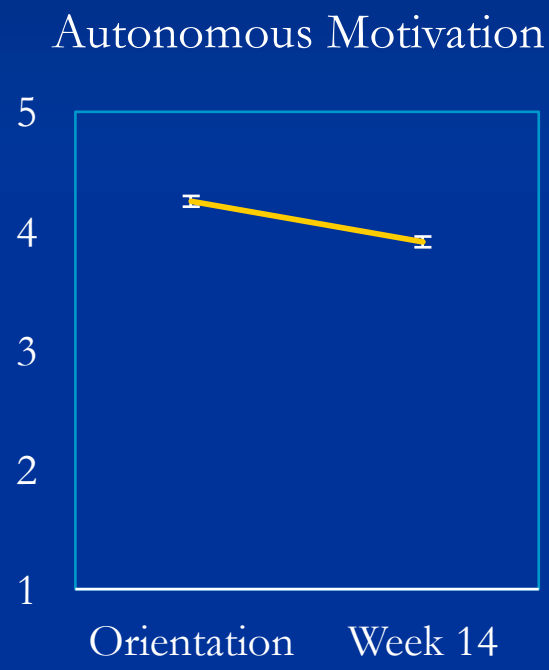
- Survey Measures

Orientation (Week 0)	Week 2	Week 14
• **Autonomous Motivation** (Intrinsic + Identified items from Academic Self-Regulation Scale; Vansteenkiste et al., 2009)	• **Self-Efficacy** (Expectancy for Success from MSLQ; Pintrich et al., 1991) • **Belonging** (Collegiate Psychological Sense of Community Scale; Lounsbury & DeNeui, 1996)	• **Autonomous Motivation** • **Self-Efficacy** • **Belonging** • **Open-Ended Reflections**

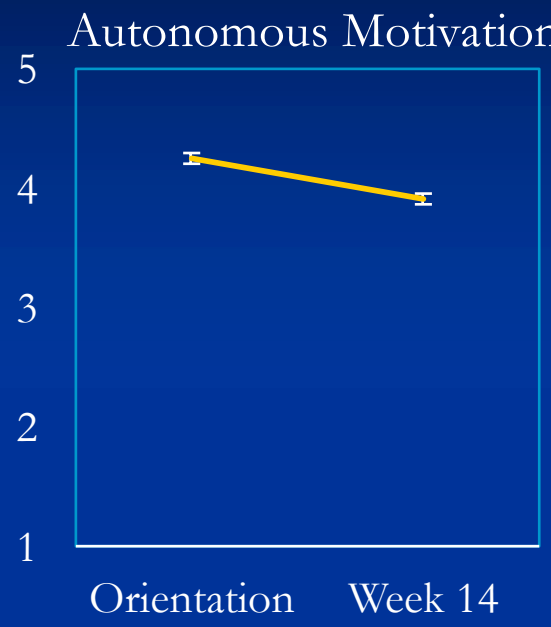
Sample-Level Shifts

- Substantial Decrease from Orientation to Week 14



$F(1, 177) = 58.87$, $p < .001$, $\eta^2 = .25$

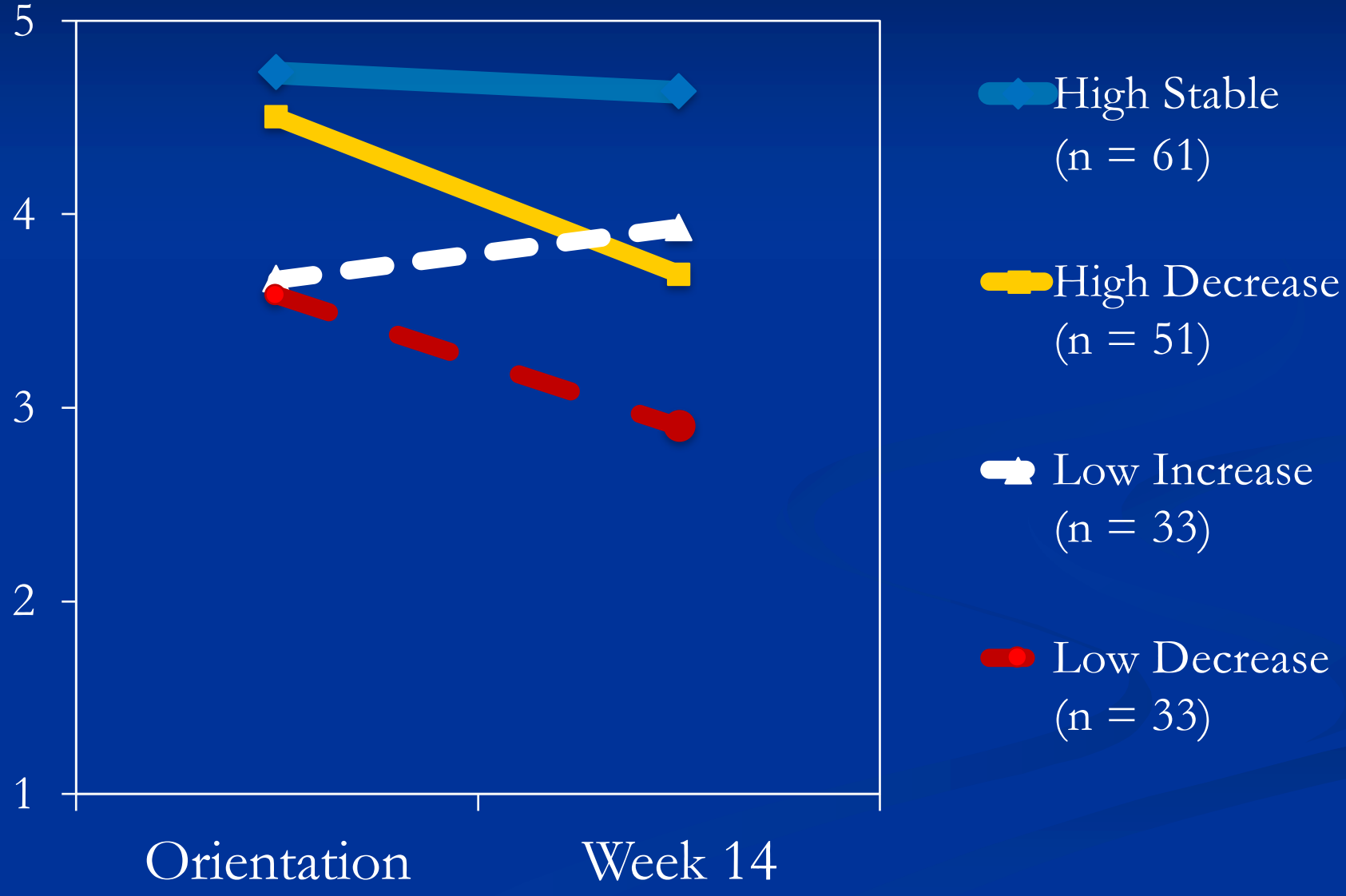
Sample-Level Shifts



	Week 14 Autonomous Motivation		
	B	SE B	β
Step 1 ($\Delta R^2 = .33$)**			
O-Week Autonomous Motivation	.67	.08	.58**
Step 2 ($\Delta R^2 = .09$)**			
Change in Self-Efficacy	.15	.04	.23**
Change in Belonging	.15	.06	.16*

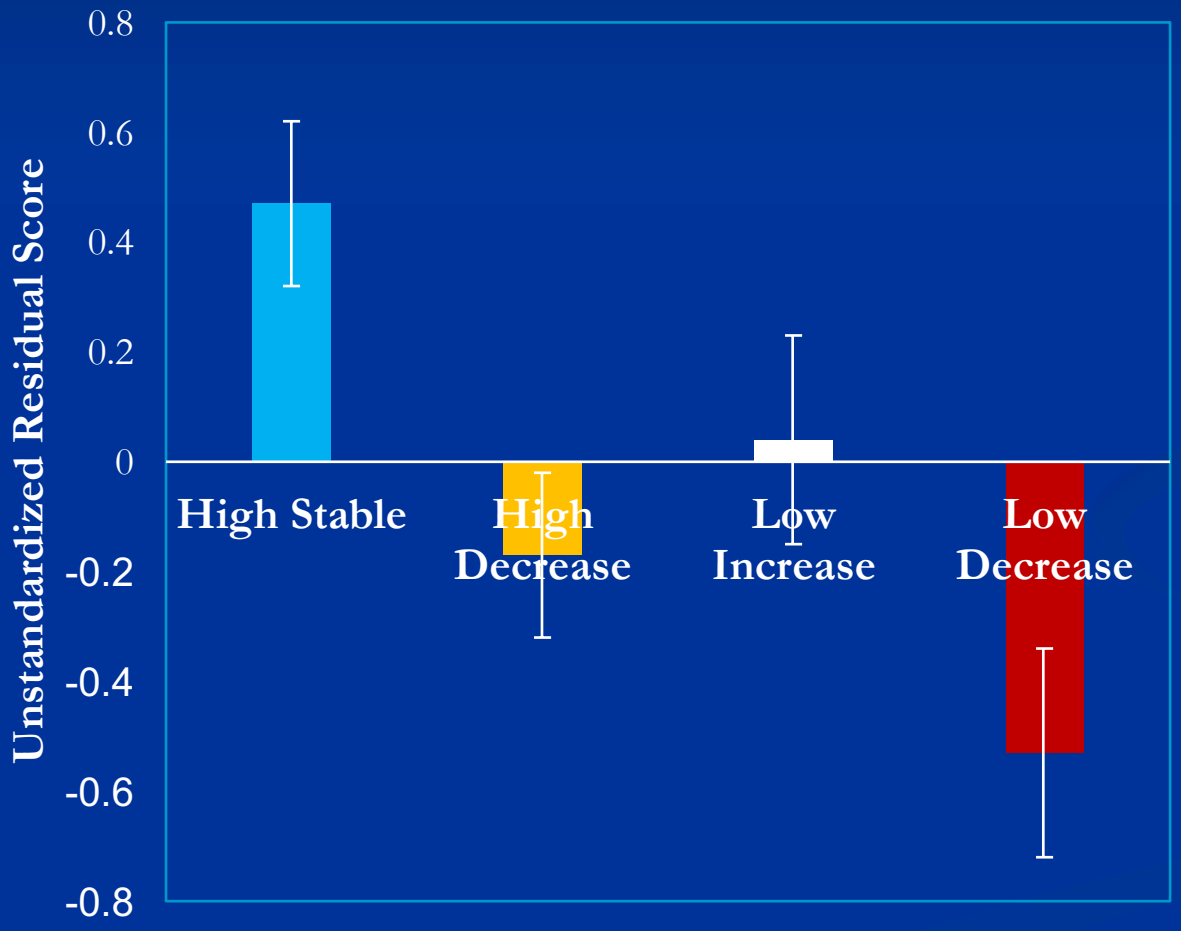
* p<.05; **p<.01

Autonomous Subgroups



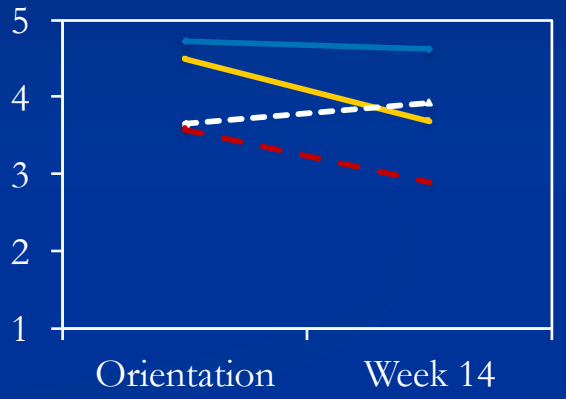
Subgroup Differences

Change in Self-Efficacy



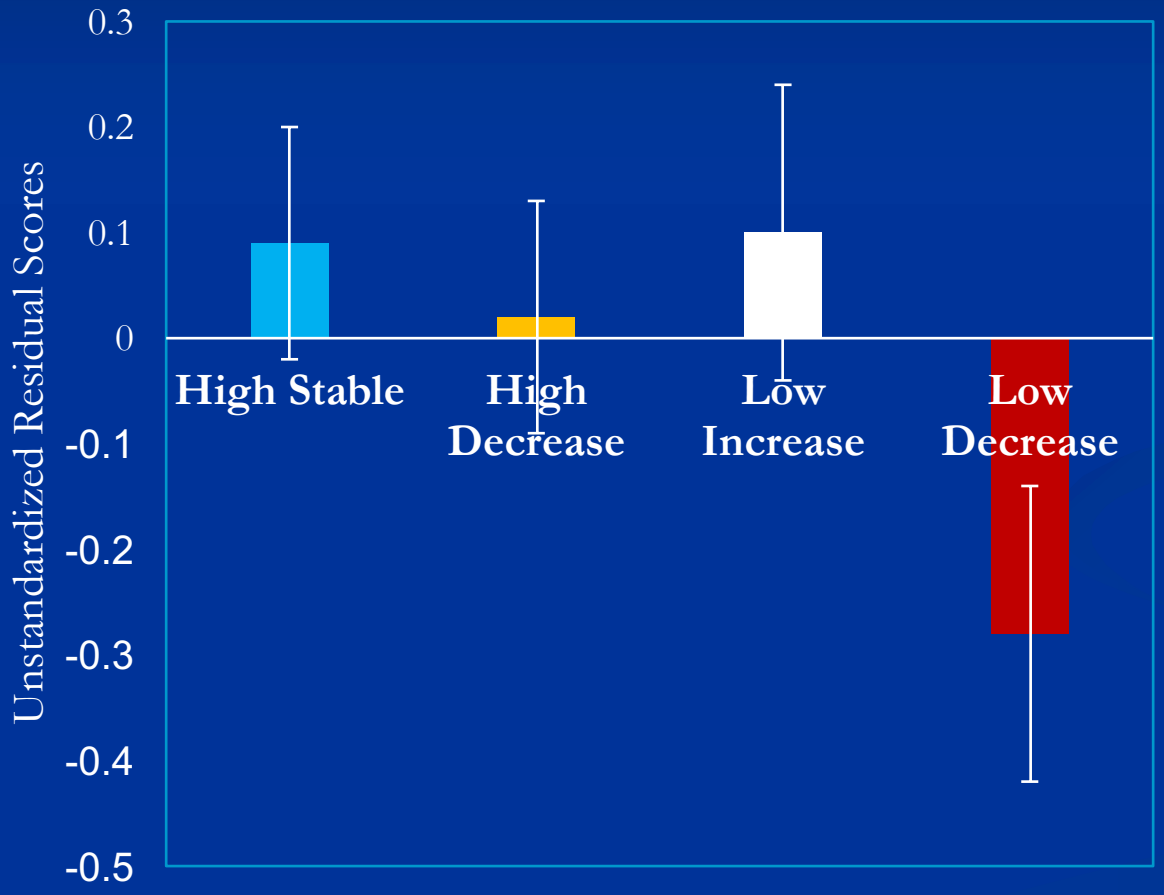
$F(3, 152) = 6.47, p < .001, \eta^2 = .11$

Autonomous Motivation



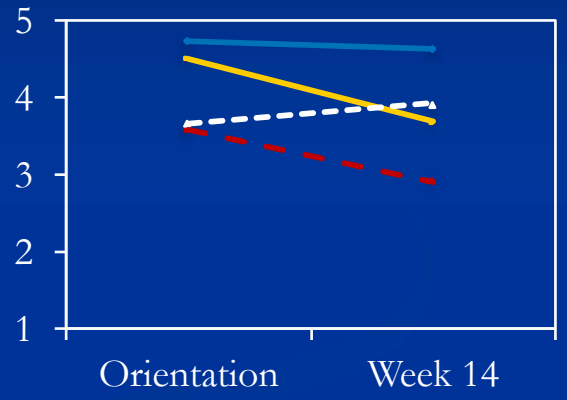
Subgroup Differences

Change in Belonging



$F(3, 153) = 1.71, p = .16, \eta^2 = .03$

Autonomous Motivation



Open-Ended Reflection

- Reed is a unique environment in that students don't generally see their grades. What do you think about the style and format of feedback from professors at Reed as you have experienced it so far? How has this affected your approach to your studies?

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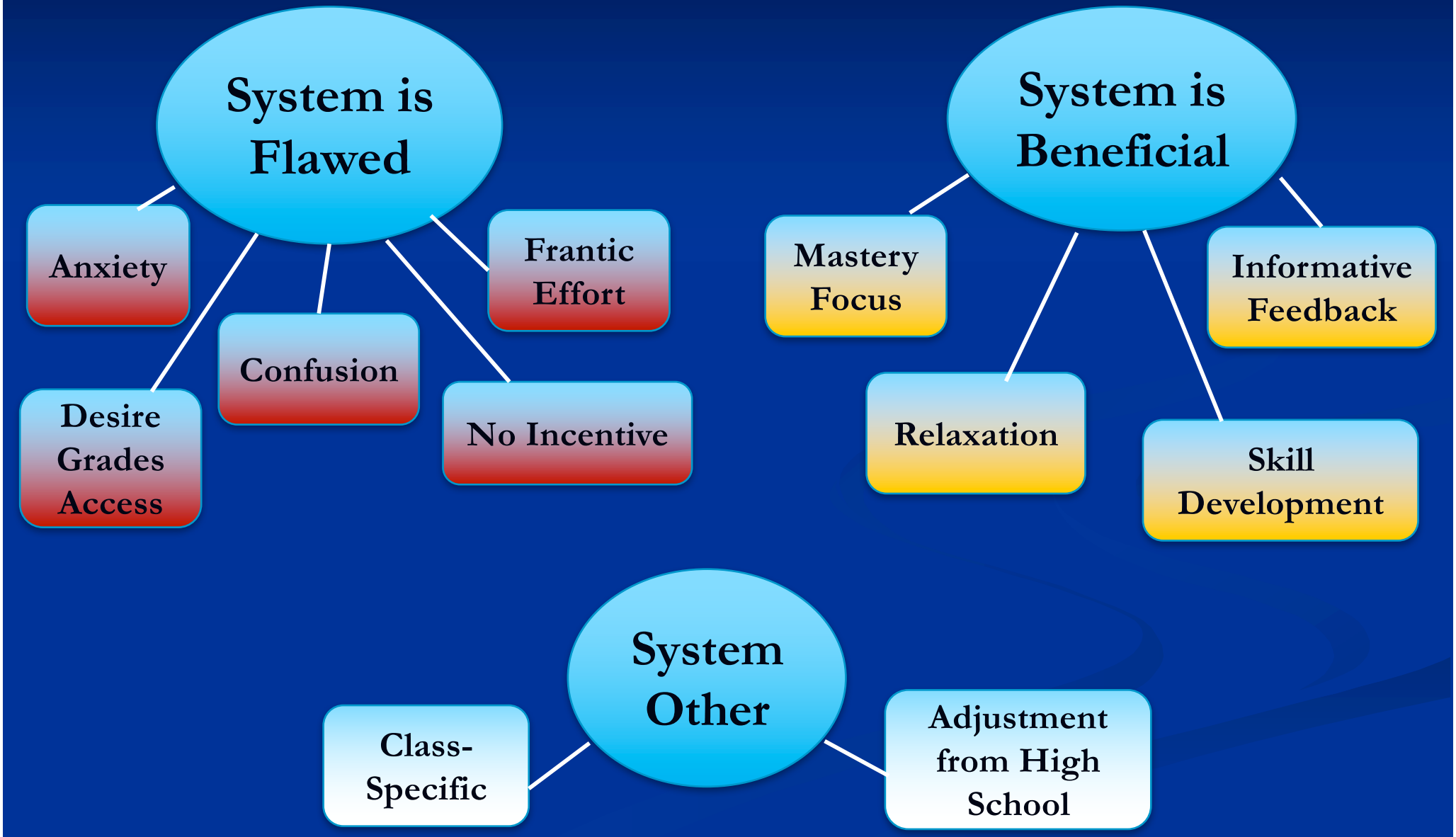
- Thematic Analysis (Braun & Clarke, 2006)
  - Used an inductive approach
  - Identified 15 possible codes
  - Coded the full dataset blind to quantitative survey responses and trajectory subgroup
  - Eliminated 3 codes that were mentioned by less than 5% of the sample

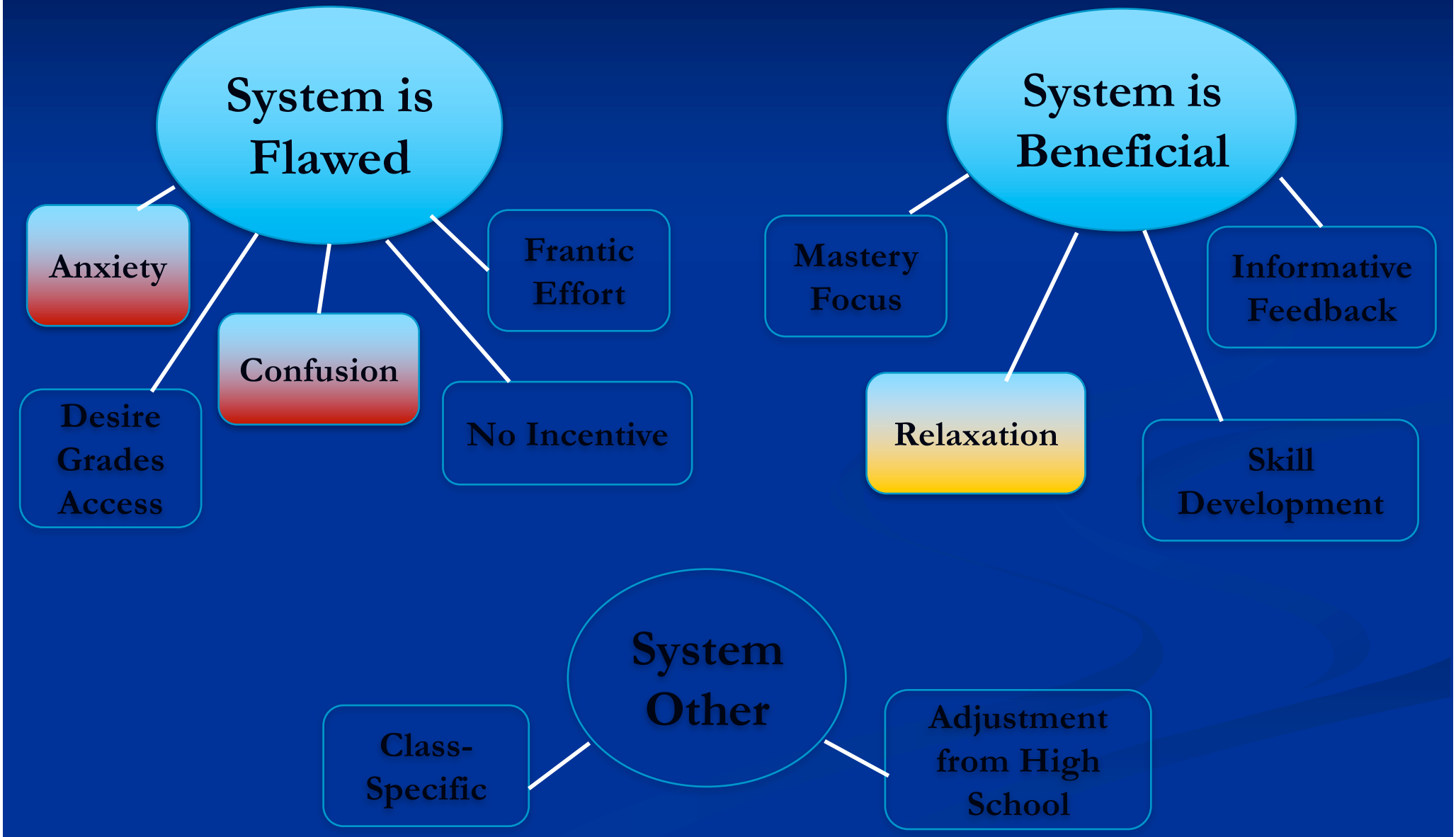
Thematic Map

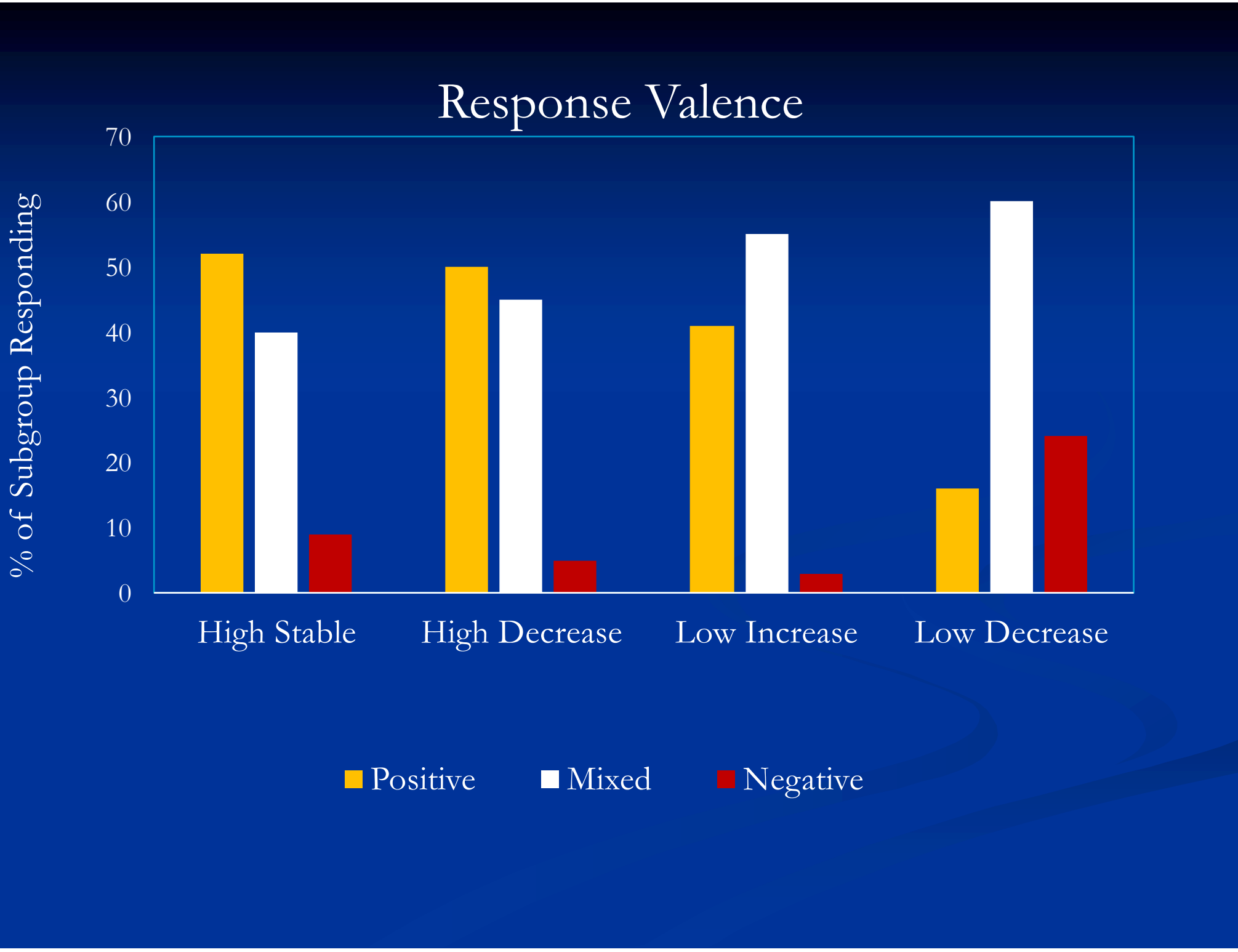


Open-Ended Reflection

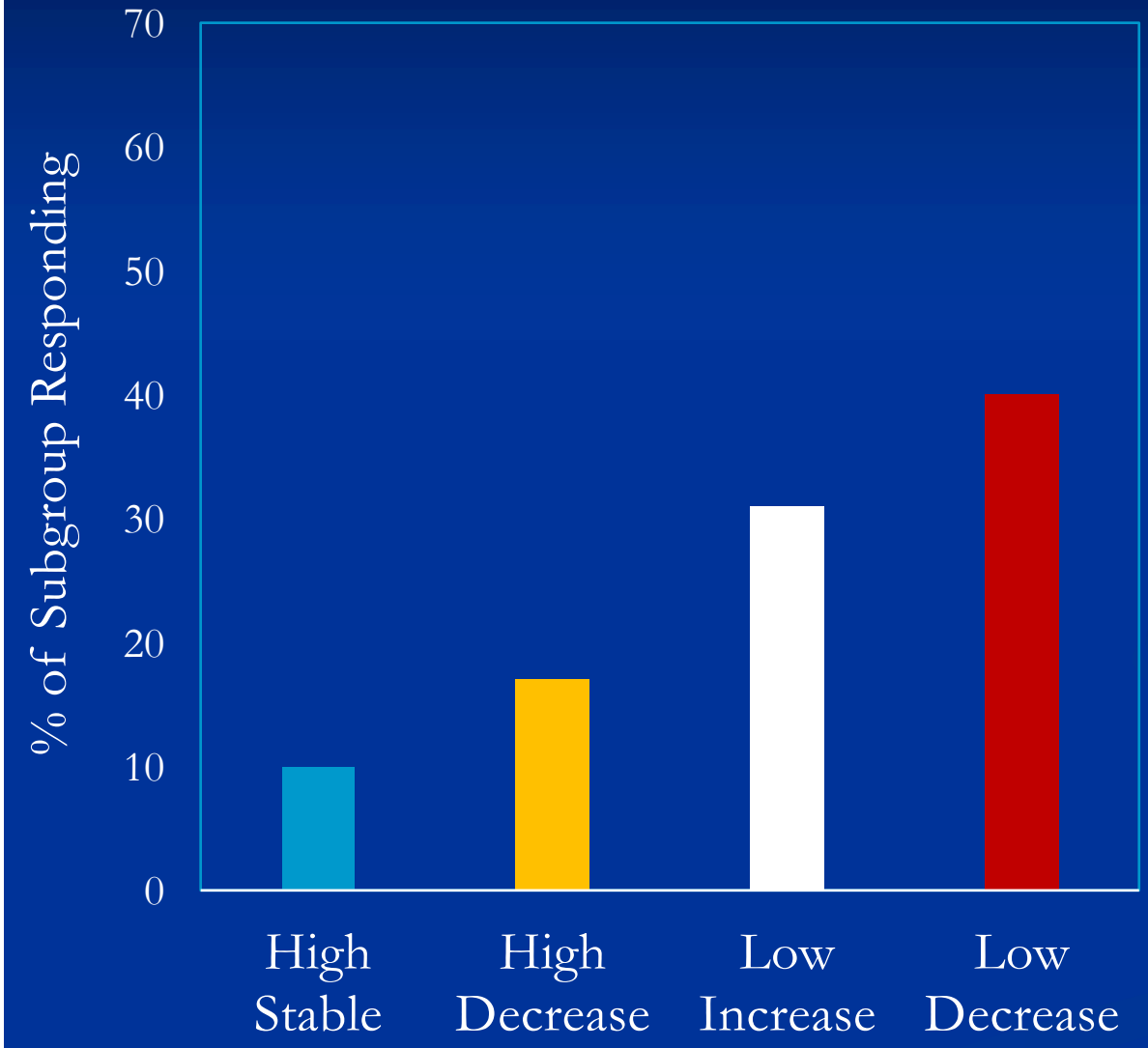
- Focus on codes that significantly differentiated the 4 trajectory subgroups according to χ^2 tests of independence (33 % of total codes):
  - Valence: Positive, Mixed, Negative
  - Creates Anxiety
  - Creates Confusion
  - Promotes Relaxation

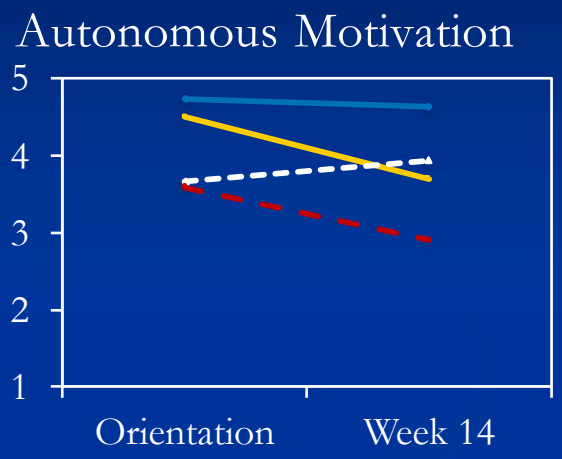
Thematic Map




Response Valence
% of Subgroup Responding
70
60
50
40
30
20
10
0
High Stable
High Decrease
Low Increase
Low Decrease
Positive
Mixed
Negative

System Creates Anxiety





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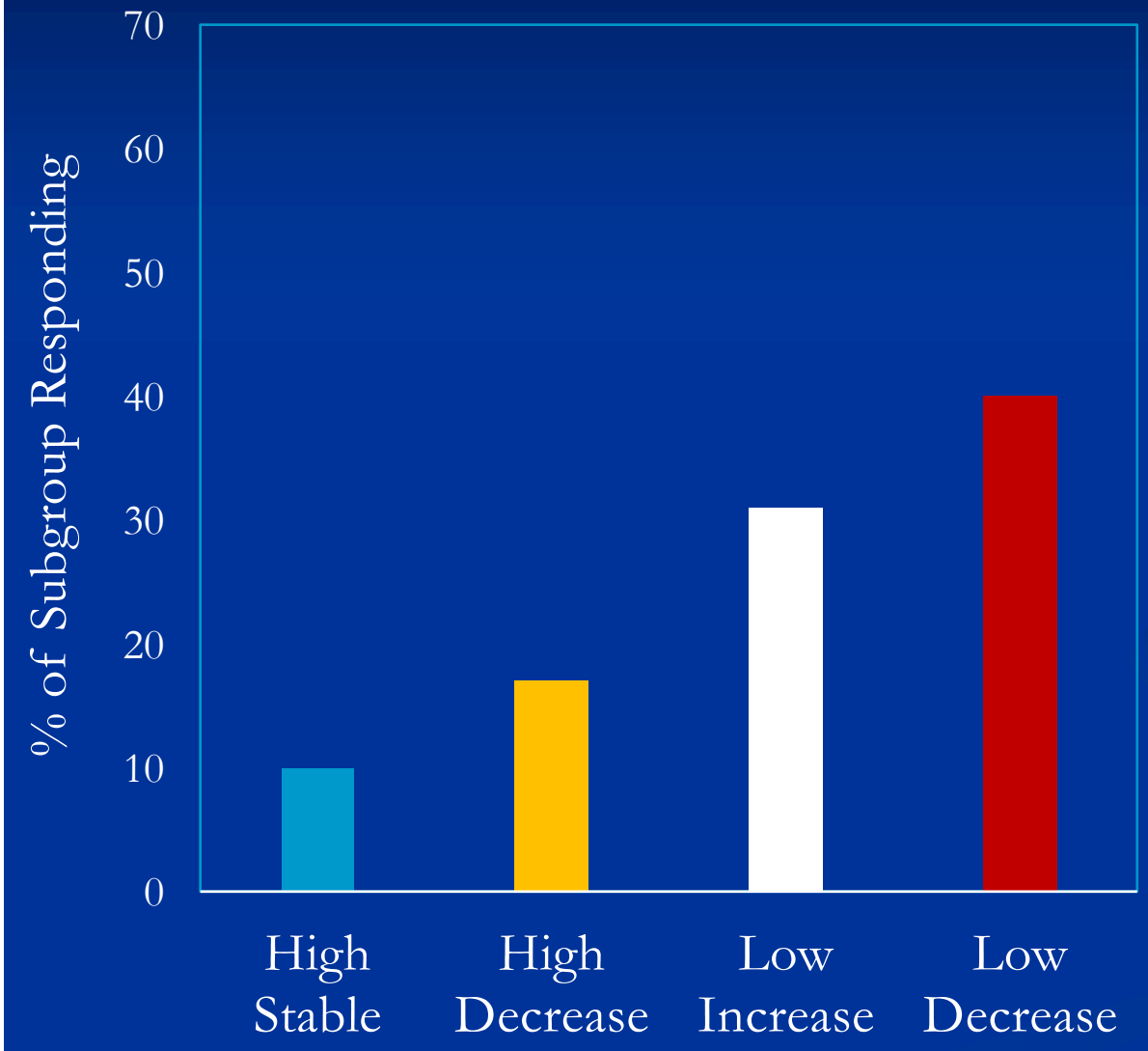


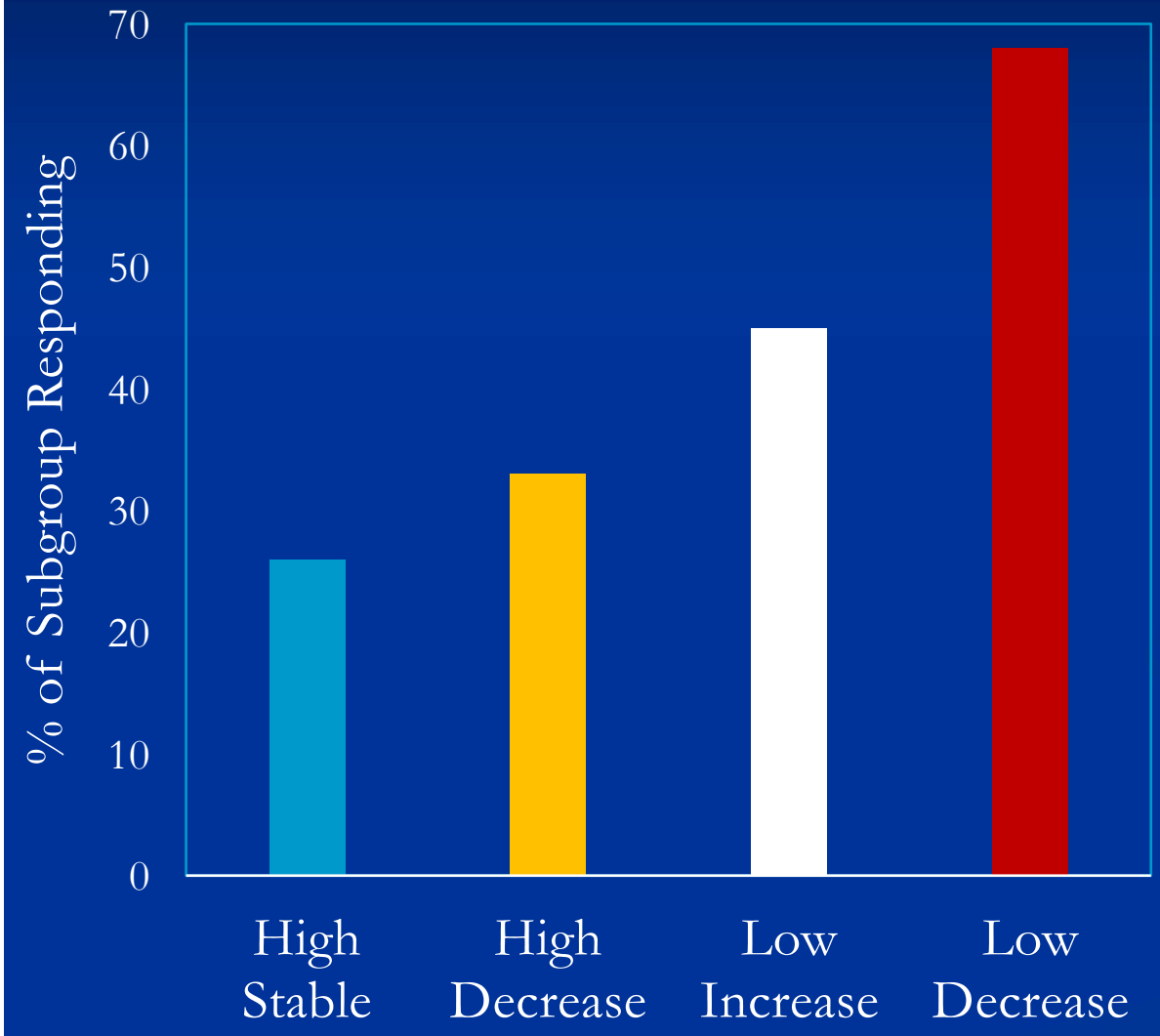
Sample Quotes

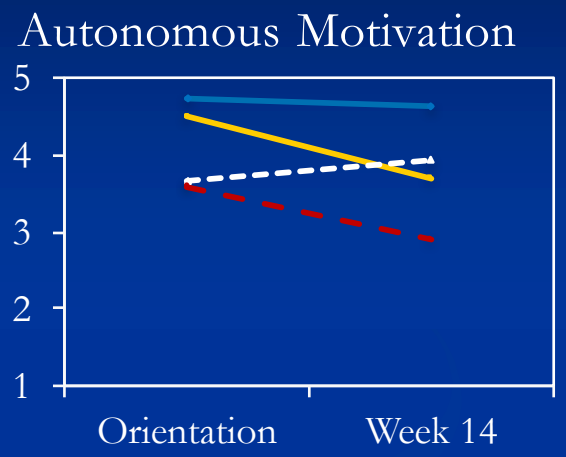
"It's made me more nervous about my work." (High Decrease)

"It allowed me to spiral into anxious despair over a delusion that I was going to fail all of my classes, however that's on me." (Low Increase)

"We may not see the grades but they still lurk in the background like a thunderstorm about to move in over an ill-prepared ranch on a Montana plain." (Low Decrease)

System Creates Confusion





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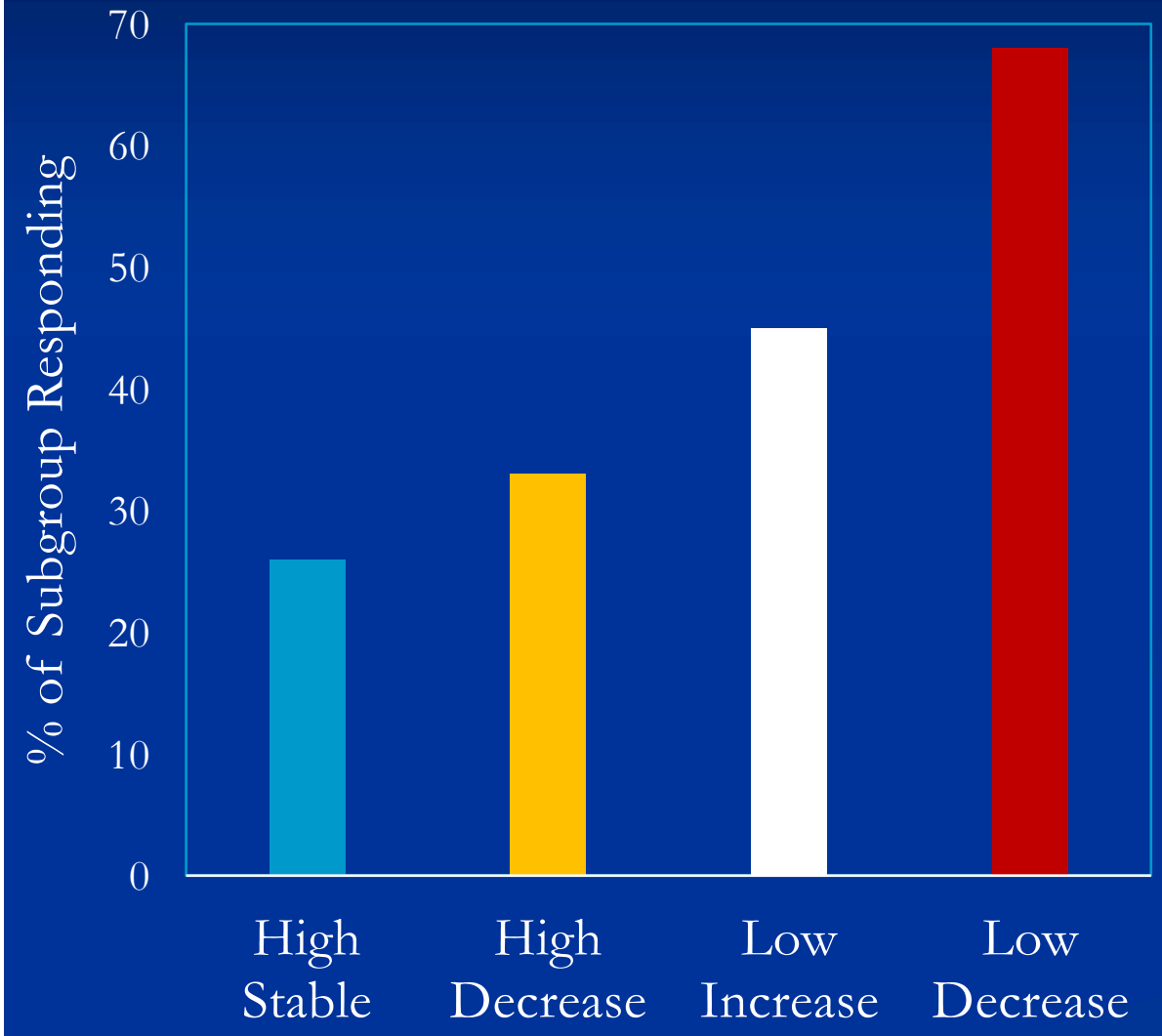


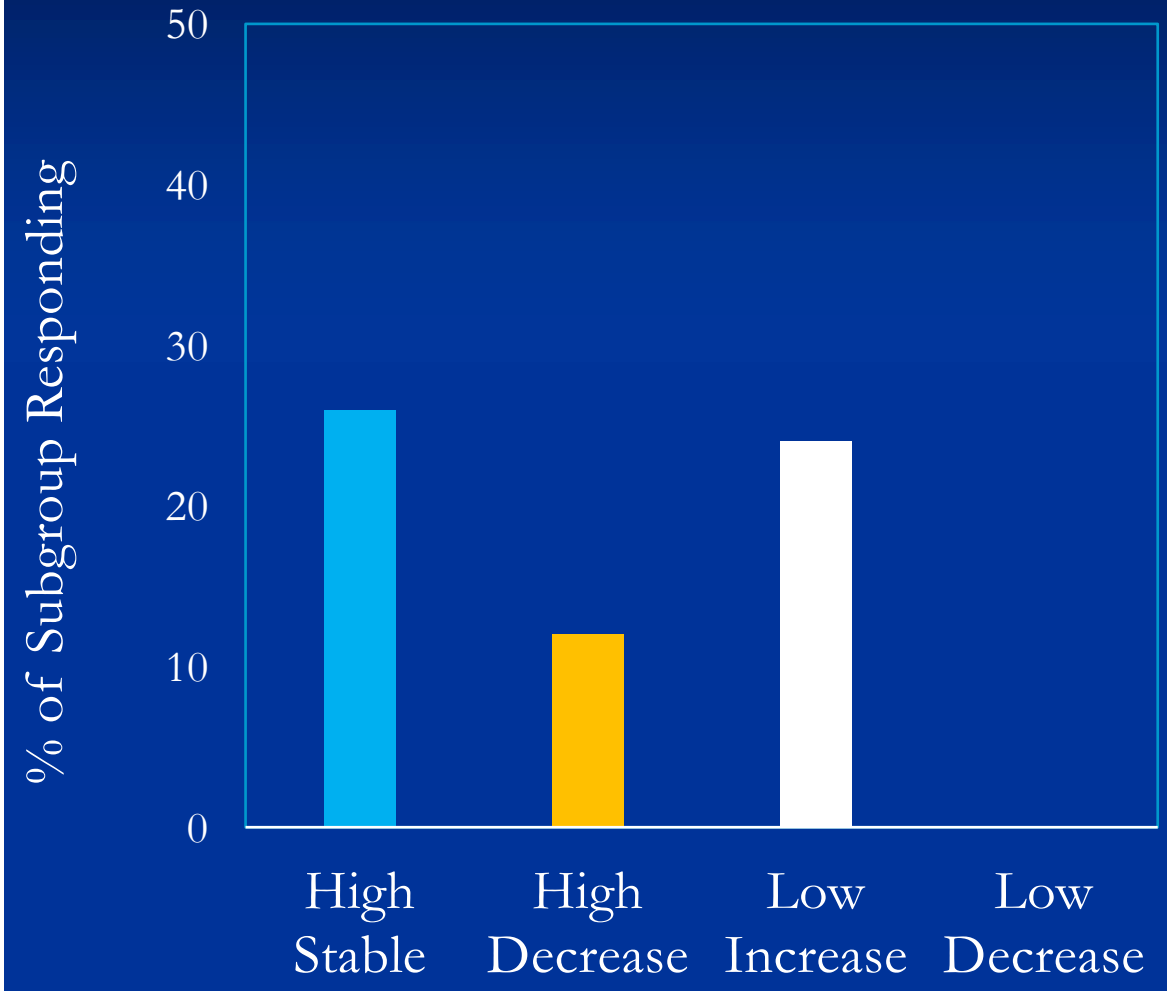
Sample Quotes

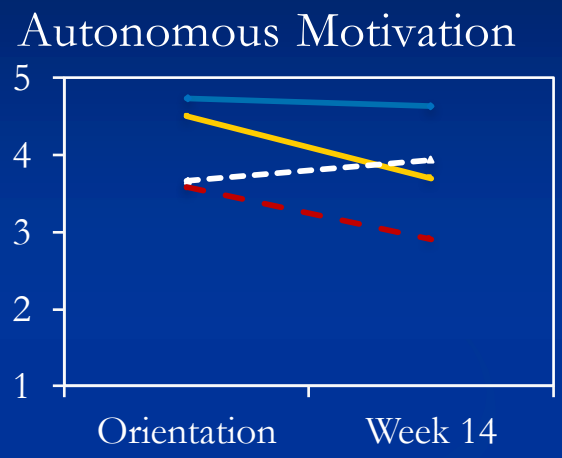
"I don't know which class to prioritize when I'm studying because I don't know which class I'm doing best in." (Low Decrease)

"When I read comments on things I always end up thinking, 'Wait so did I do a good job or not?'" (Low Increase)

"[It] requires me to work harder because I never know how well I'm doing." (High Decrease)

Promotes Relaxation





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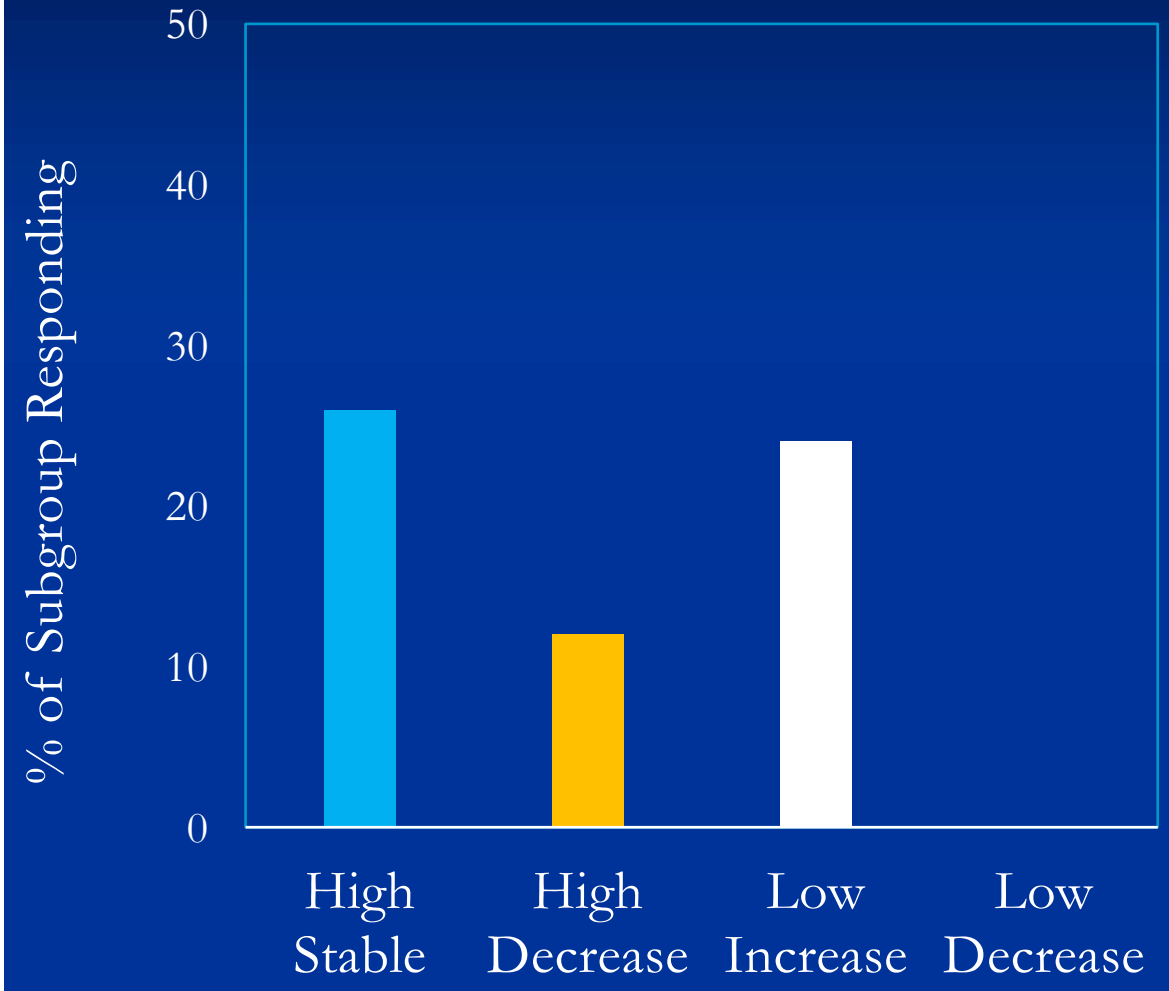


Sample Quotes

"It really does take pressure and competition off of the students." (High Stable)

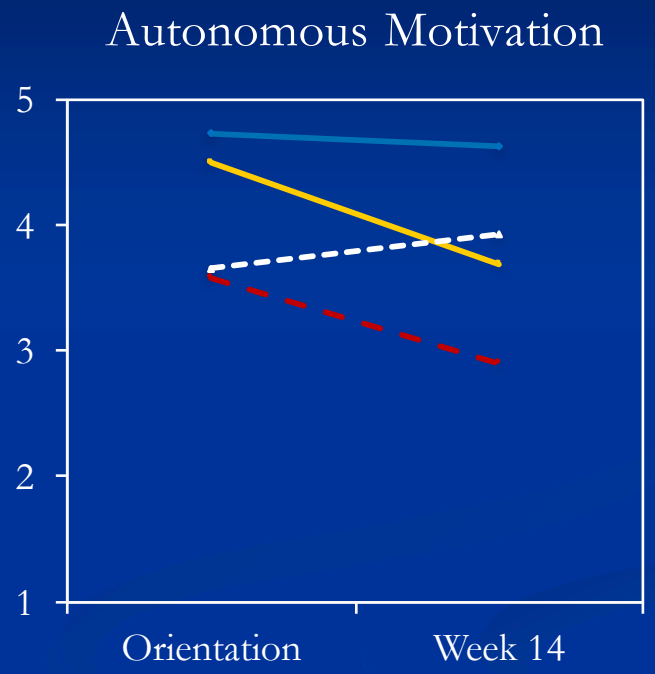
"It makes me feel like I don't have to try to be the best and it's less stress to just know that I'm doing okay." (High Decrease)

"I've been able to improve without the anxiety of percentages." (Low Increase)

Summary of Findings

High Stable

- Growth in Efficacy
- "System is Beneficial"



High Decrease

- Slight Loss of Efficacy
- Some "System is Flawed"

Low Increase

- Stable Efficacy
- *Both* "System is Flawed" and "System is Beneficial"

Low Decrease

- Loss of Efficacy
- "System is Flawed"

Conclusions

- Heterogeneity in motivational trajectories

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  - No differences in belonging

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- Motivational subgroups showed:
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  - Distinct experiences with academic assessment
  - No differences in belonging
- Qualitative component:
  - Provides methodological triangulation
  - Suggests possible causes of motivational change

Thanks to an amazing team of Reed College students!

Maddy Appelbaum
Sidney Buttrill
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Robby Murphy
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FOUNDED IN 1911