The Role of Perceived Cost in College Students' Motivational Experiences and Long-Term Achievement Outcomes

Sarah Wu and Jennifer Henderlong Corpus, Academic Motivation Lab
Reed College Psychology Department

Perceived Costs

- **Situated Expectancy-Value Theory**[1, 2] has been a dominant motivational framework for decades, yet *cost* has received little attention
- **Cost:** negative aspects of engaging in a task
  - Effort: *How do I allocate my energy?*
  - Opportunity: *Do I study or hang out with friends?*
  - Psychological: *Is this worth the stress?*
- Cost predicts low academic achievement[3, 4] and dropout[5, 6]
- Existing research mostly focuses on STEM domains, uses measures of short-term academic outcomes, and relies heavily on quantitative reports

Research Questions

1. Does cost predict academic outcomes during the first year of college? Beyond the first year?
2. How do "High Cost" and "Low Cost" students experience school?

Mixed-Methods Approach

- Integrating quantitative and qualitative methods to gain a better understanding of cost


- Allows for *complementarity* and *triangulation*
- **Participants:** Cohorts of first-year Reed students who matriculated in 2016 and 2017, and participated in the Academic Perceptions Study[7]
  - Quantitative analytic sample: *N* = 298
  - Qualitative analytic sample: *N* = 185

Measures

- **Quantitative cost reports:** Cost items from the Expectancy-Value-Cost Scale[8] (1 = strongly disagree; 6 = strongly agree)
  - Ex. "My coursework requires too much time"
- **Descriptions of motivational extremes:** Think of a time this year you felt [totally unmotivated/especially motivated] with respect to your academic work. Please describe the context. Why do you think you were so [unmotivated/motivated]?
- **Academic outcomes:** first-year GPA, cumulative GPA, sophomore enrollment, graduation within five years
- **Control measures:** ACT scores, semesters of enrollment

Quantitative Analysis

Cost scores were a **negative predictor of both first-year GPA** (β = -0.18, p = .002) **and cumulative GPA** (β = -0.12, p = .03), controlling for standardized test scores and semesters of enrollment
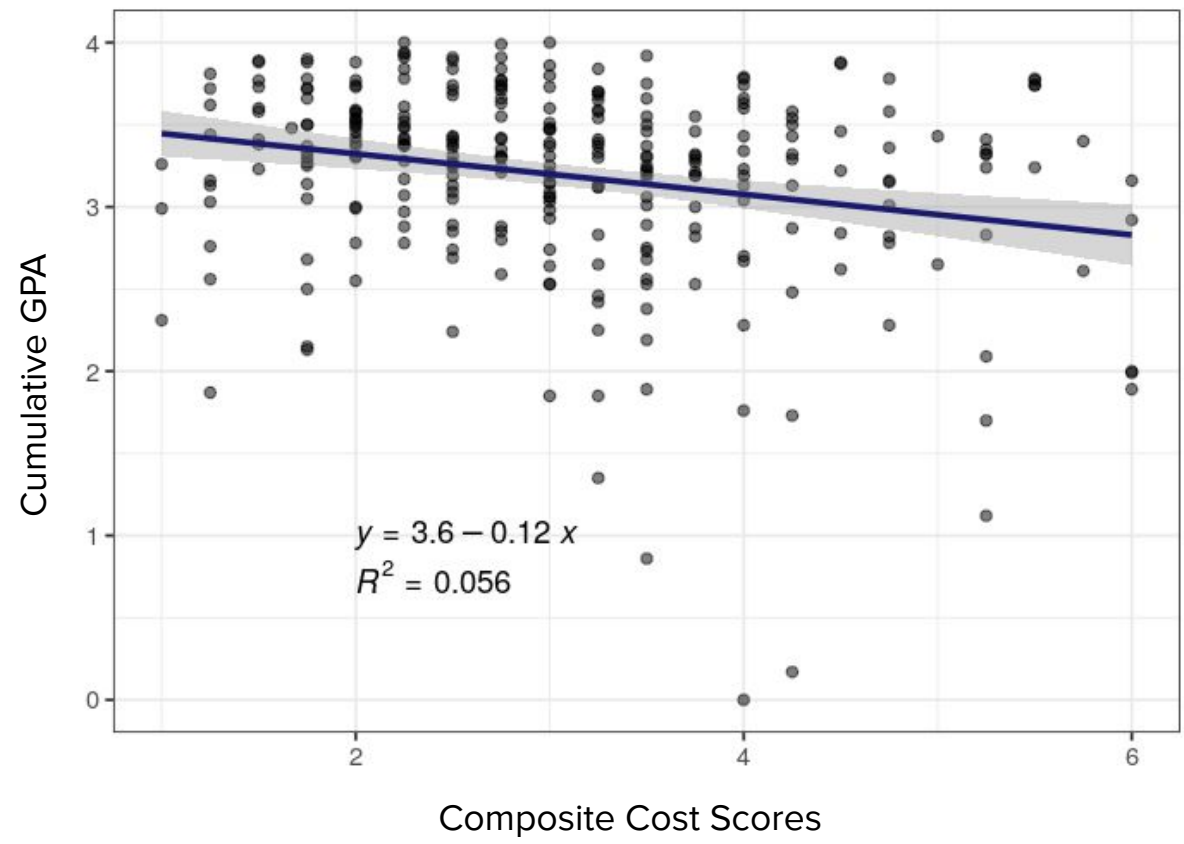
Cost also predicted sophomore enrollment (OR = 0.54 [95% CI: 0.40–0.74], p < .001) **and graduation within five years** (OR = 0.63 [0.49–0.80], p < .001). The higher a student's cost perception, the less likely they were to stay enrolled at Reed.

Qualitative Analysis

- Divided the sample into **High** and **Low** Cost students using a median split of the cost scores
- While blind to students' cost status, we developed an inclusive coding scheme to categorize elements of the open-ended responses. Coded the data and analyzed code frequencies
- **Thematic analysis:** examined patterns in the responses that characterized High and Low Cost students

Theme	Example Quote
Low Cost Students Dislike Tedium	"I was unmotivated because it was such a straightforward and dry class"
High Cost Students Flag Non-Academic Priorities	"Sometimes I am far more interested in doing my job than my class work"
High Cost Students Focus on Regulation, Whereas Low Cost Students Focus on Understanding	"Knowing that I needed to get it done motivated me" "I feel motivated to solidify the material learned throughout the semester and demonstrate the knowledge I've gained"
Support From Others is Important for All	"I really want to do well in [a professor's] class because I know she believes I can do it, and I don't want to let her down" "The professor was able to get me to explore it in more depth than I personally thought myself capable of"

Conclusions

- Mixed-methods approach yielded qualitative insights that corroborated and complemented quantitative findings
- High Cost students have lower GPAs/retention, focus on regulation rather than mastery, and juggle non-academic priorities
- Low Cost students have higher GPAs/retention, dislike tedium, and focus on learning for the sake of learning
- Implications for educators:
  - Transparent teaching methods
  - Cost assessments to identify warning signs
  - Interventions: help students reappraise costs

References

1. Barron, K. E., & Hulleman, C. S. (2015). Expectancy-value-cost model of motivation. *International Encyclopedia of Social and Behavioral Sciences, 2nd Edition: Motivational Psychology.*
2. Eccles, J. S., & Wigfield, A. (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology.*
3. Gaspard, H., Häfner, I., Parrisius, C., Trautwein, U., & Nagengast, B. (2017). Assessing task values in five subjects during secondary school: Measurement structure and mean level differences across grade level, gender, and academic subject. *Contemporary Educational Psychology.*
4. Jiang, Y., Rosenzweig, E. Q., & Gaspard, H. (2018). An expectancy-value-cost approach in predicting adolescent students' academic motivation and achievement. *Contemporary Educational Psychology.*
5. Perez, T., Cromley, J. G., & Kaplan, A. (2014). The role of identity development, values, and costs in college STEM retention. *Journal of Educational Psychology.*
6. Robinson, K. A., Lee, Y., Bovee, E. A., Perez, T., Walton, S. P., Briedis, D., & Linnenbrink-Garcia, L. (2019). Motivation in transition: Development and roles of expectancy, task values, and costs in early college engineering. *Journal of Educational Psychology.*
7. Corpus, J. H., Robinson, K. A., & Wormington, S. V. (2020). Trajectories of motivation and their academic correlates over the first year of college. *Contemporary Educational Psychology.*
8. Kosovich, J. J., Hulleman, C. S., Barron, K. E., & Getty, S. (2015). A practical measure of student motivation: Establishing validity evidence for the expectancy-value-cost scale in middle school. *The Journal of Early Adolescence.*

This research was supported by a Reed College Science Research Fellowship to S.W.