

# What Deters Women from Economics

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The field of economics remains largely male-dominated. Women comprise only a third of all undergraduate economics majors, and this share has plateaued over the last twenty years (Chevalier, 2021; Bayer and Rouse, 2016). Prior studies have tested various strategies to increase women’s representation among economics majors and found that interventions that provide information on grade distributions, present less traditional applications of economics concepts, and expose students to female alumni can be effective at increasing women’s interest and persistence in economics (Bayer, Jang and Wilcox, 2019; Porter and Serra, 2020; Bayer, Hoover and Washington, 2020; Li, 2018; Halim, Powers and Thornton, 2022). However, most interventions were tested on students who were either already enrolled in introductory economics courses (Pugatch and Schroeder, 2021; Porter and Serra, 2020; Pai, 2023; Chambers et al., 2021; Dynan and Rouse, 1997; Bansak and Starr, 2006) or had declared Economics as their major (Canaan and Mouganie, 2021). In contrast, we know little about what attracts and deters students to economics in the first place and the timing of when the gender gaps emerge.<sup>1</sup>

This paper reports the findings of a survey targeted at early-stage undergraduate students at two U.S. universities designed

to explore students’ perceptions of the economics major, concerns about the economics discipline, as well as specific factors that attract or deter them from studying economics. Understanding these factors can inform potential interventions and policies aimed at increasing gender diversity in the economics profession.

We find that women report significantly lower interest in both taking economics classes and majoring or minoring in economics relative to their male peers. In exploring potential explanations for this result, we find that women perceive themselves to be less likely to succeed in the economics major and less likely to enjoy their coursework and the subsequent career path. Furthermore, we find considerable gender differences in perceptions of the topics studied by economists. Women are more likely than men to believe that economics is primarily concerned with traditionally male-stereotyped topics and career paths, such as the stock market, money, finance, and investments. Women are also more likely than men to believe that economics is a field only for people with strong math skills. Consistent with this finding, some of the main concerns that deter women from studying economics include math being too difficult, getting good grades, economics being boring, and the belief that they are not a good fit for the major. Finally, we observe stark gender differences in the topics that students are interested in, with women being more interested in studying poverty and discrimination in the labor market and less interested in topics like finance and the stock market.

We discuss our data and sample in Section I, present our survey findings in Section II, and conclude by discussing policy implications in Section III.

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<sup>1</sup>Notable exceptions include recent work with high school counselors by Gentry, Meer and Serra (2023).

## I. Data and Sample

To investigate the factors that attract and deter undergraduate students from economics at the initial phase of their academic experience, we administered a survey targeting early stages undergraduate students at Tufts and Syracuse Universities. At both institutions, women are underrepresented in the economics major relative to their shares campus-wide. The share of female students in the major is only 15% at Syracuse and 26% at Tufts.<sup>2</sup>

First-year students are the majority of our main sample. Tufts University admits about 1,400 first-year undergraduates each year. Syracuse University has an entering class of around 4,000 undergraduates. At both institutions, the entering class in 2024 was about 45% male.<sup>3</sup>

The survey was designed to elicit students' perceptions of the economics major including their estimated ability to attain a GPA of 3.5 or higher, the likelihood that they will enjoy the coursework and a subsequent career in economics, as well as the likelihood of finding a job after graduation. We also ask respondents about the importance of various career factors, such as salary, job stability, pursuing a passion, probability of success, contributing to society, and having good work-life balance in influencing their major and career choice. Finally, we ask students to estimate their likelihood of taking economics courses and considering an economics major or minor in the future and to select the economics topics they would be interested in learning about during their undergraduate studies. The full survey instrument is in Appendix B.

We have approximately 600 responses (N=278 at Tufts and N=317 at Syracuse). Appendix Table A1 reports the demographics of our respondents by site and for a combined sample. Throughout the paper, we discuss the combined sample given the similarities across the two sites. Our re-

spondents are on average 19.4 years old, 62.0% female, 49.6% White, 6.4% Black, and 23.0% Asian. About one-third of our respondents are first-generation college students, and only 12.4% state that they intend to major in economics.<sup>4</sup> Some notable differences across our two sites include Syracuse respondents having a higher share of first-generation college students (42.2% vs. 29.2% at Tufts,  $p < 0.01$ ), White students (57.4% vs. 40.6% at Tufts,  $p < 0.01$ ) and a lower share of Asian students (16.7% vs. 30.2% at Tufts,  $p < 0.01$ ). Syracuse students are also less likely to plan on majoring in Life sciences (5.7% vs. 36.7% at Tufts,  $p < 0.01$ ) and Health sciences (7.7% vs. 28.8% at Tufts,  $p < 0.01$ ).

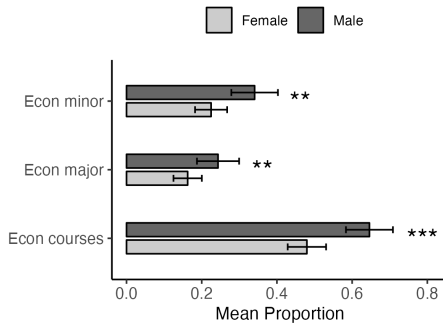
## II. Findings

We begin by documenting a significant gender gap in respondents' interest in and stated likelihood to pursue studies in economics. About 48.0% of female students in our sample report an interest in taking economics courses in the future, as compared to 64.6% of male students (see Figure 1 and Table A2,  $p < 0.01$ ). Similarly, the share of women who report considering an economics major (16.3%) or a minor (22.5%) is significantly lower than it is for men (24.3% and 34.1% respectively). These findings are consistent with prior studies which find that female undergraduate students enrolled in introductory economics classes are less likely to take subsequent economics classes or declare an economics major than their male counterparts, even when controlling for differences in aptitude and performance in the class (Emerson, McGoldrick and Mumford, 2012; Bartlett, 1995).

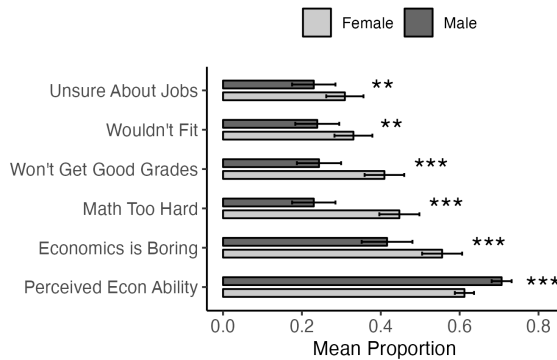
<sup>2</sup><https://www.newyorkfed.org/data-and-statistics/data-visualization/diversity-in-economics>

<sup>3</sup>See <https://provost.tufts.edu/institutionalresearch/fact-book/> and <https://institutionalresearch.syr.edu/>

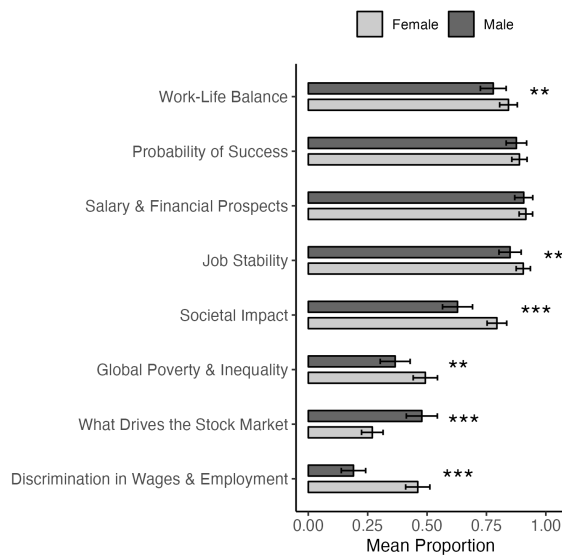
<sup>4</sup>First Generation is defined as having parents whose highest level of education is not a four-year college degree.



A. Interest in Economics By Gender



B. Perceived Economics Ability and Concerns About Economics By Gender



C. Career Factors and Attraction to Economics Topics

Figure 1: Gender Differences in Survey Outcomes

Note: t-tests of whether the male versus female proportions are statistically significantly different:

\*  $p < 0.1$ , \*\*  $p < 0.05$ , and \*\*\*  $p < .001$

There are many potential explanations for women's lower interest in economics. Our survey allows us to explore some of them, including respondents' perceived ability to succeed in the major and to enjoy the coursework and subsequent career path in economics, as well as their perceptions of what types of careers are available to those with economics degrees and the contents of the economics major.

Appendix Table A2 reports respondents' perceptions of their ability in the economics major. We asked the students to consider a hypothetical scenario of majoring in economics and to rank their perceived ability to succeed in the major relative to other students studying economics. We find that female students rank their ability (on a scale from 0 to 100) significantly lower than their male peers (61.2 vs. 70.6,  $p < 0.01$ ). They are also less likely to state that they would enjoy the coursework and subsequent career path in economics (44.8% vs. 49.2%,  $p = 0.048$ ). In contrast, there are no systematic gender differences in respondents' expected likelihood of obtaining a job or attending economics graduate school post-graduation, as well as their impression of the number of hours they would spend studying outside of class if they were majoring in economics.

To further understand students' concerns about the economics major, we ask about their perceptions of economics. As reported in Appendix Table A3, we find that female students are much more likely than their male peers to agree that economics is primarily concerned with money and finance, stock market and investments, that it is inherently political, and that it is a subject only for people with strong math skills ( $p < 0.01$  for all four comparisons). As highlighted in Figure 1 (and Appendix Table A3), Math being too difficult is in fact one of the main concerns that female students have about pursuing economics, with 44.7% of female respondents citing it compared to only 23.0% of male respondents. Related concerns include getting good grades (40.9% of women vs. 24.3% of men,  $p < 0.01$ ), and economics being boring (55.6% of women vs. 41.6% of men,

$p < 0.01$ ).

These results are consistent with students' reported interests and factors that affect their major choice. As reported in Figure 1 and Appendix Table A4, women are significantly more interested in studying topics like poverty and inequality (49.3% vs. 36.6%,  $p < 0.01$ ) and discrimination in wages and employment (46.1% vs. 19.0%,  $p < 0.01$ ). In contrast, they are significantly less interested in studying the stock market (27.0% vs. 47.8%,  $p < 0.01$ ). Furthermore, when asked about the factors that affect their college major and career choice, both men and women cite salary and financial prospects, probability of success, and pursuing a passion as equally important. Women, however, are significantly more likely than men to also consider factors like societal impact, job stability, and work-life balance in deciding their field of study and future career. These findings suggest that emphasizing the broader and more diverse applications of economics as well as how economics can help address pressing societal issues can make the field more appealing to female students.

Finally, we correlate our three self-reported interest measures (interest in taking economics classes and interest in majoring or minoring in economics, respectively) with a subset of the measures reported in our other tables, and report our findings in Appendix Table A5. We find that the highest predictors of both men's and women's interest in economics are their perceived likelihood that they will enjoy the coursework and their subsequent employment, as well as whether they believe that economics is boring. Furthermore, for both men and women, concerns about attaining good grades are negatively correlated with their stated desire to take economics classes. We also observe some notable gender differences in these correlations. In particular, we find that concerns about economics being inherently political as well as concerns about finding employment are significantly correlated with men's, but not women's, interest in economics. In contrast, beliefs about economics being primarily concerned with money, finance and

stock market are negatively correlated with women's interest in pursuing an economics major or taking economics classes, while having no discernible effect on men.

### III. Conclusion

Using a survey targeted at early-stage undergraduate students at two U.S. universities, we document a significant gender gap in interest in economics and shed light on several potential explanations for this finding. Our results suggest that the perceived content and difficulty of the economics major may discourage female students from pursuing economics.

Women's concerns about their ability to succeed in the economics major and attain good grades, as well as their perception that economics is only for people with strong math skills, appear to be important predictors of their lower likelihood to want to take economics classes in our sample. Since in practice, on average female economics majors perform better than their male peers (Rask and Tiefenthaler, 2008), this suggests that an intervention addressing these informational asymmetries could be effective at recruiting more women into the major.

Furthermore, while women's interest in economics is considerably lower than men's, 48% of the women in our sample report being open to considering taking economics classes. This is significantly higher than the 30% average share of female economics majors at U.S. undergraduate institutions and suggests that both the content and climate of economics classes are key to attracting (and deterring) women to the major. In our sample, one of the biggest predictors of women's interest in economics is the concern that economics is primarily about money, banking, and finance. To diversify the field, undergraduate economics curriculum should emphasize more diverse applications of economics to a wide range of issues and the relevance and usefulness of the economics tools to understanding and solving important societal problems.

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APPENDIX

Table A1—: Summary Statistics by Site

	Combined Sample (N=595)	Tufts University (N=278)	Syracuse University (N=317)
Age	19.376	19.417	19.341
Female	0.620	0.647	0.596
First Generation	0.361	0.292**	0.422
Hh Income (Avg \$1000)	136.934	139.410	134.728
Hh Income below \$100k	0.358	0.362	0.354
<b>Race</b>			
White	0.496	0.406**	0.574
Asian	0.230	0.302**	0.167
Black	0.064	0.061	0.066
Hispanic	0.081	0.061	0.098
Mixed (White)	0.094	0.129**	0.063
Mixed (Non-White)	0.015	0.018	0.013
<b>Majors</b>			
Economics	0.124	0.151	0.101
Female and STEM	0.061	0.076	0.047
Mathematics	0.025	0.036	0.016
Computer Science	0.109	0.122	0.098
Data Science	0.055	0.014**	0.091
Business	0.126	0.004**	0.233
Engineering	0.106	0.144**	0.073
Social Sciences	0.338	0.338	0.338
Humanities	0.128	0.133	0.123
Life Sciences	0.202	0.367**	0.057
Physical Sciences	0.032	0.058**	0.009
Health Sciences	0.175	0.288**	0.076
Undecided	0.020	0.022	0.019

*Note:* First Generation is defined as having parents whose highest level of education is not a four-year college degree. Hh Income categories: less than \$50,000; \$50,000-\$100,000; \$100,000-\$150,000; \$150,000-\$200,000; over \$200,000. Mixed (White) includes all individuals who select “White” and at least one other race. Mixed (Non-White) includes individuals who select more than one race, not including the option “White”.

The majors are coded as 1 if the student is majoring in them.

Each major category aggregates related fields based on shared keywords to encompass a broader range of study areas. Mathematics includes mathematics and statistics; Computer Science covers computer science, software engineering, and information technology; Data Science encompasses data science and informatics. Business includes finance, marketing, and entrepreneurship; Engineering covers disciplines like aerospace and civil engineering. Social Sciences incorporate sociology, psychology, and political science; Humanities include philosophy, literature, and the arts. Life Sciences focus on biology and environmental studies; Physical Sciences cover physics and chemistry. Health Sciences include nursing and public health, while Undecided represents students unsure of their major.

\*\* indicates that Tufts t-test differences are statistically significant from Syracuse at  $p < 0.05$ .

Table A2—: Interest in economics and perceptions of ability by gender and site

	Combined Sample		Tufts University		Syracuse University	
	Male	Female	Male	Female	Male	Female
Consider econ course in future	0.646	0.480***	0.551	0.467	0.719	0.492***
Consider econ major in future	0.243	0.163**	0.214	0.172	0.266	0.153**
Consider econ minor in future	0.341	0.225***	0.306	0.217*	0.367	0.233***
Ability	70.646	61.214***	70.847	61.233***	70.492	61.196***
Percent Chance of at least 3.5 GPA	68.746	66.351	79.014	74.426	60.884	58.660
Percent Chance will enjoy coursework	50.230	43.488***	52.684	46.296**	48.352	40.814**
Hours per week on coursework	14.088	13.322	14.061	14.344	14.109	12.349
Percent Chance of finding a job	64.934	68.083	66.020	69.706	64.102	66.537
Percent Chance go to graduate school	49.925	49.114	50.990	50.956	49.109	47.360
Percent Chance will enjoy type of job with econ degree	49.190	44.759**	50.031	45.922	48.547	43.651
N	226	369	98	180	128	189

*Note:* For the consider economics course/major/minor in the future variables, responses were categorized on a scale from "Very unlikely" to "Very likely", with binary versions created to indicate whether the likelihood was neutral or positive (coded as 1, and 0 otherwise). Ability is the response to the question: *Consider the situation where you graduate with a Bachelor's degree in economics. On a scale of 1-100, where do you think you would rank in terms of ability when compared to all individuals (at your university and other universities) who will graduate in economics?* For the percent chance questions, respondents were asked to fully place themselves in the (possibly) theoretical situations: (1) *If you were majoring in economics, what do you think is the percent chance that you will graduate with a GPA of at least 3.5 (out of a max of 4)?* (2) *If you were majoring in economics, what do you think is the percent chance that you will enjoy the coursework?* (3) *If you were majoring in economics, how many hours per week on average do you think you will need to spend on the coursework (outside of class)?* (4) *If you were majoring in economics, what do you think is the percent chance that you could find a job (that you would accept) immediately upon graduation?* (5) *If you obtained a bachelors degree in economics, what do you think is the percent chance that you will go to graduate school in economics sometime in the future?* (6) *Look ahead to when you will be 30 YEARS OLD. If you majored in economics what do you think is the percent chance that you will enjoy working at the kinds of jobs that will be available to you?*

\* $p < 0.1$ , \*\* $p < 0.05$ , and \*\*\* $p < .001$ .



Table A3—: Perceptions and concerns about economics by gender and site

	Combined Sample		Tufts University		Syracuse University	
	Male	Female	Male	Female	Male	Female
Economics is primarily concerned with money and finance	0.645	0.791***	0.574	0.792***	0.692	0.789**
Economics focuses on studying the stock market and investments	0.503	0.676***	0.526	0.689**	0.486	0.661***
Economics examines how societies allocate scarce resources	0.634	0.654	0.656	0.593	0.615	0.713
Economics is a field that deals with complex mathematical models	0.565	0.607	0.542	0.585	0.582	0.629
Economics studies how individuals make decisions	0.585	0.604	0.529	0.520	0.626	0.688
Economics is essential for understanding government policies	0.748	0.802	0.755	0.767	0.742	0.836**
Economics is closely related to political science	0.593	0.634	0.592	0.644	0.594	0.624
Economics is a social science focused on human behavior	0.606	0.596	0.612	0.561	0.602	0.630
Economics is relevant to everyday life	0.783	0.810	0.745	0.800	0.812	0.820
Economics is inherently political	0.438	0.550***	0.439	0.572**	0.438	0.529
Economics is a subject only for people with strong math skills	0.270	0.407***	0.173	0.328***	0.344	0.481**
Economics is a tool for solving social issues, such as alleviating poverty	0.615	0.696**	0.571	0.639	0.648	0.751**
Economics tools can be used for a variety of jobs	0.770	0.854***	0.724	0.861***	0.805	0.847
Concerns: Math too hard	0.230	0.447***	0.235	0.378**	0.227	0.513***
Concerns: Find a job	0.119	0.079*	0.082	0.078	0.148	0.079*
Concerns: Get Good Grades	0.243	0.409***	0.224	0.322*	0.258	0.492***
Concerns: Economics is Boring	0.416	0.556***	0.439	0.578**	0.398	0.534**
Concerns: Wouldn't Fit	0.239	0.331**	0.296	0.406*	0.195	0.259
Concerns: Bad Work-Life Balance	0.190	0.141	0.296	0.217	0.109	0.069
Concerns: Not Enough Money	0.093	0.092	0.082	0.089	0.102	0.095
Concerns: Unsure About Jobs	0.230	0.309**	0.245	0.306	0.219	0.312*
Concerns: Impact on Society	0.115	0.136	0.153	0.172	0.086	0.101
Concerns: Economics Not Relevant	0.031	0.011*	0.051	0.011**	0.016	0.011
N	226	369	98	180	128	189

*Note:* Respondents were asked: *When you think of an economics major (a specific subject area of study), what career paths or jobs come to mind? Please list at least 2.* For the analysis, binary indicator variables were created to categorize respondents' career path associations based on their responses to this question about potential careers for economics majors. Banking/Finance/Investment includes terms related to banking, finance, investments, or related fields. Business/Sales/Marketing includes career paths in business, sales, marketing, consulting, or entrepreneurship. Economist/Research: respondents who identified roles in economics or research. Academia: respondents who associated economics with teaching or academic roles. Public Service: includes careers in government, public service, policy. Engineering: respondents who linked economics to engineering fields. Healthcare: includes healthcare-related professions. Law includes all legal careers. Arts includes careers in the arts. Information Technology includes all IT or technology-related fields. Each career category was coded as 1 if the respondent mentioned any relevant terms, and 0 otherwise. Binary indicators were generated for each concern of interest based on respondent selections, where a value of 1 indicates a specific concern selected and 0 indicates not being selected. The question the respondents were asked is: *What concerns do you have about taking economics classes or pursuing an economics major? (select all that apply):* The math will be too hard for me to enjoy the major; I won't be able to find a job with an economics degree; I don't think I'll get good grades in economics classes; Economics is boring; People like me wouldn't fit in the economics major; People who study economics get jobs that have bad work-life balance; I won't make enough money as an economics major; I am unsure about the type of jobs economics majors can get after college; Studying economics doesn't help me make a positive impact on society; Studying economics isn't relevant to today's world.

\* $p < 0.1$ , \*\* $p < 0.05$ , and \*\*\* $p < .001$ .

Table A4—: Students' interests and factors that matter for their major/career choice by gender

	Combined Sample		Tufts University		Syracuse University	
	Male	Female	Male	Female	Male	Female
Career Factor: Salary and financial prospects	0.907	0.916	0.949	0.911	0.875	0.921
Career Factor: Job stability	0.850	0.905**	0.857	0.867	0.844	0.942***
Career Factor: Pursuing a passion	0.814	0.821	0.847	0.778	0.789	0.862*
Career Factor: Societal impact	0.628	0.794***	0.653	0.767**	0.609	0.820***
Career Factor: Good work-life balance	0.779	0.843**	0.796	0.783	0.766	0.899***
Career Factor: Probability of success	0.876	0.889	0.857	0.850	0.891	0.926
Topic interest: Economic Inequality	0.376	0.414	0.378	0.474	0.374	0.355
Topic interest: Sustainability	0.366	0.388	0.422	0.451	0.322	0.326
Topic interest: Globalization	0.366	0.316	0.422	0.301**	0.322	0.331
Topic interest: Poverty	0.366	0.493***	0.422	0.549*	0.322	0.436*
Topic interest: Discrimination	0.190	0.461***	0.211	0.514***	0.174	0.407***
Topic interest: Stock Market	0.478	0.270***	0.500	0.272***	0.461	0.267***
N	226	369	98	180	128	189

*Note:* For the career factors, respondents were asked to indicate how much each of the factors affects their future college major/career choice. They could choose from: Extremely Unimportant, Unimportant, Neutral, Important, Extremely important for each factor. The table above displays the percentage of respondents who indicated either "Extremely Important" or "Important" vs those who didn't for each factor. For the Topic interest variables, binary indicators were generated for each topic of interest based on respondent selections, where a value of 1 indicates interest in the specific topic and 0 indicates no interest. The question the respondent were asked is: *Which of the following topics, if any, would you be interested in learning more about in your undergraduate studies? (select all that apply): Consumer behavior and the media; Economic inequality and its consequences; Environmental sustainability and the economic effects of climate change; Behavioral economics and human decision-making; Global economic interdependence; globalization, and international trade; Policy design; Global poverty and inequality; Discrimination in wages and employment; What drives the stock market*

\* $p < 0.1$ , \*\* $p < 0.05$ , and \*\*\* $p < .001$ .

Table A5—: Correlations

	Classes	Men		Classes	Women	
		Major	Minor		Major	Minor
Percent Chance of at least 3.5 GPA	0.050	-0.080	0.079	0.087	-0.034	0.009
Percent Chance will enjoy coursework	0.468**	0.237**	0.276**	0.372**	0.207**	0.247**
Percent Chance of finding a job	0.180**	0.069	0.065	0.088	-0.093	-0.053
Percent Chance will enjoy type of job with econ degree	0.412**	0.278**	0.292**	0.245**	0.166**	0.205**
Economics is primarily concerned with money and finance	0.087	-0.067	0.050	-0.144**	-0.067	-0.013
Economics focuses on studying the stock market and investments	-0.063	-0.065	-0.048	-0.150**	-0.143**	-0.099
Economics is inherently political	-0.204**	-0.064	-0.164**	-0.015	0.000	-0.009
Economics is a subject only for people with strong math skills	0.096	-0.020	-0.038	-0.066	0.009	-0.023
Concerns: Math too hard	-0.013	0.033	0.028	-0.056	-0.027	-0.041
Concerns: Find a job	0.016	0.045	0.081	0.062	0.062	-0.013
Concerns: Get Good Grades	-0.141**	-0.057	-0.125	-0.126**	-0.083	-0.052
Concerns: Economics is Boring	-0.276**	-0.186**	-0.076	-0.331**	-0.271**	-0.276**
Concerns: Wouldn't Fit	-0.063	-0.100	-0.053	-0.087	-0.076	-0.075
Concerns: Bad Work-Life Balance	-0.066	-0.091	-0.087	0.016	0.033	-0.013
Concerns: Economics Not Relevant	-0.081	-0.042	0.087	-0.048	0.025	0.006
N	226	226	226	369	369	369

*Note:* \*\* shows significance at  $p < .05$

SURVEY INSTRUMENT

## SCREENER AND CONSENT

**Thank you for expressing interest in the Student Decision-Maker survey! Before you continue, we first need to confirm that you are eligible for the study.**

**age** What is your age?

---

*Skip To: End of Survey If Condition: What is your age? Is Less Than 18. Skip To: End of Survey.*

### CONSENT TO PARTICIPATE IN A RESEARCH STUDY

**Title of the Study:** Student Decision-Maker Survey

**Principal Investigator:** Laura K. Gee (Tufts University), Kristy Buzard (Syracuse University), and Olga Stoddard (Brigham Young University)

Phone: 617-627-5947; Email: laura.gee@tufts.edu

You are being asked to volunteer in a research study. Please find below information about this research for you to carefully consider when deciding about whether or not to participate. Please ask questions about any of the information you do not understand before you decide whether to participate.

What is this study about? Researchers at Tufts University, Syracuse University and Brigham Young University are conducting a study to learn more about the ways students choose their major and what deters or attracts them to particular majors, as well as how students perceive the economics discipline. You are one of a possible 1,000 participants to take part in this study. Your active participation in the study is expected to last 10 minutes. However, we will follow your academic data over the duration of your undergraduate experience, or up for up to 5 years. The study is supported by Tufts University, Syracuse University and Brigham Young University. This study is also supported by the Social Science Research Council (SSRC).

What will happen during this research? If you agree to participate in this research, your participation will include filling out a survey and having your responses aggregated with other's responses in research materials. We will also match your responses with administrative data at your university (class schedules, grades, major and minor choices, and withdrawals). We will collect and match this data every 6 months for the duration of your undergraduate degree, or for up to 5 years. Your identifiable academic information will only be shared with a member of the research team from your institution. All results from the study will be aggregated up to at least 10 persons when reporting them, so that no one person's action can be identified. We will not share any identifiable data outside of the research team conducting the study. We will tell you about any new information that may affect your willingness to continue participation in this research.

What will you do to protect my privacy? The results of the study may be published. We will take measures to protect your privacy and confidentiality including your responses. Your name and any other information that could identify you will be saved separate from the data. Despite taking steps to protect your privacy, we can never fully guarantee your privacy will be protected. If you tell us something that makes us believe that you or others have been or may be physically harmed, we may report that information to the appropriate agencies Individuals and organizations responsible for conducting or monitoring this research may be permitted access to and inspect the research records. This includes Tufts Social, Behavioral & Educational Research Institutional Review Board (Tufts SBER IRB), sber@tufts.edu. The information collected as part of this research will not be used or distributed for future research studies, even if all of your identifiers are removed.

What are the risks or discomforts associated with this research? There is a possibility of breach of confidentiality but since all interactions take place online, and on password protected servers, and websites we believe this risk is minimal. We do not believe there are any other reasonably foreseeable risks, discomforts, hazards or inconveniences for participants for participation in this research.

How might I benefit from this research? There may be no personal benefit from your participation but the knowledge received may be of value to humanity. What is the compensation for the research? You will receive a \$7 gift card for participating in this study. This will be distributed to you within 2 weeks of filling out the survey virtually through the Tango Card website.

What will happen if I choose not to participate? It is your choice to participate or not to participate in this research. Participation is voluntary. Alternatives to participation are leaving the survey.

Is my participation voluntary, and can I withdraw? Taking part in this research study is your decision. Your participation in this study is voluntary. You do not have to take part in this study, but if you do, you can stop at any time by leaving this survey. Your decision whether to participate will not affect your relationship with the researchers or their organizations. There are no penalties/consequences/loss of benefits to which you are otherwise entitled, if you do not participate. However, you will not be paid the compensation advertised to you on the platform where you found this opportunity if you do not complete the survey. You have the right to choose not to participate in any study activity or completely withdraw from continued participation at any point in this study without penalty/consequences/loss of benefits to which you are otherwise entitled. If you withdraw from the study, the data collected to the point of withdrawal will be deleted. After you have completed the survey, you can withdraw from the study by emailing the research team at laura.gee@tufts.edu

Who do I talk to if I have questions? If you have questions, concerns, or have experienced a research-related injury, contact the research team at: Laura K. Gee 617-627-5947 laura.gee@tufts.edu An Institutional Review Board

("IRB") is overseeing this research. An IRB is a group of people who perform independent review of research studies to ensure the rights and welfare of participants are protected.

If you have questions about your rights or wish to speak with someone other than the research team, you may contact: Tufts Social, Behavioral, and Educational Research IRB 75 Kneeland Street, Suite 623 Boston, MA 02111 617.627.8804 SBER@tufts.edu

### CONSENT

I have read and considered the information presented in this form. I confirm that I understand the purpose of the research and the study procedures. I understand that I may ask questions at any time and can withdraw my participation without prejudice. I have read this consent form. **By clicking the "I consent to participate in the study," I indicate my willingness to participate in this study.**

- I consent to participate in the study. (1)
- I do not consent to be included in the study and wish to be removed. (2)

*Skip To: End of Survey If Condition: Participant selects "I do not consent to be included in the study."*

We ran a version of this survey in the past. If you took that previous version, you are **NOT** eligible to take it again. We will check your response against our previous records before we send you payment.

If you believe you have taken the survey in the past, feel free to stop taking it again now.

### DEMOGRAPHICS/BACKGROUND QUESTIONS

**Name** What is your name? (Please provide first and last) \_\_\_\_\_

**Email** What is your school email? \_\_\_\_\_

**Q43** What college/university do you attend?

- Tufts University (4)
- Other: \_\_\_\_\_ (5)

**SchoolID** What is your school ID? \_\_\_\_\_

**Gender** What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

**Race** What is your race?

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Hispanic or Latino (7)
- Other: \_\_\_\_\_ (6)

**firstgen** What is the highest level of education any of your legal guardian(s) has received?

- Didn't graduate high school (1)
- High School Diploma (2)
- Associate's (3)
- Bachelor's (4)
- Master's (5)

- Post Graduate Degree (PhD, MD, JD, etc.) (6)
- Prefer not to say (7)

**Socioeconomic Information** What is your total household income (this includes your legal guardian(s) income if you are a dependent)?

- Less than \$50,000 (1)
- \$50,000 - \$100,000 (2)
- \$100,000 - \$150,000 (3)
- \$150,000 - \$200,000 (4)
- Over \$200,000 (5)
- Prefer not to say (6)

**Major** What are you currently majoring in or planning to major in?  
(Please spell out the full major, do not abbreviate. If you have more than one major, please list all majors.)

\_\_\_\_\_

**Career Factors** Please indicate how much each of the following factors affects your future major/career choice. Options: Extremely Unimportant (1); Unimportant (2); Neutral (3); Important (4); Extremely Important (5)

	(1)	(2)	(3)	(4)	(5)
Salary and Financial Prospects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Stability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pursuing a Passion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Societal Impact/Contribution to Society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good Work-Life Balance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Probability of Success	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\*Other: (If no other factors significantly influence your decision-making, put "NA" in the box below and choose "Neutral")

Other (please specify): \_\_\_\_\_

**Q55** For each of the questions below, please indicate how likely you are to consider each of the following.

**courseinfut** I would consider taking economics courses in the future:

- Very unlikely (0-20% likely) (1)
- Somewhat unlikely (21-40% likely) (2)
- Neutral (41-60% likely) (3)
- Somewhat likely (61-80% likely) (4)
- Very likely (81-100% likely) (5)

**majorinfuture** I would consider an economics major in the future:

- Very unlikely (0-20% likely) (1)
- Somewhat unlikely (21-40% likely) (2)
- Neutral (41-60% likely) (3)
- Somewhat likely (61-80% likely) (4)
- Very likely (81-100% likely) (5)
- N/A: I'm already majoring in or planning to major in Economics (6)

**minorinfuture** I would consider an economics minor or concentration in the future:

- Very unlikely (0-20% likely) (1)
- Somewhat unlikely (21-40% likely) (2)
- Neutral (41-60% likely) (3)

- Somewhat likely (61-80% likely) (4)
- Very likely (81-100% likely) (5)
- N/A: I'm already minoring in or planning to minor in Economics (6)
- N/A: I'm already majoring in or planning to major in Economics (7)

**careerpaths** When you think of an economics major, what career paths / jobs come to mind? Please list at least 2.

- Career Path 1 (1) \_\_\_\_\_
- Career Path 2 (2) \_\_\_\_\_
- Career Path 3 (optional) (3) \_\_\_\_\_

**attributesofecon** When you think of a typical student majoring in economics, what attributes about them come to mind? Please list at least 2.

- Attribute 1 (1) \_\_\_\_\_
- Attribute 2 (2) \_\_\_\_\_
- Other Attribute(s) (3) \_\_\_\_\_

**Economics Statements** How much do you agree with each of the following statements?  
Options: Strongly Disagree (0-20% agree) (1); Somewhat Disagree (21-40% agree) (2); Neutral (41-60% agree) (3); Somewhat Agree (61-80% agree) (4); Strongly Agree (81-100% agree) (5)

	(1)	(2)	(3)	(4)	(5)
Economics is primarily concerned with money and finance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics focuses on studying the stock market and investments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics examines how societies allocate scarce resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is a field that deals with complex mathematical models.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics studies how individuals make decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is essential for understanding government policies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is closely related to political science.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is a social science focused on human behavior.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is not relevant to everyday life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is inherently political.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is a subject only for people with strong math skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics is a tool for solving social issues, such as alleviating poverty.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economics tools can be used for a variety of jobs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Concerns** What concerns do you have about taking economics classes or pursuing an economics major? (select all that apply)

- The math will be too hard for me to enjoy the major (1)
- I won't be able to find a job with an economics degree (2)
- I don't think I'll get good grades in economics classes (3)
- Economics is boring (4)
- People like me wouldn't fit in the economics major (5)
- People who study economics get jobs that have bad work-life balance (6)
- I won't make enough money as an economics major (7)
- I am unsure about the type of jobs economics majors can get after college (8)
- Studying economics isn't relevant to today's world (11)
- Studying economics doesn't help me make a positive impact on society (12)
- I don't have any concerns (9)
- Other: \_\_\_\_\_ (10)

Carry Forward Selected Choices from "What concerns do you have about taking economics classes or pursuing an economics major? (select all that apply)"

**Q53** Please rank your concerns about taking economics classes or pursuing an economics major from the most concerning (highest slot) to least concerning (lowest slot).

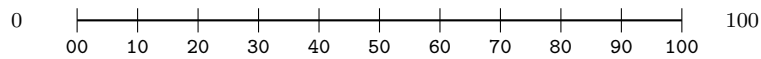
- The math will be too hard for me to enjoy the major (1)
- I won't be able to find a job with an economics degree (2)
- I don't think I'll get good grades in economics classes (3)
- Economics is boring (4)
- People like me wouldn't fit in the economics major (5)
- People who study economics get jobs that have bad work-life balance (6)
- I won't make enough money as an economics major (7)
- I am unsure about the type of jobs economics majors can get after college (8)
- Studying economics isn't relevant to today's world (9)
- Studying economics doesn't help me make a positive impact on society (10)
- I don't have any concerns (11)
- Other: (12)

**Ability** Consider the situation where you graduate with a Bachelor's degree in economics.

On a scale of 1-100, where do you think you would rank in terms of ability when compared to all individuals (at your university and other universities) who will graduate in economics?

**Low Ability**

**High Ability**



**percentchances** In answering the following questions, fully place yourself in the (possibly) theoretical situation:

- If you were majoring in economics, what do you think is the percent chance that you will graduate with a GPA of at least 3.5 (out of a max of 4)? (1) \_\_\_\_\_
- If you were majoring in economics, what do you think is the percent chance that you will enjoy the coursework? (2) \_\_\_\_\_
- If you were majoring in economics, how many hours per week on average do you think you will need to spend on the coursework (outside of class)? (3) \_\_\_\_\_
- If you were majoring in economics, what do you think is the percent chance that you could find a job (that you would accept) immediately upon graduation? (4) \_\_\_\_\_
- If you obtained a bachelor's degree in economics, what do you think is the percent chance that you will go to graduate school in economics sometime in the future? (5) \_\_\_\_\_
- Look ahead to when you will be 30 YEARS OLD. If you majored in economics, what do you think is the percent chance that you will enjoy working at the kinds of jobs that will be available to you? (6) \_\_\_\_\_

**majorfuture** How important do you think your major is in determining your future career?

- Not at all important (0-20% important) (1)
- Slightly important (21-40% important) (2)
- Moderately important (41-60% important) (3)
- Very important (61-80% important) (4)
- Extremely important (81-100% important) (5)



**major\_skillvscareer** I am more interested in choosing a major that leads to a specific career path (ex: nursing) than one that teaches skills that apply to a broader range of potential opportunities (ex: humanities).

- True (1)  
 False (2)

**learnmore** Which of the following topics, if any, would you be interested in learning more about in your undergraduate studies? (select all that apply)

- Consumer behavior and the media (1)  
 Economic inequality and its consequences (2)  
 Environmental sustainability and the economic effects of climate change (3)  
 Behavioral economics and human decision-making (4)  
 Global economic interdependence, globalization, and international trade (5)  
 Policy design (6)  
 Global poverty and inequality (7)  
 Discrimination in wages and employment (8)  
 What drives the stock market (9)  
 None of the above (10)

#### COGNITIVE LOAD

**Q51** For the next two questions, think of the last time you were a member of a student organization or club.

**infosession** If a club you are a part of was organizing an event, how might you contribute to that? Write at least 2 tasks.

- Task 1 (1) \_\_\_\_\_  
 Task 2 (2) \_\_\_\_\_  
 Task 3 (optional) (3) \_\_\_\_\_

**Q50** Approximately how much time would you spend on those tasks? \_\_\_\_\_

**CogLoad1** How often have you done each of the following in the past month based on a 7-point scale from 1=never, 2=rarely, 3=occasionally, 4=sometimes, 5=frequently, 6=usually, 7=always

- |  | (1)                   | (2)                   | (3)                   | (4)                   | (5)                   | (6)                   | (7)                   |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Feel troubled by your family's needs, goals, activities, responsibilities, and/or well-being (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Keep in mind your family's needs, goals, activities, responsibilities and/or well-being (2)      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Make plans for your family's needs, goals, activities, responsibilities, and/or well-being (3)   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**CogLoad2** Yesterday, approximately how many minutes would you say you spent on each of the following:

- Feel troubled by your family's needs, goals, activities, responsibilities, and/or well-being (1) \_\_\_\_\_  
 Keep in mind your family's needs, goals, activities, responsibilities and/or well-being (2) \_\_\_\_\_  
 Make plans for your family's needs, goals, activities, responsibilities, and/or well-being (3) \_\_\_\_\_

**Q60** Would you be interested in participating in a mentoring program in economics?

- Yes, send me more information by email (1)  
 No (2)

**End of Survey**