

Online Appendix

Table of Contents

A	Survey Materials	A2
B	Empirical Implications of Hypotheses	A35
C	Timeline of Events	A37
D	Regression Model	A38
E	Departures from Pre-Analysis Plan	A39
F	Additional Results and Robustness	A40

A Survey Materials

Survey Redacted

Start of Block: Consent_student

Q36

Consent Information Sheet: CGS PhD Career Pathways Student Survey

[Redacted] has chosen to participate in a research study examining career pathways of PhD students. The project is supported by the Council of the Graduate Schools (CGS), a nonprofit organization based in Washington, DC dedicated solely to the advancement of graduate education and research (www.cgsnet.org). CGS has received grant funding for this project from The Andrew W. Mellon Foundation (grant number 31600612) and the National Science Foundation (grant number 1661272).

As a part of the project, we are surveying all second and fifth-year PhD students in [redacted], [redacted], and its affiliates, to ascertain information about their career aspirations and professional development participations. The data collected from this survey will be used to improve doctoral programs at this university, and will contribute to a national study to expand our understanding of differences in career aspirations among PhD students, as well as to provide national benchmarking data of PhD career aspirations.

Participation in the survey is voluntary and you may choose to skip most questions you prefer not to answer. You may also withdraw from participating in this survey at any time without penalty. There are no known risks associated with participating in this survey. The information obtained from your participation will benefit doctoral programs and future doctoral students at this university and other universities across the nation.

Information collected will only be used for program improvement and research purposes and will be kept strictly confidential. No individually-identifiable information shared in this survey will be shared with anyone outside of the research team at this university or of the study sponsor, the Council of Graduate Schools. To further protect your privacy, only the research team at this university will have access to your student ID information, which you may choose not to provide in your response.

If you have any questions, concerns, or complaints about this survey or this university's participation in this study, you may contact the Project Director at this address:

[Redacted]

If you have any questions about the overall scope of the research, please contact the Study Sponsor, the Council of Graduate Schools, at this address:

[Redacted]

If you have any questions regarding your rights as a research subject, please contact:

[Redacted]

We appreciate your willingness to participate. Thank you in advance for your time and input.

Please acknowledge your consent and click the arrow button to begin the survey.

I consent

End of Block: Consent_student

Start of Block: Section 1. Screening, Current PhD Program, and Funding Support

X→

Q1 Are you currently enrolled in a PhD program at [Redacted]?

Yes

No

X→

Q2 In which time period did you start your doctoral studies at [redacted]?

July 1, 2015 to June 30, 2016

July 1, 2018 to June 30, 2019

Other (if any, please specify the month/year that you started)

2A Which school are you enrolled in?

[Redacted]

[Redacted]

3A Which [redacted] department/program/affiliate are you enrolled in?

- American Studies
- Ancient Near Eastern & Egyptian Studies
- Ancient World, Study of the
- Anthropology
- Atmosphere Ocean Science
- Basic Medical Sciences
- Biology
- Chemistry
- Cinema Studies
- Classics
- Comparative Literature
- Computational Biology
- Computer Science
- Data Science
- East Asian Studies
- Economics
- English
- Environmental Health Sciences
- Ergonomics & Biomechanics
- Fine Arts
- French Languages & Literatures

- French Studies
 - Germanic Languages & Literatures
 - Hebrew & Judaic Studies
 - History
 - Italian Languages & Literatures
 - Linguistics
 - Mathematics
 - Middle Eastern Studies
 - Music
 - Neural Science
 - Performance Studies
 - Philosophy
 - Physics
 - Politics
 - Psychology
 - Sociology
 - Spanish & Portuguese Languages & Literatures
 - Other (e.g. dual-degree students)
-
-

3B Which [redacted] department/program are you enrolled in?

- Chemical Engineering
- Civil Engineering
- Computer Science
- Electrical Engineering
- Materials Chemistry
- Mathematics
- Mechanical Engineering
- Technology Management
- Transportation Planning & Engineering



Q4 Select the statement that best describes you.

- I am actively seeking post-graduation employment (including post-doctoral opportunities).
- I am not actively seeking post-graduation employment, but I will be in the 2020/2021 academic year.
- I am not actively seeking post-graduation employment, and will not be in the 2020/2021 academic year.



5A Please indicate which of the following is a source of financial support for you for your graduate education at [redacted] this academic year (2019-20). (Select all that apply)

- Fellowship, scholarship
 - Grant
 - Adjunct teaching appointment
 - Research assistantship (not jobs paid hourly rates)
 - Traineeship
 - Tuition remission or other discounts as part of fellowship, scholarship, traineeship, or assistantship
 - Internship, clinical residency
 - Loans (federal)
 - Loans (from any non-federal sources)
 - Personal savings
 - Personal earnings during graduate school (other than sources listed above)
 - Spouse's, partner's, and/or family earnings or savings
 - Employer reimbursement assistance (other than sources listed above)
 - Foreign (non-U.S.) support (other than sources listed above)
 - Other (if any, please specify)
-



5B Please indicate which of the following is a source of financial support for you for your graduate education at **[redacted]** this academic year (2019-20). (Select all that apply)

- Fellowship, scholarship
- Grant
- Teaching assistantship
- Research assistantship
- Tuition remission or other discounts as part of fellowship, scholarship, traineeship, or assistantship
- Loans (federal)
- Loans (from any non-federal sources)
- Personal savings
- Personal earnings during graduate school (other than sources listed above)
- Spouse's, partner's, and/or family earnings or savings
- Employer reimbursement assistance (other than sources listed above)
- Foreign (non-U.S.) support (other than sources listed above)
- Other (if any, please specify)

End of Block: Section 1. Screening, Current PhD Program, and Funding Support

Start of Block: Section 2. Career Aspirations



Q6 Now we have a few questions about your career aspirations. First, we will explore what kinds of work you aspire to do. Indicate how desirable the following work activities are for the job that you would like to get **immediately after earning your doctorate**.

Basic research – study directed toward gaining knowledge primarily for its own sake	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Applied research – study directed toward gaining knowledge to meet a recognized need	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Development – using knowledge gained from research for the production of materials, devices, and other products	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Managing or supervising people	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Managing projects	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Professional services (e.g., health care, counseling, financial)	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable

services, legal services)					
Higher education administration (e.g., student affairs, advising, program coordination)	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Teaching	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Other (if any, please specify)	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable

Page Break



Q7 Indicate your preferences for the following employment sectors for the job that you would like to get **immediately after earning your doctorate**.

Research university	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Master's/Regional university	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Liberal arts college	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Community or two-year college	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Preschool, elementary, middle, secondary school or school system	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
U.S. federal/national government (including various federal agencies and military)	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
U.S. state or local government	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Non-U.S. (foreign) government	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable
Not-for-profit organization or Non-governmental	<input type="radio"/> Not At All Desirable	<input type="radio"/> Slightly Desirable	<input type="radio"/> Moderately Desirable	<input type="radio"/> Very Desirable	<input type="radio"/> Extremely Desirable

organization

Business/For-profit company

Not At All Desirable

Slightly Desirable

Moderately Desirable

Very Desirable

Extremely Desirable

Self-employed

Not At All Desirable

Slightly Desirable

Moderately Desirable

Very Desirable

Extremely Desirable

Page Break



Q8 How important will the following factors be in your decision to select your **first job immediately following your PhD graduation?**

Salary	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Benefits	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Job security	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Job location	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Opportunity for advancement	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Intellectual challenge	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Level of responsibility	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Degree of independence	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Contribution to society	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Work-life balance	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Prestige of employer	<input type="radio"/> Not Important	<input type="radio"/> Slightly Important	<input type="radio"/> Moderately Important	<input type="radio"/> Very Important	<input type="radio"/> Extremely Important
Prestige of position/job	<input type="radio"/> Not	<input type="radio"/> Slightly	<input type="radio"/> Moderately	<input type="radio"/> Very	<input type="radio"/> Extremely

title | Important Important Important Important Important

Page Break



Q9 Please rate your level of agreement with each of the following statements.

I have a sense of direction for my career post-graduation.	<input type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Neutral	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree
My PhD program has been preparing me for the career I want post-graduation.	<input type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Neutral	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree
My PhD program has been supportive of my desired post-graduation career.	<input type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Neutral	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree

9A If you have additional comments on these statements please provide them below:

End of Block: Section 2. Career Aspirations

Start of Block: Section 3. Professional Development



Q10 Now we have a few questions about professional development opportunities. In what types of professional development opportunities **have you participated** since starting your doctoral program? (Select all that apply)

Leadership	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Grant writing (including fellowships and awards)	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Project management	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Teaching preparation	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Quantitative literacy/Data analytics	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Research ethics/Scholarly integrity	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Entrepreneurship	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution

Communication	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Public speaking	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Networking	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Diversity/Multicultural competency	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Digital literacy	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Academic writing	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Career preparation (i.e. CV preparation, job search, interviewing)	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Study abroad (semester or longer)	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution

	opportunity	opportunity	institution
International travel seminar or study tour	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Research or field work abroad	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution



Q11 In what types of professional development opportunities **do you plan to participate** during the remainder of your doctoral program? (Select all that apply)

Leadership	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Grant writing (including fellowships and awards)	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Project management	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Teaching preparation	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Quantitative literacy/Data analytics	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Research ethics/Scholarly integrity	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Entrepreneurship	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution

Communication	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Public speaking	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Networking	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Diversity/Multicultural competency	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Digital literacy	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Academic writing	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Career preparation (i.e. CV preparation, job search, interviewing)	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Study abroad (semester or longer)	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution

	opportunity	opportunity	institution
International travel seminar or study tour	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution
Research or field work abroad	<input type="checkbox"/> At a PhD program sponsored opportunity	<input type="checkbox"/> At an institution sponsored opportunity	<input type="checkbox"/> At an opportunity outside of the institution

Q12 If you have taken part in any other types of professional development opportunities since you began your doctoral program, please list them.

Q13 Please list any other types of professional development opportunities not listed above, if any, that you hope to complete before you complete your doctoral program (including those not currently offered by your institution).



Q14 How well prepared do you feel you are in the following attributes, behaviors, and skillsets?

Applying research methodologies, tools, and techniques appropriately	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Grant writing (including fellowships and awards)	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Developing new ideas, processes, or products, which are rooted in research	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Critically analyzing and evaluating findings and results	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Demonstrating a theoretical and practical understanding of your subject area and its wider research context	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Working constructively with colleagues, acknowledging their contribution	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Influencing others, providing direction and encouraging contributions from others	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently

Communicating ideas clearly and persuasively in writing, such as in journal articles, grant proposals, or reports	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Communicating ideas clearly and persuasively when speaking to others one-on-one or in groups	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Conducting research in an ethical manner	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Awareness of your own cultural values and biases	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Valuing others' worldviews	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Using culturally appropriate interpersonal skills	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently
Personal stress management	<input type="radio"/> Very poorly	<input type="radio"/> Poorly	<input type="radio"/> Well	<input type="radio"/> Very well	<input type="radio"/> Excellently

14A Do you have any additional comments about your PhD experience at [redacted]?

End of Block: Section 3. Professional Development

Start of Block: Section 4. Demographic Information



Q15 Finally, we have some additional questions that will help us better understand the career pathways of PhD students from different backgrounds. Do you identify as:

- Man
- Woman
- Prefer to self-describe _____
- Decline to state



Q16 What is your U.S. citizenship status?

- U.S. citizen
- Permanent U.S. resident ("Green Card")
- Temporary resident (non-U.S. citizen)

Q17 What is (are) your country(ies) of citizenship?



Q18 Are you Hispanic or Latinx?

Yes

No

X→

Q19 What is your racial background? (Select all that apply)

American Indian/Alaska Native

Native Hawaiian or other Pacific Islander

Asian

Black or African American

White

X→

Q20 What is the **month and year** of your birth?

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December



Q21 Year (YYYY format)



Q22 What is the highest educational attainment of any of your parents/guardians?

- No formal schooling
- Less than high school graduate
- High school graduate/GED
- Some college
- Associate's degree
- Bachelor's degree
- Master's degree (MA, MS, MSW, etc.)
- Professional degree (MD, DDS, JD, etc.)
- Doctoral degree (PhD, EdD, etc.)
- Not applicable/unknown

End of Block: Section 4. Demographic Information

Start of Block: Section 5. Release of Student ID Number

Q23 Would you be willing to share your student ID number at [redacted]?

By sharing your student ID, you will allow the project team at [redacted] to match your survey responses with administrative records, such as courses taken, grades, and financial aid awards. This will allow [redacted] to conduct more detailed analysis and program evaluations. Your records will not be used for any other purpose other than for this project, and no personally identifiable data will be shared outside of the project team at [redacted].

- Yes (there is no obligation)
- No



Q24 What is your student number at [redacted]?

End of Block: Section 5. Release of Student ID Number

Start of Block: Section 6. Release of Contact Information to CGS

Q25 Would you be interested in participating in a follow-up component of the Understanding PhD Career Pathways project? *The Council of Graduate Schools (CGS) is interested in further examining career pathways of doctoral degree holders. CGS is the only national organization in the United States that is dedicated solely to the advancement of graduate education and research (for more information, visit the website [LINK: cgsnet.org]). The CGS study will be conducting a study independently from [redacted] and follow-up activities may include a telephone interview, focus group, and/or follow-up survey. You are not committed to participate in the follow-up study by providing your contact information. This is simply for the CGS research team to follow up with you about your participation.*

Yes (there is no obligation)

No

Q26 Please provide your name and e-mail address below:

Name



Q27 E-mail address

End of Block: Section 6. Release of Contact Information to CGS

Start of Block: Section 7. Incentive

28

As a token of our appreciation for taking the time to complete this survey, we are happy to provide the first 200 respondents with a \$10 Amazon e-gift card.

Are you interested in receiving the incentive?

Yes (I understand that I am required to provide my net ID)

No



28A

Please provide your net ID below for the e-gift card delivery.

Those eligible will receive the incentive by April 17, 2020 to the [redacted] e-mail address associated with your ID. Your information will not be used for any other purposes outside of distributing the incentive.

End of Block: Section 7. Incentive

B Empirical Implications of Hypotheses

This Section details which survey measures are used to evaluate the stated hypotheses in Section 3. We specify questions by referring to the survey question number (see Appendix Section A), and, where questions had sub-questions, by referring to the relevant sub-question. Thus, for example, “Question #6 (Basic Research)” refers to the sub-question measuring desirability of the post-graduate job activity of basic research that is asked under survey question #6 on career aspirations.

1. *Hypothesis 1*: COVID-19 will make PhD students more receptive to non-academic careers, and will lead them to invest more heavily in non-academic skills.

To evaluate this hypothesis, we create four indices: *Academic Careers*, *non-Academic Careers*, *Academic Skills*, and *non-Academic Skills*.

- **Academic Careers**: Questions #6 (Basic Research), #7 (Research University, Master’s/Regional University, Liberal Arts College).
- **Non-Academic Careers**: Questions #6 (Applied Research, Development, Managing/Supervising People, Managing Projects, Professional Services, Other), #7 (Preschool/School System, Government, Not-for-profit, For-profit, Self-Employed).
- **Academic Skills**: Question #11 (Grant Writing, Research Ethics/Scholarly Integrity, Academic Writing, Study Abroad, International Travel, Research/Field Work).
- **Non-Academic Skills**: Question #11 (Leadership, Entrepreneurship, Career Preparation).

2. *Hypothesis 2*: COVID-19 will make PhD students less optimistic about their chances of obtaining an academic position and/or more desirous of non-academic job characteristics that provide financial security.

To evaluate this hypothesis, we create two indices: *Academic Job Characteristics* and *non-Academic Job Characteristics*.

- **Academic Job Characteristics:** Question #8 (Intellectual Challenge, Degree of Independence, Prestige of Employer/Position/Job Title).
- **Non-Academic Job Characteristics:** Question #8 (Salary, Benefits, Job Security, Job Location, Contribution to Society, Work-Life Balance).

We also consider if those answering after COVID-19 news has broken are more likely to claim the \$10 completion fee, signaling economic anxiety.

3. *Hypothesis 3:* COVID-19 will make PhD students more likely to report that they have difficulties managing stress, and to express greater uncertainty in the direction of their post-graduation career.

To evaluate this hypothesis, we will consider two outcomes, one on stress management (Question #14, personal stress management) and another on certainty in the direction of a post-graduate career (Question #9, sense of direction).

4. *Hypothesis 4:* COVID-19 will lead PhD students to express greater dissatisfaction with their academic department's support and preparation for their desired post-graduate career.

To evaluate this hypothesis, we consider two outcomes, one on sense of department support (Question #9, supportive) and another on sense of department preparation (Question #9, preparation).

5. *Hypothesis 5:* COVID-19 effects detailed above will be greater among 5th year students, and among those from comparatively more advantaged social groups.

To evaluate this hypothesis, we consider heterogeneous effects by year of study (2nd versus 5th year).

C Timeline of Events

Table C1: Timeline of Key COVID-19 Events: 2020

March 2	Survey begins.
March 13	President Trump declares a national emergency.
March 15	New York City public schools closed until at least April 20.
March 20	Millions begin filing for unemployment benefits.
March 24	The Professor Is In begins compiling public “List of Campuses Instituting Hiring Freezes”.
April 11	New York City public schools closed throughout rest of year.
April 12	USA records most deaths due to COVID-19 in the world.
May 8	First explicit mention of COVID-19 in an open-ended student response.
May 15	End of survey (scheduled).

D Regression Model

Similar to Blais et al. (2020), we run four OLS regression specifications based on the equation:

$$(1) \quad Y_{it} = \alpha + \beta News_t + \gamma AvCases_t + \phi t + \psi \mathbf{z}_{it} + \epsilon_{it}$$

where Y_{it} is the outcome for individual i at time (day the individual took the survey) t , $News_t$ is our treatment indicator variable that equals 0 if individual i was interviewed on day t prior to COVID-19 news breaking and 1 if they were interviewed on that day or after, ϵ_{it} is unexplained variance, and α is the intercept.¹¹ We cluster standard errors at the day t level. This is our most simple specification #1.

Our second specification #2 considers progressive COVID-19 effects. Specifically, $\gamma AvCases_t$ is the seven-day average number (the average number of cases across day t and the six preceding days) of reported COVID-19 cases in the country at the time t that individual i completed the survey, and ϕt is a time trend capturing the number of days since the survey began on March 2 so that we can disentangle changes in our outcomes due to time from changes due to increasing incidence and news related to COVID-19.

Our third specification #3 introduces a number of control variables: $\psi \mathbf{z}_{it}$ is a vector of demographic control variables.^{12,13,14} Our final specification #4 uses entropy balancing (Hainmueller, 2012) to account for any imbalance between respondents interviewed before and after our *News* timing cutoff.

¹¹As shown in Table C1, we consider a few different cutoffs, some that are more related to public health and others more related to economic fallout (generally, and specifically as relates to the academic job market).

¹²We control for all variables for which we have sufficient data: gender, U.S. residency status, age, parents' education, and year of study.

¹³We also evaluate balance using these demographic variables, and by comparing differences between early and late survey takers in this round of the survey with the previous year's survey.

¹⁴As specified in Section B, to evaluate *Hypothesis 5* we also interact year of study (2nd versus 5th year) with the *News* treatment indicator.

E Departures from Pre-Analysis Plan

Below, we detail departures from our pre-analysis plan:

- **Non-Academic Careers Index.** We removed Question #6 (Other) from the Non-Academic Careers Index. Most respondents did not enter a response for this question, and thus including it would have substantially reduced our sample size.
- **May 8 Cutoff.** As noted in the text, we added the May 8 cutoff date. We did so because cases only rose to high points later in our survey period, in April, and no students mentioned COVID-19 explicitly in their open-ended responses until May 8. We therefore felt it was worthwhile to consider this later cutoff date, though we acknowledge it was not pre-specified.
- **COVID-19 Cases Number.** In our original pre-analysis plan, we said that we would control for the number of COVID-19 deaths on survey response day t . However, when we looked at our data, we found that survey responses peaked on days when email reminders were sent to students. Further, when we looked at COVID-19 data, we found that reported deaths and cases jumped on certain days, and that at earlier days in our survey period there were very few recorded deaths. To smooth over trends in COVID-19 data and account for our survey response distribution, we thus adopted 7-day averages of cases (the same measure as is reported by many news outlets) as a control instead of the number of deaths as originally specified.
- **Previous Years' Surveys.** As explained in greater detail in Appendix F, we only conduct robustness tests using data from spring 2019 and not also spring 2018 as had originally been proposed. This is because differences in the survey periods, our use of later cutoffs in the 2020 analysis, and differences in the variables recorded across the years meant that 2018 was not a good comparison year for 2020. 2019, which offered fewer challenges, was instead adopted as a comparison point.

F Additional Results and Robustness

As our central robustness test, we proposed running the same analysis using the same cutoffs for the previous years' iterations of the survey, in spring 2018 and 2019. As noted in Appendix E, we are unable to re-run our main analyses on these previous iterations as intended because the survey in previous years did not extend for as long of a period of time as did it did in 2020, and thus we cannot use the same cutoffs: in 2018, the survey started earlier (February 12) and ended earlier (March 13), and in 2019, it ended earlier (April 8). Indeed, the end date for the 2020 survey was pushed back in order to collect additional data for this study. We limit our comparison to spring 2019 data, as it is more recent, occurred over a more similar time period (beginning at the start of March), and contains all of the same variables as the spring 2020 survey.

We take two main approaches to overcoming limitations in our data. First, we define cutoffs for the previous year's survey using respondent distributions from the cutoffs used in the 2020 survey analysis. Respondents for the April 11 cutoff in 2020 were among the final 40% to finish the survey, and respondents for the May 8 cutoff were among the final 26%. We accordingly code in the previous year's survey those among the first 60% (in practice, the closest percentage was 59%) to complete the survey as belonging to the April 11 cutoff equivalent, and those among the first 74% (in practice, 69%) as belonging to the May 8 cutoff equivalent. Using this method, April 11 and May 8 in the spring 2020 survey, respectively, correspond to cutoff dates of March 22 and March 30 in the spring 2019 survey. Comparing results across survey years in this way can help to rule out differences between early and late survey respondents in our sample driving results. Our second approach is to compare our results directly with the 2019 survey using the same dates. To do so, we adopt the same dates from 2019 of March 22 and March 30 and apply them to the spring 2020 survey data.

Tables F2 and F3 present results for the 2019 survey and Tables F4 and F5 present results for the 2020 survey using the alternative March 22 and March 30 cutoff dates. A

few findings are worth note. First, if we compare Tables F4 and F5 with corresponding Tables 2 and 3, we can see that the effects we present in the paper begin to emerge at the later alternative cutoff, March 30, and differ substantially from results at the earlier cutoff on March 22.¹⁵ Second, a comparison of Tables F2 and F3 with Tables 2, 3, F4, and F5, shows that results for 2020 do not replicate using the 2019 data. In fact, many results run contrary to findings for 2020: respondents following cutoffs in 2019 register greater interest in academic careers, worse stress management, and are more likely (particularly fifth year students) to say that their academic departments did not prepare them well for their desired post-graduate career. We observe a few statistically significant effects in 2019 that we did not observe in the 2020 data, and we do not observe the same findings for which we had the most evidence in 2020: for instance, that fifth year students registered greater interest in non-academic job characteristics following cutoff dates.¹⁶ Contrary findings from 2019 should, if they capture differences between early and later survey respondents in the absence of COVID-19, bias our results downward: for instance, if later respondents typically register greater interest in academic careers, then we should have been even less likely to find in 2020 some evidence that later respondents (following the May 8 cutoff) register lesser interest.

A third finding is that results from 2019, while they do not correspond very closely to any results from 2020, for some outcomes appear to more closely correspond to 2020 results from the earlier alternative cutoff before COVID-19 effects may have emerged (March 22) than to results from the later alternative cutoff (March 30). Considering the March 22 cutoff for 2020, there is some evidence that subjects following the cutoff, as is the case with the 2019 data, express worse stress management and worse views of departmental career preparation. To the extent that findings from 2019 reflect differences between early and later survey respondents, the fact that some of these findings correspond to results using cutoffs from

¹⁵While these dates may appear similar, a significant jump in the number of respondents, primarily on March 24 following a survey email reminder, means that these samples are notably different. See Table 1 and Figure 1.

¹⁶One exception is that we find evidence in both spring 2020 and spring 2019 that later respondents are more likely to claim the participation fee. This finding in 2020, then, may be due to characteristics of later survey respondents rather than the COVID-19 outbreak.

2020 that appear to precede the impact of COVID-19 on student views should increase our confidence that later cutoffs used in the main paper capture changes due to COVID-19 and that without COVID-19, results from 2019 and 2020 would correspond much more closely.

Table F6 presents balance for the 2019 survey cutoff dates. As with 2020, there is good balance on most observable demographics prior to and following the cutoff dates, though some differences that are statistically distinguishable from zero emerge on age and the percentage of respondents who are fifth-year PhD students. Demographics also appear similar to those for cutoffs used in the spring 2020 survey (see Table 1). These results, along with our regression specifications including demographic controls and entropy balancing, increase our confidence both that results are not attributable to differences between early and later respondents, and that spring 2019 data is a useful comparison point for spring 2020 data.

Table F2: Overall Effects by Cutoff Date (Spring 2019)

Outcome:	March 22 Cutoff				March 30 Cutoff			
	(1) Simple	(2) w/ Time	(3) w/ Controls	(4) Entropy Bal	(5) Simple	(6) w/ Time	(7) w/ Controls	(8) Entropy Bal
Ac Careers								
Cutoff	0.07 (0.14)	0.49** (0.22)	0.52** (0.19)	0.39* (0.22)	-0.02 (0.14)	0.20 (0.24)	0.26 (0.26)	0.30 (0.22)
# Respondents	211	211	211	211	211	211	211	211
Non-Ac Careers								
Cutoff	-0.18* (0.10)	-0.02 (0.12)	0.05 (0.23)	-0.07 (0.09)	-0.15 (0.11)	0.08 (0.09)	0.15 (0.12)	0.09 (0.10)
# Respondents	211	211	211	211	211	211	211	211
Ac Skills								
Cutoff	-0.01 (0.17)	0.58*** (0.19)	0.35** (0.15)	0.58*** (0.17)	-0.15 (0.15)	0.12 (0.36)	0.08 (0.25)	0.32 (0.35)
# Respondents	217	217	217	217	217	217	217	217
Non-Ac Skills								
Cutoff	-0.10 (0.14)	0.31 (0.21)	0.22 (0.22)	0.27 (0.20)	-0.11 (0.12)	0.23 (0.23)	0.25 (0.20)	0.30 (0.24)
# Respondents	217	217	217	217	217	217	217	217
Ac Job Char								
Cutoff	0.01 (0.11)	-0.08 (0.24)	-0.11 (0.20)	-0.07 (0.23)	0.11 (0.09)	0.19 (0.16)	0.23 (0.17)	0.18 (0.12)
# Respondents	214	214	214	214	214	214	214	214
Non-Ac Job Char								
Cutoff	0.14 (0.11)	0.02 (0.14)	0.02 (0.23)	-0.01 (0.13)	0.17 (0.10)	0.10 (0.14)	0.23 (0.20)	0.20 (0.14)
# Respondents	214	214	214	214	214	214	214	214
Stress Mgmt								
Cutoff	-0.17** (0.07)	-0.23** (0.11)	-0.36*** (0.11)	-0.29*** (0.08)	-0.10 (0.08)	0.00 (0.14)	0.02 (0.18)	0.04 (0.15)
# Respondents	215	215	215	215	215	215	215	215
Career Direction								
Cutoff	-0.14 (0.11)	-0.21 (0.23)	-0.12 (0.19)	-0.33 (0.21)	-0.14 (0.10)	-0.19 (0.21)	-0.12 (0.16)	-0.27 (0.22)
# Respondents	217	217	217	217	217	217	217	217
Dept Support								
Cutoff	-0.14 (0.14)	-0.01 (0.21)	-0.12 (0.20)	0.01 (0.19)	-0.13 (0.16)	0.01 (0.20)	-0.01 (0.18)	0.08 (0.20)
# Respondents	217	217	217	217	217	217	217	217
Dept Prep								
Cutoff	-0.31*** (0.09)	-0.26* (0.13)	-0.39** (0.15)	-0.26** (0.11)	-0.30*** (0.10)	-0.21 (0.15)	-0.20 (0.17)	-0.22 (0.20)
# Respondents	217	217	217	217	217	217	217	217
Claim Fee								
Cutoff	-0.01 (0.04)	0.01 (0.06)	0.02 (0.07)	-0.01 (0.06)	0.03 (0.04)	0.10* (0.06)	0.10* (0.05)	0.09 (0.06)
# Respondents	214	214	214	214	214	214	214	214

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered by survey completion day in parentheses. Because data was collected prior to the pandemic, specifications for 2019 do not include 7-day average COVID-19 cases as a control variable.

Table F3: **Interaction Effects by Cutoff Date (Spring 2019)**

Outcome:	March 22 Cutoff				March 30 Cutoff			
	(1) Simple	(2) w/ Time	(3) w/ Controls	(4) Entropy Bal	(5) Simple	(6) w/ Time	(7) w/ Controls	(8) Entropy Bal
Ac Careers								
Cutoff X Fifthyr	-0.55** (0.22)	-0.63*** (0.18)	-0.62*** (0.18)	-0.59*** (0.17)	-0.28 (0.24)	-0.31 (0.26)	-0.36 (0.26)	-0.36 (0.24)
# Respondents	211	211	211	211	211	211	211	211
Non-Ac Careers								
Cutoff X Fifthyr	0.03 (0.18)	0.01 (0.20)	-0.10 (0.24)	0.05 (0.22)	-0.04 (0.16)	-0.07 (0.18)	-0.22 (0.21)	-0.10 (0.18)
# Respondents	211	211	211	211	211	211	211	211
Ac Skills								
Cutoff X Fifthyr	0.12 (0.19)	0.08 (0.21)	-0.00 (0.20)	0.13 (0.22)	0.03 (0.19)	0.02 (0.19)	-0.10 (0.18)	0.05 (0.20)
# Respondents	217	217	217	217	217	217	217	217
Non-Ac Skills								
Cutoff X Fifthyr	0.51*** (0.13)	0.49*** (0.16)	0.43** (0.20)	0.51*** (0.17)	0.35** (0.13)	0.33** (0.14)	0.20 (0.17)	0.34** (0.15)
# Respondents	217	217	217	217	217	217	217	217
Ac Job Char								
Cutoff X Fifthyr	0.41* (0.22)	0.43* (0.22)	0.37 (0.26)	0.48** (0.21)	0.11 (0.19)	0.10 (0.20)	0.01 (0.25)	0.11 (0.20)
# Respondents	214	214	214	214	214	214	214	214
Non-Ac Job Char								
Cutoff X Fifthyr	-0.26 (0.21)	-0.25 (0.21)	-0.28 (0.24)	-0.17 (0.19)	-0.13 (0.23)	-0.13 (0.22)	-0.30 (0.24)	-0.12 (0.22)
# Respondents	214	214	214	214	214	214	214	214
Stress Mgmt								
Cutoff X Fifthyr	-0.15 (0.11)	-0.13 (0.13)	-0.10 (0.15)	-0.14 (0.11)	-0.19 (0.11)	-0.19 (0.12)	-0.21 (0.15)	-0.15 (0.11)
# Respondents	215	215	215	215	215	215	215	215
Career Direction								
Cutoff X Fifthyr	-0.31** (0.13)	-0.32** (0.14)	-0.31** (0.11)	-0.33** (0.13)	-0.23* (0.12)	-0.24* (0.12)	-0.28*** (0.10)	-0.22 (0.13)
# Respondents	217	217	217	217	217	217	217	217
Dept Support								
Cutoff X Fifthyr	-0.30 (0.26)	-0.30 (0.26)	-0.28 (0.26)	-0.22 (0.24)	-0.23 (0.25)	-0.24 (0.25)	-0.27 (0.25)	-0.22 (0.23)
# Respondents	217	217	217	217	217	217	217	217
Dept Prep								
Cutoff X Fifthyr	-0.23 (0.23)	-0.22 (0.23)	-0.19 (0.22)	-0.15 (0.23)	-0.01 (0.19)	-0.02 (0.19)	-0.05 (0.20)	0.01 (0.20)
# Respondents	217	217	217	217	217	217	217	217
Claim Fee								
Cutoff X Fifthyr	-0.07 (0.07)	-0.07 (0.07)	-0.07 (0.07)	-0.07 (0.07)	-0.06 (0.07)	-0.07 (0.08)	-0.06 (0.08)	-0.07 (0.08)
# Respondents	214	214	214	214	214	214	214	214

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered by survey completion day in parentheses. All regressions include component parts of interaction term, that is, indicators for the cutoff date and PhD year are entered as independent terms in the regressions but are not shown here to retain space. Because data was collected prior to the pandemic, specifications for 2019 do not include 7-day average COVID-19 cases as a control variable.

Table F4: Overall Effects by Alternative Cutoff Date (Spring 2020)

Outcome:	March 22 Cutoff				March 30 Cutoff			
	(1) Simple	(2) w/ Time	(3) w/ Controls	(4) Entropy Bal	(5) Simple	(6) w/ Time	(7) w/ Controls	(8) Entropy Bal
Ac Careers								
Cutoff	0.02 (0.14)	-0.25** (0.12)	-0.20** (0.10)	-0.28** (0.11)	0.09 (0.12)	0.24 (0.45)	0.25 (0.33)	0.47 (0.55)
# Respondents	248	248	248	248	248	248	248	248
Non-Ac Careers								
Cutoff	-0.06 (0.15)	-0.46*** (0.15)	-0.55*** (0.15)	-0.52*** (0.15)	0.12 (0.14)	1.03** (0.38)	1.21*** (0.34)	1.28*** (0.40)
# Respondents	243	243	243	243	243	243	243	243
Ac Skills								
Cutoff	-0.05 (0.12)	-0.19* (0.10)	-0.27** (0.12)	-0.16 (0.11)	-0.00 (0.11)	0.25 (0.35)	0.51 (0.35)	0.45 (0.37)
# Respondents	254	254	254	254	254	254	254	254
Non-Ac Skills								
Cutoff	-0.10 (0.12)	-0.25** (0.11)	-0.32** (0.12)	-0.21* (0.10)	-0.03 (0.12)	0.57* (0.32)	0.76** (0.33)	0.75* (0.37)
# Respondents	254	254	254	254	254	254	254	254
Ac Job Char								
Cutoff	-0.03 (0.08)	0.06 (0.18)	-0.02 (0.14)	0.07 (0.20)	-0.06 (0.09)	-0.02 (0.46)	0.24 (0.32)	-0.01 (0.50)
# Respondents	252	252	252	252	252	252	252	252
Non-Ac Job Char								
Cutoff	-0.06 (0.08)	-0.16 (0.10)	-0.06 (0.08)	-0.06 (0.12)	0.01 (0.09)	0.62 (0.36)	0.42 (0.34)	0.55 (0.44)
# Respondents	252	252	252	252	252	252	252	252
Stress Mgmt								
Cutoff	0.04 (0.10)	-0.26** (0.11)	-0.27** (0.11)	-0.22** (0.10)	0.17 (0.11)	1.12** (0.40)	1.13*** (0.39)	1.01* (0.55)
# Respondents	249	249	249	249	249	249	249	249
Career Direction								
Cutoff	0.08 (0.11)	0.04 (0.20)	-0.03 (0.21)	0.02 (0.20)	0.08 (0.12)	0.18 (0.71)	0.40 (0.73)	0.80 (0.95)
# Respondents	253	253	253	253	253	253	253	253
Dept Support								
Cutoff	0.16* (0.08)	-0.05 (0.06)	-0.07 (0.10)	-0.03 (0.07)	0.18** (0.08)	0.13 (0.20)	0.21 (0.29)	0.09 (0.28)
# Respondents	251	251	251	251	251	251	251	251
Dept Prep								
Cutoff	0.18 (0.10)	-0.13 (0.09)	-0.19* (0.10)	-0.11 (0.09)	0.24** (0.10)	0.42 (0.26)	0.66** (0.29)	0.48 (0.34)
# Respondents	254	254	254	254	254	254	254	254
Claim Fee								
Cutoff	0.01 (0.05)	-0.08 (0.07)	-0.07 (0.06)	-0.05 (0.07)	0.05 (0.05)	0.16 (0.18)	0.12 (0.16)	0.15 (0.27)
# Respondents	250	250	250	250	250	250	250	250

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered by survey completion day in parentheses.

Table F5: Interaction Effects by Alternative Cutoff Date (Spring 2020)

Outcome:	March 22 Cutoff				March 30 Cutoff			
	(1) Simple	(2) w/ Time	(3) w/ Controls	(4) Entropy Bal	(5) Simple	(6) w/ Time	(7) w/ Controls	(8) Entropy Bal
Ac Careers								
Cutoff X Fifthyr	-0.17 (0.20)	-0.21 (0.21)	-0.28 (0.20)	-0.18 (0.23)	0.02 (0.23)	0.00 (0.24)	-0.05 (0.24)	0.06 (0.23)
# Respondents	248	248	248	248	248	248	248	248
Non-Ac Careers								
Cutoff X Fifthyr	-0.18 (0.23)	-0.21 (0.24)	-0.17 (0.24)	-0.28 (0.24)	-0.03 (0.29)	-0.02 (0.29)	0.02 (0.30)	-0.04 (0.30)
# Respondents	243	243	243	243	243	243	243	243
Ac Skills								
Cutoff X Fifthyr	0.12 (0.22)	0.10 (0.23)	0.13 (0.22)	0.16 (0.25)	-0.16 (0.25)	-0.17 (0.26)	-0.15 (0.23)	-0.13 (0.26)
# Respondents	254	254	254	254	254	254	254	254
Non-Ac Skills								
Cutoff X Fifthyr	0.26 (0.24)	0.23 (0.25)	0.30 (0.25)	0.29 (0.28)	0.01 (0.28)	0.00 (0.28)	0.04 (0.25)	0.07 (0.29)
# Respondents	254	254	254	254	254	254	254	254
Ac Job Char								
Cutoff X Fifthyr	0.09 (0.17)	0.09 (0.19)	0.18 (0.21)	0.13 (0.21)	0.18 (0.20)	0.17 (0.22)	0.22 (0.23)	0.18 (0.22)
# Respondents	252	252	252	252	252	252	252	252
Non-Ac Job Char								
Cutoff X Fifthyr	0.48 (0.29)	0.47 (0.30)	0.39 (0.28)	0.52 (0.35)	0.49** (0.23)	0.49** (0.22)	0.44** (0.20)	0.50** (0.23)
# Respondents	252	252	252	252	252	252	252	252
Stress Mgmt								
Cutoff X Fifthyr	0.22 (0.27)	0.19 (0.27)	0.23 (0.28)	0.16 (0.27)	-0.10 (0.28)	-0.10 (0.29)	-0.08 (0.30)	-0.11 (0.29)
# Respondents	249	249	249	249	249	249	249	249
Career Direction								
Cutoff X Fifthyr	0.02 (0.16)	0.01 (0.16)	0.03 (0.16)	0.10 (0.16)	0.31* (0.16)	0.31* (0.17)	0.33* (0.18)	0.37** (0.17)
# Respondents	253	253	253	253	253	253	253	253
Dept Support								
Cutoff X Fifthyr	0.26 (0.24)	0.23 (0.25)	0.28 (0.23)	0.32 (0.27)	0.10 (0.24)	0.08 (0.26)	0.10 (0.23)	0.18 (0.26)
# Respondents	251	251	251	251	251	251	251	251
Dept Prep								
Cutoff X Fifthyr	0.15 (0.18)	0.12 (0.20)	0.19 (0.16)	0.15 (0.21)	0.26 (0.16)	0.25 (0.18)	0.29* (0.14)	0.29 (0.19)
# Respondents	254	254	254	254	254	254	254	254
Claim Fee								
Cutoff X Fifthyr	0.00 (0.07)	-0.01 (0.06)	-0.02 (0.07)	0.02 (0.07)	0.01 (0.07)	0.01 (0.07)	-0.00 (0.07)	0.02 (0.07)
# Respondents	250	250	250	250	250	250	250	250

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered by survey completion day in parentheses. All regressions include component parts of interaction term, that is, indicators for the cutoff date and PhD year are entered as independent terms in the regressions but are not shown here to retain space.

Table F6: Balance on Demographics (Spring 2019)

	(1)	(2)	(3)	(4)
	Before Cutoff	After Cutoff	Diff (Before-After)	N
Cutoff 1 (March 22)	N=175	N=123		
Women (%)	49.02	54.00	4.98	253
U.S. Citizen/Perm Res (%)	54.84	53.40	-1.44	258
Hispanic (%)	9.30	14.55	5.24	141
White (%)	68.67	80.00	11.33	133
Age (average)	27.98	28.83	0.85*	245
Parent: Bach Deg/Higher (%)	76.13	82.35	6.22	257
5th Year PhD (vs. 2nd, (%))	36.36	41.88	5.52	271
Cutoff 2 (March 30)	N=205	N=93		
Women (%)	49.72	53.95	4.23	253
U.S. Citizen/Perm Res (%)	54.75	53.16	-1.58	258
Hispanic (%)	10.10	14.29	4.18	141
White (%)	69.15	82.05	12.90	133
Age (average)	28.22	28.54	0.32	245
Parent: Bach Deg/Higher (%)	77.09	82.05	4.96	257
5th Year PhD (vs. 2nd, (%))	33.52	49.44	15.92**	271

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.