# SUPPLEMENTARY ONLINE MATERIAL FOR COVID-19 Disruptions Disproportionately Affect Female Academics 

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## Not for publication

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## A. Recruitment, Consent, and Survey Protocol

The initial invitation to complete our survey was distributed between the dates of May 27 and June 9, 2020, via email to anyone who:

- authored/co-authored a research article in an academic journal published by one of four major academic publishers (Cambridge University Press, Elsevier, Oxford University Press, or Wiley) or in the journals Science, PNAS, or PLOS ONE since 2015
- had a publicly available email address listed on the journal's website. In cases where an email was not listed, we searched for an older contact email associated with the author, going as far back as 2000.
- self-identified as "active researcher with a doctorate degree in an academic appointment at a college, university, government agency, think tank, or other research institution" (screening at consent)

The initial recruitment effort comprised of a total of 916,731 unique email addresses. The first set of reminders were distributed starting June $17^{\text {th }}$, and the final reminder were distributed starting July $8^{\text {th }}$. Reminders were not sent to those who already completed the survey or to anyone who unsubscribed or otherwise explicitly requested to be removed from the distribution list.

Potential respondents were first asked if they reside inside the European Economic Area (EEA). Those responding "Yes" were directed to a consent form with a GDPR addendum; the rest were directed to the regular consent form (see below).

## A.1. Email Contents

EMAIL SUBJECT: How has COVID-19 affected your academic life?

## EMAIL TEXT:



We would like to invite you to participate in a survey funded by the University of California, Davis and the University of Illinois, Urbana-Champaign. We know that your time is extremely scarce these days, and this survey should take less than 10 minutes. Your participation will help us understand how the COVID-19 pandemic is affecting the lives of academics. This research will help inform future institutional and governmental responses to similar shocks. Upon completion, you will be entered to win one of 10 prizes valued at $\$ 100$ each, in the form of your choice of an Amazon gift card or a donation in your name to one of the charities listed here.

Your data will be kept strictly confidential. No data that can be used to identify you will be made publicly available.

Please complete the survey by accessing the following link:
XXXXXX

## THIS LINK IS UNIQUELY YOURS AND SHOULD NOT BE SHARED.

Thank you in advance for taking this brief survey. Your participation is very important for the success of this study.

Sincerely,<br>Tatyana Deryugina, Ph.D.<br>Assistant Professor of Finance<br>University of Illinois at Urbana-Champaign<br>deryugin@illinois.edu<br>Olga Shurchkov, Ph.D.<br>Associate Professor of Economics<br>Director, Knapp Social Science Center<br>Wellesley College<br>oshurchk@wellesley.edu<br>Jenna Stearns, Ph.D.<br>Assistant Professor of Economics<br>UC Davis<br>jestearns@ucdavis.edu

You are being contacted because your email is listed publicly as a contact email on at least one research paper recently published in an academic journal. For information about academic research exemptions to GDPR, please click here. If you have further questions about this study, please do not hesitate to reach out to us at deryugin@illinois.edu, oshurchk@wellesley.edu, or jestearns@ucdavis.edu. To opt out of receiving any future communications about this research, please click here.

## A.2. Informed Consent and GDPR Addendum

## [Non-European Economic Area Consent]

## KEY INFORMATION

Thank you for your participation in this research study. If you decide to participate in our survey, you will answer a series of questions. We estimate that this survey will take less than 10 minutes to complete.

The purpose of this research is to understand how the COVID-19 pandemic is affecting time use among academic researchers.

Participation in research is completely voluntary. It is your choice whether or not to participate in this research. If you choose to participate, you may change your mind and quit the study at any time. The risks of this research are minimal and you may decline to answer any questions you do not want to answer.

Upon completion, you will be entered to win one of 10 Amazon gift cards of $\$ 100$ value. The lottery will be held after the survey closes and winners will be notified by email within 8 weeks of survey competition. If you choose not to participate in the study but want to enter the lottery, you may do so by entering your name and email when prompted.

Your responses will be kept strictly confidential and no data that can be used to identify you will be made publicly available. The email address you provide will never be shared with anyone outside of the research team and will not be used to contact you after you complete the survey except to notify you about prize winnings. However, individuals from our organizations who oversee research may access your data during audits or other monitoring activities. As with all research, there is a change that confidentiality could be compromised; however, we are taking precautions to minimize this risk. To minimize these risks access to response data will be restricted to members of the research team with approved data security protocols in place, and identifiable data will only be stored as approved by our institutions. We may link your responses to external publicly available information including publication records. If identifiers are removed from your identifiable information, the information could be used to answer additional research questions or shared with other investigators without your additional consent.

The researchers for this study are Tatyana Deryugina, Ph.D. (University of Illinois, UrbanaChampaign deryugin@illinois.edu); Olga Shurchkov, Ph.D. (Wellesley College olga.shurchkov@wellesley.edu); and Jenna Stearns, Ph.D. (University of California, Davis jestearns@ucdavis.edu). If you have any questions about this research, feel free to contact the investigators by email.

This research has been reviewed by the Institutional Review Boards of Wellesley College and the University of California at Davis. If you have any questions about your rights as a participant in this study, please contact the University of California Davis, Institutional Review Board at 916-703-9158 or HS-IRBEducation@ucdavis.edu or the Wellesley College Institutional Review Board at 781-283-3498 or irb@wellesley.edu

You may wish to print this page for your records.
If you would like to be entered into the lottery to win one of $10 \$ 100$ Amazon gift cards, please provide the information below:

Your first and last name: $\qquad$
Your work email address:

Please choose from the following options:

1) I consent and I am an active researcher with a doctorate degree in an academic appointment at a college, university, government agency, think tank, or other research institution.
[Take to main survey]
2) I am not an active researcher with a doctorate degree in an academic appointment.
[Survey ends:]
Thank you! Your participation in the study is now over.
3) I do not consent.
[Survey ends:]
Thank you!

## [For European Economic Area participants: Consent with GDPR Addendum] KEY INFORMATION

Thank you for your participation in this research study. If you decide to participate in our survey, you will answer a series of questions. We estimate that this survey will take less than 10 minutes to complete.

The purpose of this research is to understand how the COVID-19 pandemic is affecting time use among academic researchers.

Participation in research is completely voluntary. It is your choice whether or not to participate in this research. If you choose to participate, you may change your mind and quit the study at any time. The risks of this research are minimal and you may decline to answer any questions you do not want to answer.

Upon completion, you will be entered to win one of 10 Amazon gift cards of $\$ 100$ value. The lottery will be held after the survey closes and winners will be notified by email within 8 weeks of survey competition. If you choose not to participate in the study but want to enter the lottery, you may do so by entering your name and email when prompted.

Your responses will be kept strictly confidential and no data that can be used to identify you will be made publicly available. The email address you provide will never be shared with anyone outside of the research team and will not be used to contact you after you complete the survey except to notify you about prize winnings. However, individuals from our organizations who oversee research may access your data during audits or other monitoring activities. As with all research, there is a change that confidentiality could be compromised; however, we are taking precautions to minimize this risk. To minimize these risks access to response data will be restricted to members of the research team with approved data security protocols in place, and identifiable data will only be stored as approved by our institutions. We may link your responses to external publicly available information including publication records. If identifiers are removed from your identifiable information, the information could be used to answer additional research questions or shared with other investigators without your additional consent.

The researchers for this study are Tatyana Deryugina, Ph.D. (University of Illinois, UrbanaChampaign deryugin@illinois.edu); Olga Shurchkov, Ph.D. (Wellesley College olga.shurchkov@wellesley.edu); and Jenna Stearns, Ph.D. (University of California, Davis jestearns@ucdavis.edu). If you have any questions about this research, feel free to contact the investigators by email.

This research has been reviewed by the Institutional Review Boards of Wellesley College and the University of California at Davis. If you have any questions about your rights as a participant in this study, please contact the University of California Davis, Institutional Review Board at 916-703-9158 or HS-IRBEducation@ucdavis.edu or the Wellesley College Institutional Review Board at 781-283-3498 or irb@wellesley.edu

## GDPR Addendum

This research will collect data about you that can identify you, referred to as Study Data. The General Data Protection Regulation ("GDPR") requires researchers to provide this Notice to you when we collect and use Study Data about people who are located in a state that belongs to the European Union or in the European Economic Area. If you reside in these areas during your participation in the Study, your Study Data will be protected by the GDPR in addition to any other laws that might apply.

We will obtain and create Study Data directly from you or from other publicly available sources including publication records and publicly available CVs so we can conduct this research. As we conduct research procedures with your Study Data, new Study Data may be created.

The research team will collect and use the following types of Study data for this research:

- Contact information
- Your racial or ethnic origin
- Information about your job
- Information about your family structure
- Information about your typical time use

This research will keep your Study data for at least 10 years after this research ends. The following categories of individuals may receive Study Data collected or created about you:

- Members of the research team so they properly conduct the research
- Institutional staff will oversee the research to see if it is conducted correctly and to protect your safety and rights
- Representatives of the U.S. Office of Human Research Protections who oversee the research
The research team is based in the United States. The United States does not have the same laws to protect your Study data as States in the EU/EEA. However, the research team is committed to protecting the confidentiality of your Study Data. Additional information about the protections we will use is included in this consent document.

If you reside in the EU or EEA during your participation in the Study, The GDPR gives you rights relating to your Study Data, including the right to:

- Access, correct or withdraw your Study Data; however, the research team may need to keep Study Data as long as it is necessary to achieve the purpose of this research
- Restrict the types of activities the research team can do with your Study Data
- Object to using your Study Data for specific types of activities
- Withdraw your consent to use your Study Data for the purposes outlined in the consent form. Please understand that you may withdraw your consent to use new Study Data but Study Data already collected will continue to be used as outlined in the consent document and in this Notice.
The Regents of the University of California, on behalf of UC Davis, is responsible for the use of your Study Data for this research. The U.C. Davis Privacy Officer is Sharalyn Rasmussen. You can contact Ms. Rasmussen by phone at (916) 734-8808 or by email at smreed@ucdavis.edu if you have:
- Questions about this Notice
- Complaints about the use of your Study Data
- If you want to make a request relating to the rights listed above.

You may also contact the Wellesley College IRB Chair, Dr. Nancy Marshall, at 781-283-3498 or by email at irb@wellesley.edu

You may wish to print this page for your records.

If you would like to be entered into the lottery to win one of $10 \$ 100$ Amazon gift cards, please provide the information below:

Your first and last name: $\qquad$
Your work email address: $\qquad$

Please choose from the following options:

1) I consent and I am an active researcher with a doctorate degree in an academic appointment at a college, university, government agency, think tank, or other research institution.

Selecting this option documents that I have freely given my consent to the use of Personal Information as described by the GDPR Addendum.
[Take to main survey]
2) I am not an active researcher with a doctorate degree in an academic appointment.
[Survey ends:]
Thank you! Your participation in the study is now over.
3) I do not consent.
[Survey ends:]
Thank you!

## A.3. Survey Instrument

MAIN SURVEY: COVID-19 AND TIME USE IN ACADEMIA [Each question appears on a separate screen, unless otherwise specified; fixed order; text in bold red is instructions for survey logic; all questions are optional]

1. Which of the following best describes your academic status?
a. Tenure-track faculty, pre-tenure
b. Tenure-track faculty, post-tenure
c. Junior researcher, not at a college or university
d. Senior researcher, not at a college or university
e. Non-tenure-track faculty or researcher at a college or university
f. Other (Please specify $\qquad$ )
2. In what year did you complete your highest level of education? [Free response]
3. Which of the following best describes your primary research area?
a. Agricultural and animal sciences
b. Anthropology
c. Archaeology
d. Biological sciences
e. Business/management/ accounting
f. Chemistry
g. Computer science
h. Communication
i. Demography
j. Earth and planetary sciences
k. Economics/finance
4. Education
m. Engineering
n. Environmental science
o. Epidemiology
p. Geography
q. History
r. Languages and literature
s. Law
t. Materials science
u. Mathematics
v. Medicine and health
w. Music
x. Neuroscience
y. Pharmacology/toxicology/pharmaceutics
z. Philosophy
aa. Physics
bb. Political science
cc. Public health
dd. Psychology
ee. Religious studies
ff. Sociology
gg. Social work
hh. Statistics
ii. Visual and performing arts
jj. Urban studies
kk. Other (please specify)
5. Please tell us who currently resides with you (select all that apply)
a. I live alone
b. Roommate(s)
c. Spouse/partner/significant other
d. Child dependent(s) [ask Q5]
e. Other adult(s)/relative(s) [ask Q6]
6. [Only ask if selected d on question 4] Please tell us how many child dependent(s) live in your household.
1
2
3
4
5

6
7
8
9
10 or more
6. [Only ask if selected don question $\mathbf{4} \boldsymbol{;} \mathbf{X}$ is determined by answer to previous question] Please tell us the current age(s) of the child dependent(s) that live in your household.

Age (years)
Dependent 1 $\qquad$
Dependent 2 $\qquad$
Dependent X $\qquad$
7. [Only ask if selected e on question 4] Do you help the other adult(s)/relative(s) that live with you with daily self-care tasks (e.g. bathing, dressing, administering medicine)?
a. Yes
b. No
8. Please indicate the importance of the following resources for your research productivity.

|  | Completely <br> unimportant | Mostly <br> unimportant | Somewhat <br> important | Very <br> important |
| :--- | :--- | :--- | :--- | :--- |
| Research laboratory/ physical research <br> equipment (other than computer) |  |  |  |  |
| Computing or library resources not <br> available through remote access |  |  |  |  |
| Research collaborators (non-student) |  |  |  |  |
| Research assistants/PhD student <br> collaborators/post-docs |  |  |  |  |
| In-person human subjects |  |  |  |  |
| Research field sites |  |  |  |  |
| Other (please specify) |  |  |  |  |

9. To the best of your ability, please estimate the number of HOURS you spend on the activities below on a given WORKDAY both before and after any disruptions created by COVID-19. (Note that your answers - including the "other" category - must add up to 24 hours)
10. 

|  | On average prior to <br> any disruptions due to <br> COVID-19 | On average since any <br> disruptions due to COVID- <br> 19 |
| :--- | :--- | :--- |
| Research | - |  |
| All other job-related <br> activities | - | - |
| Commute to/from work | - |  |
| Child care and schooling |  |  |
| Housekeeping (cleaning, <br> maintenance, laundry, <br> yardwork, etc.) |  |  |
| Sleep |  |  |
| Other |  |  |

11. [Only ask if selected $\mathbf{c}$ on question 4 (live with spouse etc.)] To the best of your ability, please estimate the number of HOURS your spouse/partner/significant other spends on the activities below on a given WORKDAY both before and after any disruptions created by COVID-19. (Note that your answers - including the "other" category - must add up to 24 hours)

|  | On average prior to <br> any disruptions due to <br> COVID-19 | On average since any <br> disruptions due to COVID- <br> 19 |
| :--- | :--- | :--- |
| Work in paid employment |  |  |
| Commute to/from work |  |  |


| Child care and schooling | - |  |
| :--- | :--- | :--- |
| Housekeeping (cleaning, <br> maintenance, laundry, <br> yardwork, etc.) | - | - |
| Sleep | - |  |
| Other |  |  |

12. How has your funding for the following expenses been affected by any disruptions created by COVID-19?

|  | Significantly <br> increased | Not <br> significantly <br> affected | Significantly <br> reduced | Don't <br> know/N/A |
| :--- | :--- | :--- | :--- | :---: |
| Research assistance/ <br> resources |  |  |  |  |
| Teaching assistance/ <br> resources |  |  |  |  |
| Administrative <br> assistance/resources |  |  |  |  |
| Other (please specify) |  |  |  |  |

13. Please tell us how the disruption created by COVID-19 has affected your institution's promotion policy (select all that apply).
$\square$ Tenure-track pre-tenure faculty have the option to request to add time to the tenure clock
$\square$ Time has been automatically added to the tenure clocks of all tenure-track pre-tenure faculty
$\square$ Research expectations have been explicitly changed
$\square$ Extensions on deadlines have been granted
$\square$ Student evaluations of teaching have been eliminated or are optional for the spring 2020 term
$\square$ I do not know/not applicable
[If chose the first option above and report being tenure-track faculty, pretenure]

How likely are you to use the option to add time to your tenure clock as a result of the disruptions created by COVID-19?

0 means definitely not,
[SLIDER from 0 to 100]
100 means definitely yes

## THE NEXT SET OF QUESTIONS ARE BASIC DEMOGRAPHIC QUESTIONS

1. What is your gender?Male
$\square$ FemaleOtherPrefer not to answer
2. What is your age (in years)?
3. Are you of Hispanic, Latino, or Spanish origin?YES $\square \mathrm{NO}$ Prefer not to answer
4. Which of the following best describe(s) your race (select all that apply)? $\square$ Asian $\square$ Black or African American $\square$ American Indian or Alaska Native $\square$ Pacific IslanderWhite/CaucasianOther (please specify) $\qquad$Prefer not to answer

## B. Survey Data

## B.1. Our Sample

There were 757,148 currently valid email addresses ( $82.6 \%$ of the total). Out of these, 224,356 emails are recorded as having opened our survey email at least once. This is a lower bound because some mail clients do not allow tracking of openings. 33,585 individuals initiated the survey, and 27,991 consented and completed the survey. The ratio of completed surveys to successfully delivered email invitations implies a response rate of $3.7 \%\left(\frac{27,991}{757,148}\right)$.

In all the tables below, the sample consists of all respondents who identified their gender as male or female and whose own time use responses summed up to 24 hours per day (a total of 19,905 observations).

## B.2. Descriptive Statistics

Table B1: Summary Statistics of Demographics and Family Circumstances of Survey Respondents by Gender

| Variable | Male | Female | t-test p- <br> value |
| :--- | :---: | :---: | :---: |
| Age (years) | 48.8 | 45.0 | $<0.001$ |
| PhD graduation year | 2002 | 2006 | $<0.001$ |
| \% tenure-track or tenured faculty | $62.2 \%$ | $59.0 \%$ | $<0.001$ |
| \% in STEM fields | $81.4 \%$ | $65.1 \%$ | $<0.001$ |
| \% Hispanic | $16.2 \%$ | $15.5 \%$ | 0.214 |
| \% Asian | $14.6 \%$ | $9.0 \%$ | $<0.001$ |
| \% Black | $1.4 \%$ | $1.3 \%$ | 0.555 |
| \% White | $74.4 \%$ | $82.8 \%$ | $<0.001$ |
| \% EEA | $35.9 \%$ | $32.6 \%$ | $<0.001$ |

Family Questions -- Currently live with

| Child(ren) | $43.8 \%$ | $48.4 \%$ | $<0.001$ |
| :--- | ---: | :--- | :--- |
| Spouse or partner | $81.2 \%$ | $75.8 \%$ | $<0.001$ |
| Total respondents | 11,901 | 8,004 |  |

Notes: Other race categories (not reported) included American Indian or Alaska Native; Pacific Islander; Other; Prefer not to answer.

Table B2: Average Responses on the Importance of Resource Requirements for Research Purposes

|  | Completely <br> unimportant | Mostly <br> unimportant | Somewhat <br> important | Very <br> important | N |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Research laboratory/ physical research <br> equipment (other than computer) | $35 \%$ | $16 \%$ | $16 \%$ | $34 \%$ | 19,804 |
| Computing or library resources not | $25 \%$ | $33 \%$ | $22 \%$ | $20 \%$ | 19,727 |
| available through remote access | $2 \%$ | $6 \%$ | $34 \%$ | $58 \%$ | 19,826 |
| Research collaborators (non-student) | $7 \%$ | $13 \%$ | $29 \%$ | $51 \%$ | 19,807 |
| Research assistants/PhD student <br> collaborators/post-docs | $42 \%$ | $17 \%$ | $22 \%$ | $19 \%$ | 19,602 |
| In-person human subjects | $34 \%$ | $17 \%$ | $22 \%$ | $27 \%$ | 19,698 |
| Research field sites |  |  |  |  |  |

Table B3: Incidence of Institutional Policy Changes Post-COVID

| Policy Responses | Yes | N |
| :--- | :---: | :---: |
| Tenure-track pre-tenure faculty have the option to <br> request to add time to the tenure clock | $31 \%$ | 11,562 |
| Time has been automatically added to the tenure clocks <br> of all tenure-track pre-tenure faculty | $16 \%$ | 11,562 |
| Student evaluations of teaching have been eliminated or <br> are optional for the spring 2020 term | $31 \%$ | 11,562 |
| Research expectations have been explicitly changed | $23 \%$ | 14,140 |
| Extensions on deadlines have been granted | $44 \%$ | 14,140 |
| No policy changes have been made | $17 \%$ | 14,140 |
| Not applicable/Do not know | $10 \%$ | 14,140 |

Table B4: Average Changes to Resources and Policies by Gender Post-COVID

|  | Male | Female | t-test p- <br> value | N |
| :--- | ---: | ---: | ---: | ---: |
| Funding was reduced in terms of: |  |  |  |  |
| Research | $21 \%$ | $23 \%$ | 0.004 | 19,851 |
| Teaching | $16 \%$ | $14 \%$ | 0.001 | 19,772 |
| Administrative | $22 \%$ | $22 \%$ | 0.829 | 19,804 |
| Other | $20 \%$ | $26 \%$ | $<0.001$ | 3,009 |
| For those who have the option to stop the clock: |  | 3,576 |  |  |
| Total prob of taking the option | $38 \%$ | $40 \%$ | 0.319 | 897 |
| Will definitely take the option | $14 \%$ | $18 \%$ | 0.072 | 897 |

Table B5: Mean Changes in Time Use due to COVID by Gender

| Change (After - Before COVID; in minutes) | All Academics |  |  |  | Single Parents |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Abs <br> Diff | $\begin{gathered} \mathrm{t} \text {-test } \\ \text { p-value } \end{gathered}$ | Male | Female | Abs Diff | $\begin{gathered} \hline \mathrm{t} \text {-test } \\ \mathrm{p} \text {-value } \\ \hline \end{gathered}$ |
| Research | -42 | -61 | 19 | <0.0001 | -59 | -94 | 35 | 0.0002 |
| Other job | -4 | -2 | 2 | 0.1882 | -6 | -9 | 3 | 0.6998 |
| Commute | -57 | -65 | 7 | $<0.0001$ | -55 | -65 | 10 | 0.0101 |
| Child care and schooling | 53 | 82 | 29 | $<0.0001$ | 94 | 148 | 54 | $<0.0001$ |
| Housekeeping | 39 | 50 | 11 | $<0.0001$ | 46 | 56 | 10 | 0.0228 |
| Sleep | 6 | 0 | 5 | $<0.0001$ | -5 | -11 | 6 | 0.1303 |
| Other | 5 | -5 | 9 | $<0.0001$ | -15 | -24 | 9 | 0.1422 |
| Number of Observations | 11,901 | 8,004 |  |  | 384 | 481 |  |  |

Notes: Single parents are defined as individuals who identified having at least one child dependent present in the household, and who identified not having a spouse or partner present in the household.

## C. Additional Analysis

Figures C 1 and C 2 repeats the number-of-children and age-of-youngest-child analyses for academics whose research is in STEM fields (Agricultural and animal sciences, Biological sciences, Chemistry, Computer Science, Earth and planetary sciences, Economics/finance, Engineering, Environmental science, Epidemiology, Materials science, Mathematics, Medicine and health, Neuroscience, Physics, Statistics).

Figure C3 replicates the analysis using developmental age ranges instead of uniform age bins and the full survey sample.

Figure C1: The Change in the Number of Hours Spent on Research by Gender and the Number of Children, for Respondents in STEM Research Fields


[^0]Figure C2: The Change in the Number of Hours Spent on Research by Gender and Age of Youngest Child, for Respondents in STEM Research Fields


Note: Estimates from OLS regressions with interactions for gender and age of youngest child indicators. Controls include PhD year and date of survey completion FE, \# children indicators and their interactions with gender. Bars represent $95 \%$ confidence intervals using robust SE.

Figure C3: The Change in the Number of Hours Spent on Research by Gender and Age of Youngest Child, Developmental Age Ranges


Note: Estimates from OLS regressions with interactions for gender and age of youngest child indicators. Controls include PhD year and date of survey completion FE, \# children indicators and their interactions with gender. Bars represent $95 \%$ confidence intervals using robust SE.

Tables C1 and C2 estimate the effects of gender and presence of children in the family on all time use variables (in hours per day), controlling for a rich set of demographic characteristics. Note that the main adverse effects on research time use for women with children are robust to the inclusion of controls. We also note that respondents in the EEA are less likely to have lost research time relative to non-EEA respondents, and are less likely to see increases in time spent on childcare and other household duties post-COVID. On the other hand, STEM researchers are more negatively impacted by the pandemic than non-STEM researchers, seeing larger decreases in research time.

Table C1: The Change in the Number of Hours Spent on Research, Other Job-Related Activities, and Commuting by Gender and Number of Children, Controlling for Researcher Characteristics

| Variable | $\Delta$ Research Time |  | $\Delta$ Other Job |  | $\Delta$ Commuting |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| 1 child | -0.538*** | -0.524*** | -0.338*** | -0.318*** | -0.0364 | -0.0402* |
|  | (0.0573) | (0.0575) | (0.0508) | (0.0510) | (0.0234) | (0.0234) |
| 2 children | -0.628*** | -0.629*** | $-0.377 * * *$ | $-0.366 * * *$ | -0.0459** | -0.0499** |
|  | (0.0536) | (0.0540) | (0.0479) | (0.0478) | (0.0222) | (0.0222) |
| 3+ children | -0.626*** | -0.630*** | $-0.373 * * *$ | $-0.352 * * *$ | -0.0776** | -0.0819** |
|  | (0.0823) | (0.0826) | (0.0755) | (0.0753) | (0.0378) | (0.0379) |
| Fem; 0 children | -0.0559 | -0.104** | 0.202*** | 0.216*** | $-0.120^{* * *}$ | $-0.119^{* * *}$ |
|  | (0.0456) | (0.0465) | (0.0416) | (0.0422) | (0.0182) | (0.0184) |
| Fem; 1 child | -0.485*** | -0.552*** | 0.0332 | 0.0265 | $-0.113^{* * *}$ | -0.104*** |
|  | (0.0724) | (0.0731) | (0.0655) | (0.0661) | (0.0292) | (0.0295) |
| Fem; 2 children | -0.503*** | -0.557*** | -0.0647 | -0.0500 | $-0.113 * * *$ | $-0.107 * * *$ |
|  | (0.0608) | (0.0613) | (0.0589) | (0.0589) | (0.0253) | (0.0254) |
| Fem; 3+ children | -0.318** | -0.385*** | -0.152 | -0.155 | -0.143*** | -0.131** |
|  | (0.124) | (0.124) | (0.116) | (0.115) | (0.0533) | (0.0533) |
| STEM |  | -0.283*** |  | 0.0597* |  | 0.0655*** |
|  |  | (0.0345) |  | (0.0329) |  | (0.0146) |
| EEA |  | 0.229*** |  | 0.300*** |  | -0.126*** |
|  |  | (0.0330) |  | (0.0298) |  | (0.0140) |
| Age |  | 0.0120*** |  | 0.00561** |  | 0.00108 |
|  |  | (0.00315) |  | (0.00260) |  | (0.00114) |
| Asian |  | -0.199 |  | 0.0783 |  | 0.0571 |
|  |  | (0.171) |  | (0.140) |  | (0.0563) |
| Black |  | -0.0623 |  | -0.228 |  | 0.0138 |
|  |  | (0.224) |  | (0.192) |  | (0.0802) |
| White |  | -0.0620 |  | 0.267* |  | 0.00937 |
|  |  | (0.173) |  | (0.142) |  | (0.0576) |
| Hispanic |  | -0.174*** |  | $0.165^{* * *}$ |  | -0.0846*** |
|  |  | (0.0481) |  | (0.0427) |  | (0.0184) |
| Dep. Var. Mean | -0.824 | -0.825 | -0.0502 | -0.0533 | -1.006 | -1.007 |
| R2 | 0.0521 | 0.0605 | 0.0324 | 0.0427 | 0.0151 | 0.0236 |
| N | 19862 | 19593 | 19862 | 19593 | 19862 | 19593 |

Note: Estimates from OLS regressions with interactions for gender and number of children indicators. Other controls include other race indicators (pacific islander, native American, other race, and unknown race), and PhD year and date of survey completion FE. Significance levels: ${ }^{*} \mathrm{p}<0.10 ;{ }^{* *} \mathrm{p}<0.05 ; * * * \mathrm{p}<0.01$

Table C2: The Change in the Number of Hours Spent on Childcare, Housework, Sleep, and Other Non-Work Activities by Gender and Number of Children, Controlling for Researcher Characteristics

| Variable | $\Delta$ Childcare |  | $\Delta$ Housework |  | $\Delta$ Sleep |  | $\Delta$ other Non-Work |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1 child | 1.403*** | 1.384*** | 0.0959*** | 0.0918*** | -0.191*** | -0.195*** | -0.395*** | -0.399*** |
|  | (0.0417) | (0.0416) | (0.0243) | (0.0239) | (0.0217) | (0.0218) | (0.0429) | (0.0431) |
| 2 children | 1.699*** | 1.669*** | 0.105*** | $0.131^{* * *}$ | $-0.215^{* * *}$ | -0.216*** | $-0.537 * * *$ | $-0.539 * * *$ |
|  | (0.0422) | (0.0421) | (0.0236) | (0.0233) | (0.0210) | (0.0211) | (0.0416) | (0.0418) |
| $3+$ children | 1.594*** | 1.557*** | 0.123*** | 0.157*** | -0.194*** | -0.204*** | -0.447*** | -0.446*** |
|  | (0.0768) | (0.0761) | (0.0361) | (0.0358) | (0.0373) | (0.0374) | (0.0695) | (0.0699) |
| Fem; 0 children | -0.137*** | -0.152*** | 0.175*** | 0.208*** | -0.0220 | -0.0211 | -0.0436 | -0.0269 |
|  | (0.0162) | (0.0172) | (0.0206) | (0.0205) | (0.0182) | (0.0184) | (0.0378) | (0.0384) |
| Fem; 1 child | 0.841*** | 0.829*** | 0.146*** | 0.184*** | $-0.154^{* * *}$ | -0.146*** | -0.268*** | $-0.238 * * *$ |
|  | (0.0691) | (0.0692) | (0.0325) | (0.0323) | (0.0299) | (0.0300) | (0.0512) | (0.0518) |
| Fem; 2 children | 0.773*** | 0.752*** | 0.201*** | 0.236*** | $-0.138 * * *$ | -0.135*** | -0.155*** | $-0.139 * * *$ |
|  | (0.0624) | (0.0624) | (0.0302) | (0.0298) | (0.0278) | (0.0282) | (0.0444) | (0.0448) |
| Fem; 3+ children | 0.784*** | 0.793*** | 0.162*** | 0.199*** | -0.106* | -0.0985* | -0.227** | -0.222** |
|  | (0.128) | (0.128) | (0.0623) | (0.0623) | (0.0578) | (0.0577) | (0.0923) | (0.0926) |
| STEM |  | -0.00253 |  | 0.0633*** |  | 0.0156 |  | 0.0815*** |
|  |  | (0.0262) |  | (0.0160) |  | (0.0148) |  | (0.0281) |
| EEA |  | -0.0733*** |  | -0.115*** |  | -0.0624*** |  | -0.152*** |
|  |  | (0.0231) |  | (0.0141) |  | (0.0132) |  | (0.0260) |
| Age |  | -0.0209*** |  | 0.00265 |  | -0.00035 |  | -0.00004 |
|  |  | (0.00386) |  | (0.00174) |  | (0.00107) |  | (0.00227) |
| Asian |  | 0.0535 |  | 0.0883 |  | -0.164** |  | 0.0867 |
|  |  | (0.119) |  | (0.0734) |  | (0.0688) |  | (0.122) |
| Black |  | 0.215 |  | 0.133 |  | 0.157 |  | -0.229 |
|  |  | (0.145) |  | (0.0969) |  | (0.101) |  | (0.158) |
| White |  | 0.251** |  | -0.120 |  | -0.225*** |  | -0.119 |
|  |  | (0.119) |  | (0.0749) |  | (0.0698) |  | (0.125) |
| Hispanic |  | 0.0138 |  | 0.418*** |  | -0.0573*** |  | -0.281*** |
|  |  | (0.0305) |  | (0.0220) |  | (0.0192) |  | (0.0364) |
| Dep. Var. Mean | 1.077 | 1.082 | 0.728 | 0.729 | 0.0580 | 0.0570 | 0.0176 | 0.0182 |
| R2 | 0.377 | 0.383 | 0.0186 | 0.0592 | 0.0338 | 0.0394 | 0.0452 | 0.0532 |
| N | 19862 | 19593 | 19862 | 19593 | 19862 | 19593 | 19862 | 19593 |

Note: Estimates from OLS regressions with interactions for gender and number of children indicators. Other controls include other race indicators (pacific islander, native American, other race, and unknown race), and PhD year and date of survey completion FE. Significance levels: ${ }^{*} \mathrm{p}<0.10 ;{ }^{* *} \mathrm{p}<0.05 ; * * * \mathrm{p}<0.01$


[^0]:    Note: Estimates from OLS regressions with interactions for gender and number of children indicators. Controls include PhD year and date of survey completion FE. Bars represent $95 \%$ confidence intervals using robust SE.

