

summary of results from the

Astronomy Poverty Survey



as you arrive,

please answer the question
at this QR code!

(or go to dartgo.org/aas-slido)

Background

The Poverty in Astronomy Task force and the corresponding survey were initiated by a group of faculty, postdocs, & graduate students to assess the scope and scale of the effect of socioeconomic status on retention and advancement in astronomy. Specifically, the survey investigated whether, and if so to what extent, poverty poses an issue for those entering and looking to remain in the field of astronomy at various career stages.

Session Structure

- Introduction from Dr. Carlos Vargas
- Overview of Survey Results
- Panel Discussion
- Community Brainstorming Session

Community Guidelines

1. Please behave respectfully and only speak for yourself.
2. For the next 90 minutes, we are going to leave the skeptics and devil's advocates out of the room. Our goal here is to share our findings with the community and to empower **everyone** to use the information we are about to share to adapt to the current climate and the inevitable changes that will come starting on January 20, 2025.
3. Keep in mind, this is sensitive data regarding people's ***lived experiences***, not the typical data we are used to working with in our research settings.



MY UNDERGRADUATE EXPERIENCE

- Driven by the need to make money for my family
- Clearly not on an equal footing due to my high school education
- Had no money for food
 - Lived off a ‘commuter meal plan’ – 1 meal per day.
- I struggled immensely early on

WHY SHOULD YOU CARE ABOUT POVERTY?

Poverty impedes cognitive function (Mani et al. 2013)

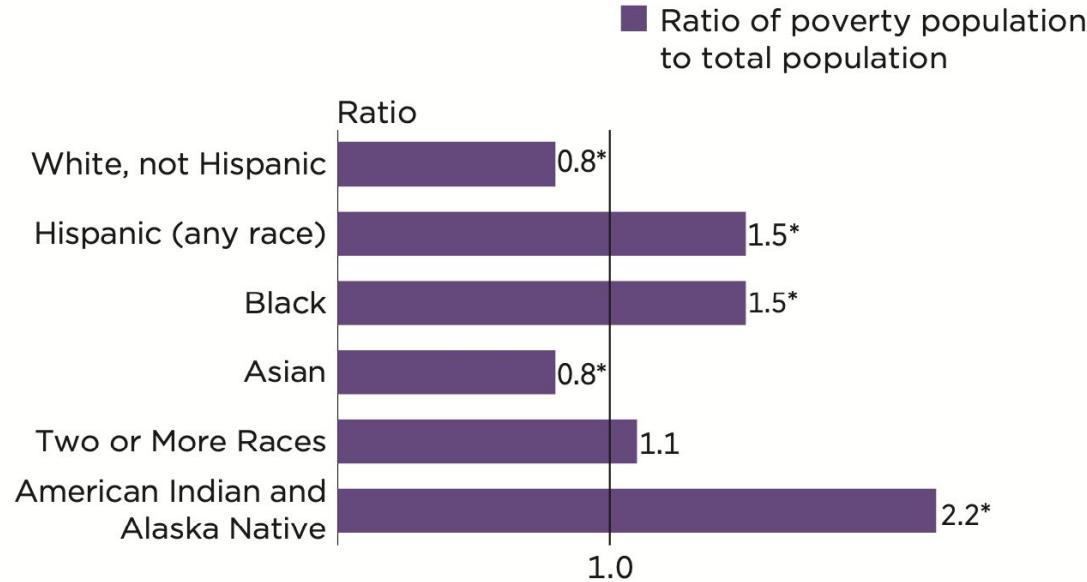
“Academics from poorer backgrounds introduce more novel scientific concepts, but are less likely to receive recognition...” (Abramitzky et al. 2024)

WHO IS AFFECTED BY POVERTY?

**~36.8 million people in
America right now**

Figure 3.

Distribution of Total Population and Poverty by Race Using the Official Poverty Measure: 2022

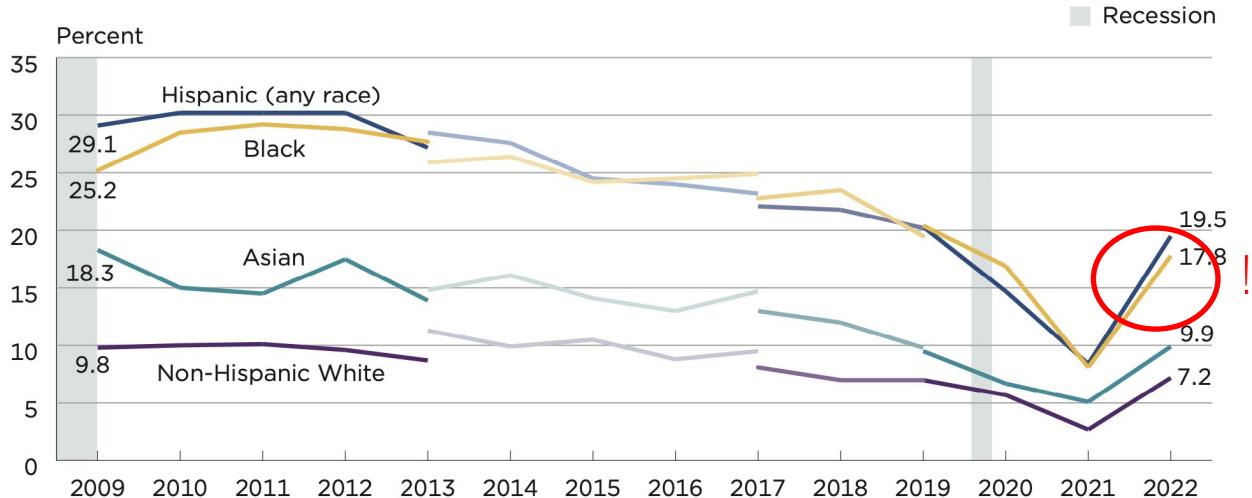


Source: 2022 Census Bureau Report on Income, Poverty, and Health Insurance Coverage

U.S. CHILD POVERTY

Figure 5.

Child Supplemental Poverty Rates by Race and Hispanic Origin: 2009 to 2022



The total official child (under 18) poverty rate was 14.9% in 2022

Source: 2022 Census Bureau Report on Income, Poverty, and Health Insurance Coverage

POVERTY CONTEXT

- The official 2024 U.S. ‘poverty line’ for a family of 4 is \$31,200 per year
- In 2023, there were 36.8 million people in poverty in the US
- **Lived poverty is about more than ‘not having money during grad school’**
 - People from backgrounds of poverty have no backstop
 - Entire households in poverty can’t afford a single unplanned expense of ~\$400 (your plane ticket)
 - The choice to enter and pursue an academic career is not equitable

Sources:

US Census Bureau Report on Income, Poverty, and Health Insurance Coverage
US Department of Health and Human Services

U.S WEALTH INEQUALITY

Wealth = total value of owned assets - debts

In 2021, the median wealth of white families was \$250,400

Source: 2021 US Census Bureau

U.S WEALTH INEQUALITY

Wealth = total value of owned assets - debts

In 2021, the median wealth of white families was \$250,400

The median wealth of Hispanic families was \$48,720

The median wealth of Black families was **\$24,520**

Source: 2021 US Census Bureau

COLLEGE STUDENTS

- 3 in 5 experience basic needs insecurity
- 29% experience food insecurity (4-year colleges)
- 48% experience housing insecurity
- **14% are homeless**
- 13% have lost a loved one to Covid – Hispanic students more than 2x as likely

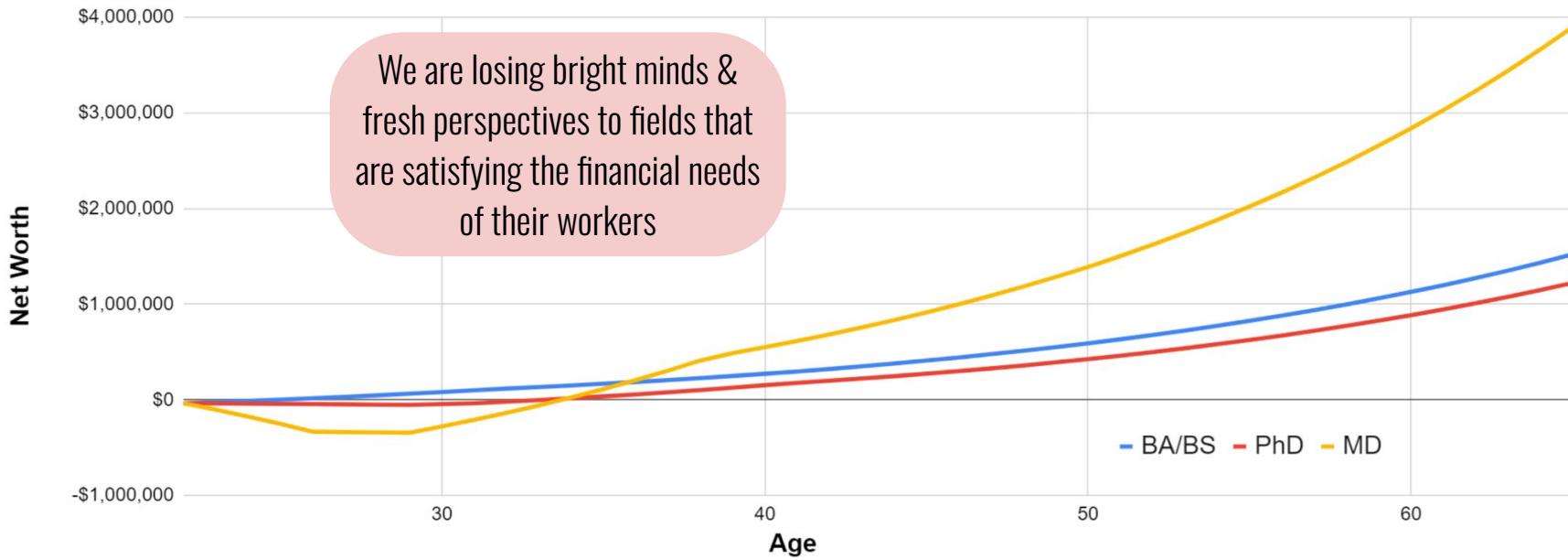
Source: The Hope Center for College, Community, and Justice. 2021 #RealCollege Survey

Poverty & Academia (Astronomy)

- Choosing to pursue an academic career reduces your lifetime earning potential
- Why is this bad?
 - That choice can be life or death for people from impoverished backgrounds.

Academic Crossroads:

"How can I pursue my dreams of academia if that means delaying financial security for a lottery ticket at a faculty job?"



Note: BA/BS assumes overall median salary w/degree
– NOT STEM or engineering fields

Source: "The Academic Financial Lifecycle in Comparative Perspective" – Elbow Patch Money

Task Force on Poverty in Astronomy

Volunteer participants from: **UArizona**,
Dartmouth, NASA GSFC, Harvard CfA, UT Austin,
Utah, Vandy, NMSU, UCSD, Rutgers, OSU, UMass

In the post Team-Up Report era, inclusion along multiple axes remains a challenge in astronomy.

Theory: The advancement pathways of academia impede access to the field by introducing financial scarcity, especially during graduate school

For the field of astronomy to be accessible and inclusive to a diverse academic population, **we must address built-in poverty bottlenecks in academia**

Released the Survey on Poverty in Astronomy in March 2024

- **IRB approval obtained in February 2024 (UA)**

Task Force on Poverty in Astronomy

Volunteer participants from: **UArizona**,
Dartmouth, NASA GSFC, Harvard CfA, UT Austin,
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Released the Survey on Poverty in Astronomy in March 2024

sent ~90 emails to degree-granting institutions
and 10+ listservs in order to spread the word

entirely volunteer-based, comprised of graduate students,
postdocs, staff, and faculty.

summary of results from the

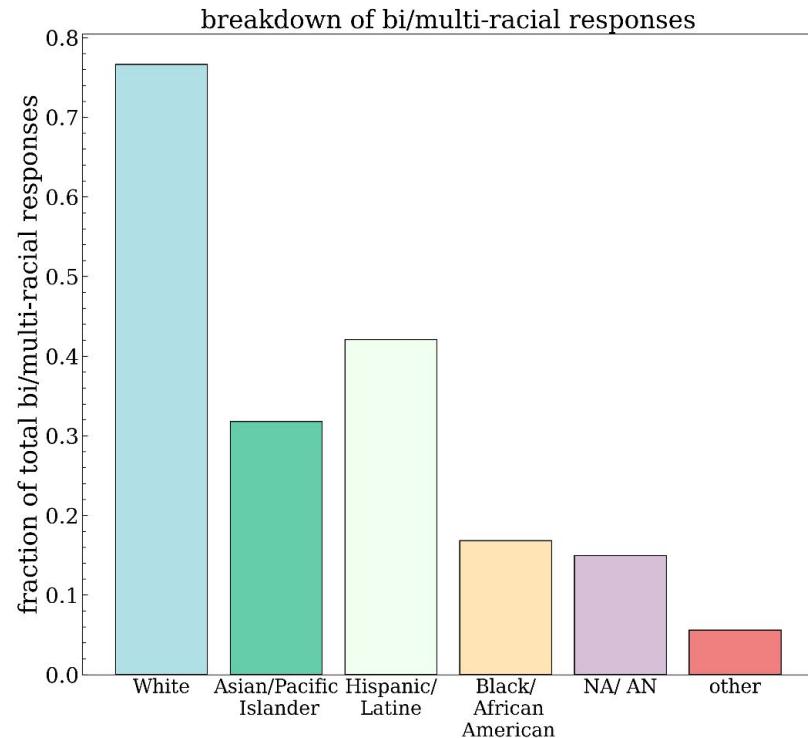
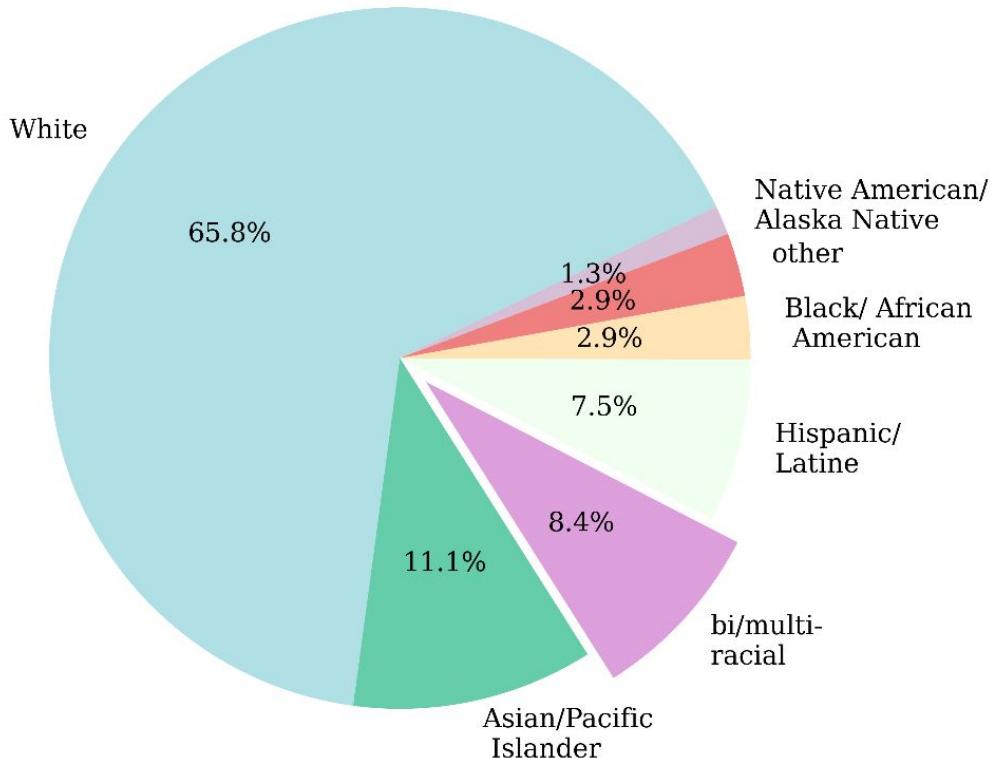
Astronomy Poverty Survey

— DEMOGRAPHICS

a quick breakdown of identities of the respondents in the survey

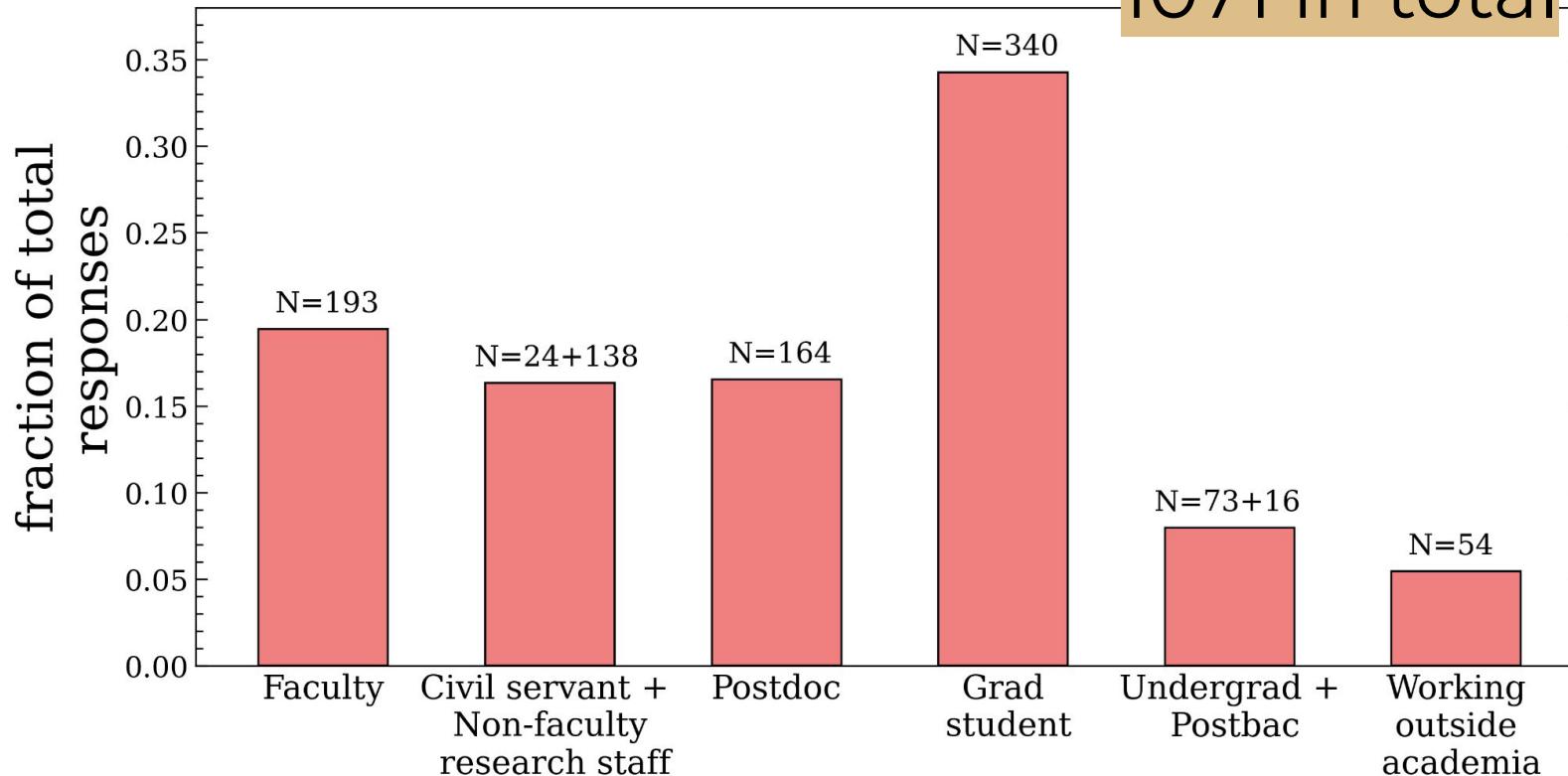
TOTAL NUMBER OF RESPONDENTS: 1071 people

— race / ethnicity of respondents

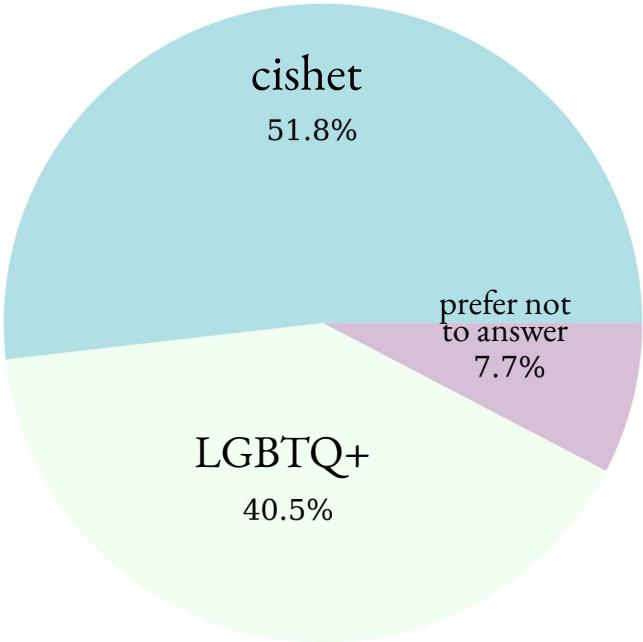


— current career stage

1071 in total

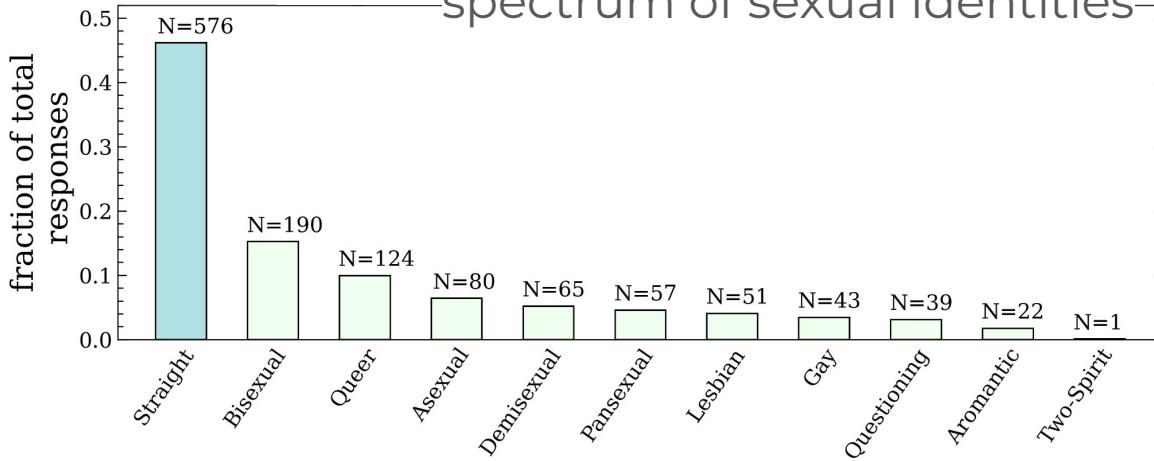


gender & sexual identities

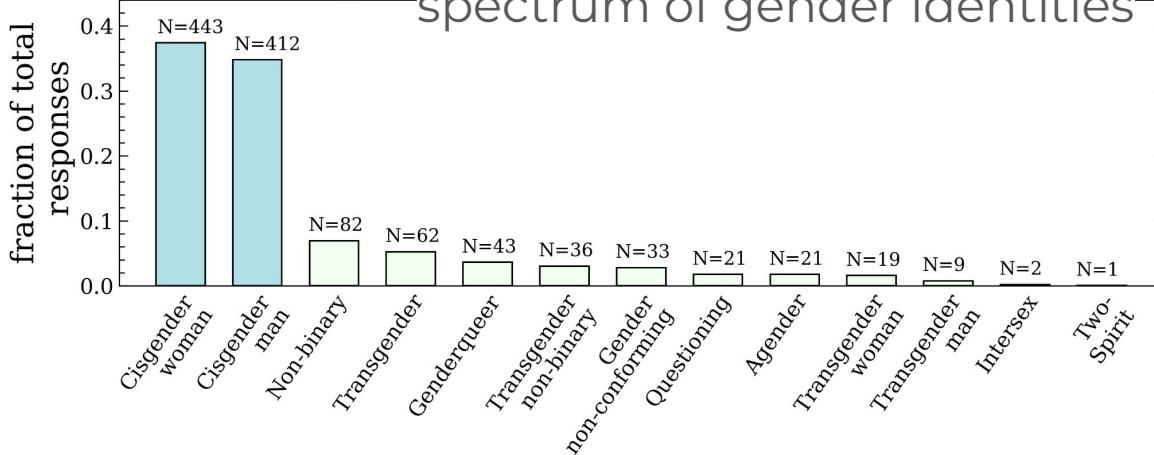


"cishet" = cisgender + heterosexual

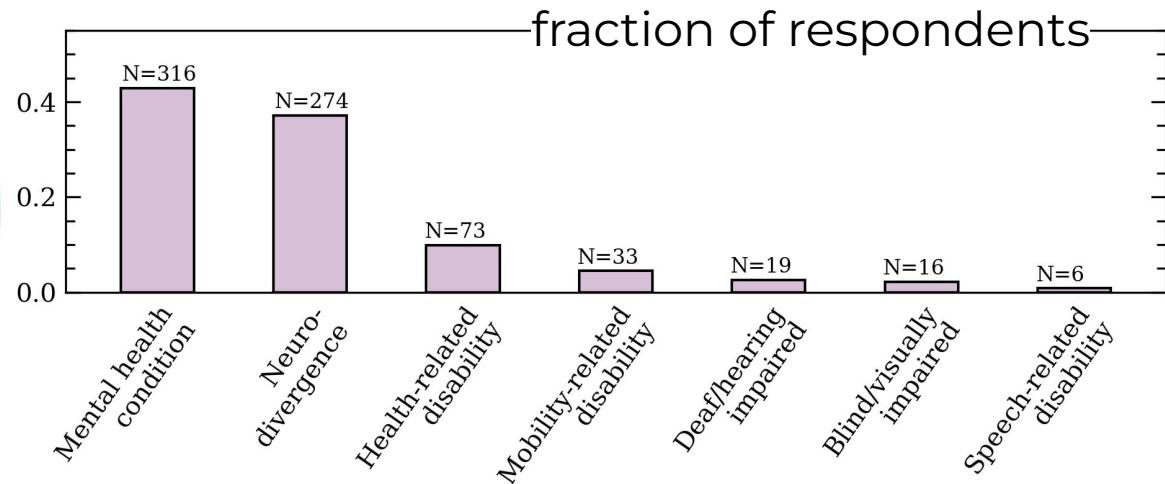
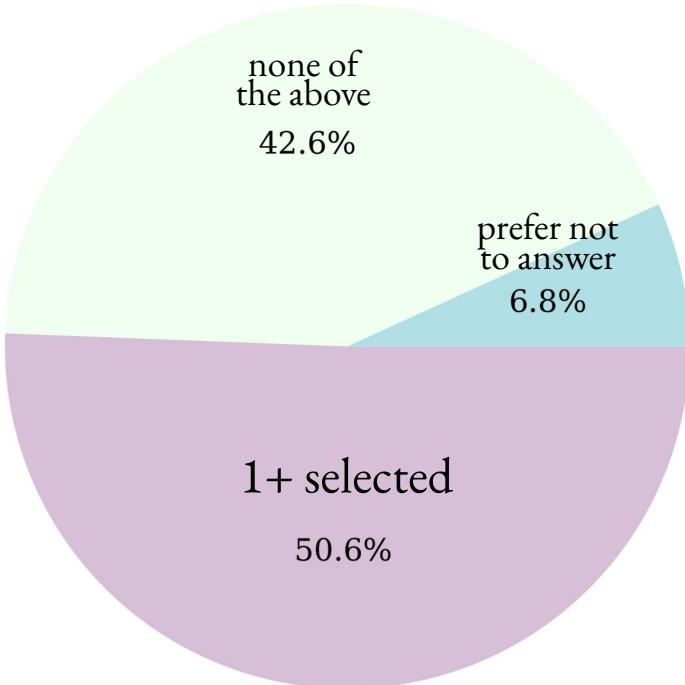
spectrum of sexual identities



spectrum of gender identities



health & disability status



— MAIN RESULTS

- #1: considering leaving the field
- #2: a selection of environmental factors & financial indicators

RESULT #1

a significant # of respondents considering leaving field due to financial hardship

Black & African American astronomers are the most likely to consider leaving the field or have left due to financial hardship (47%)

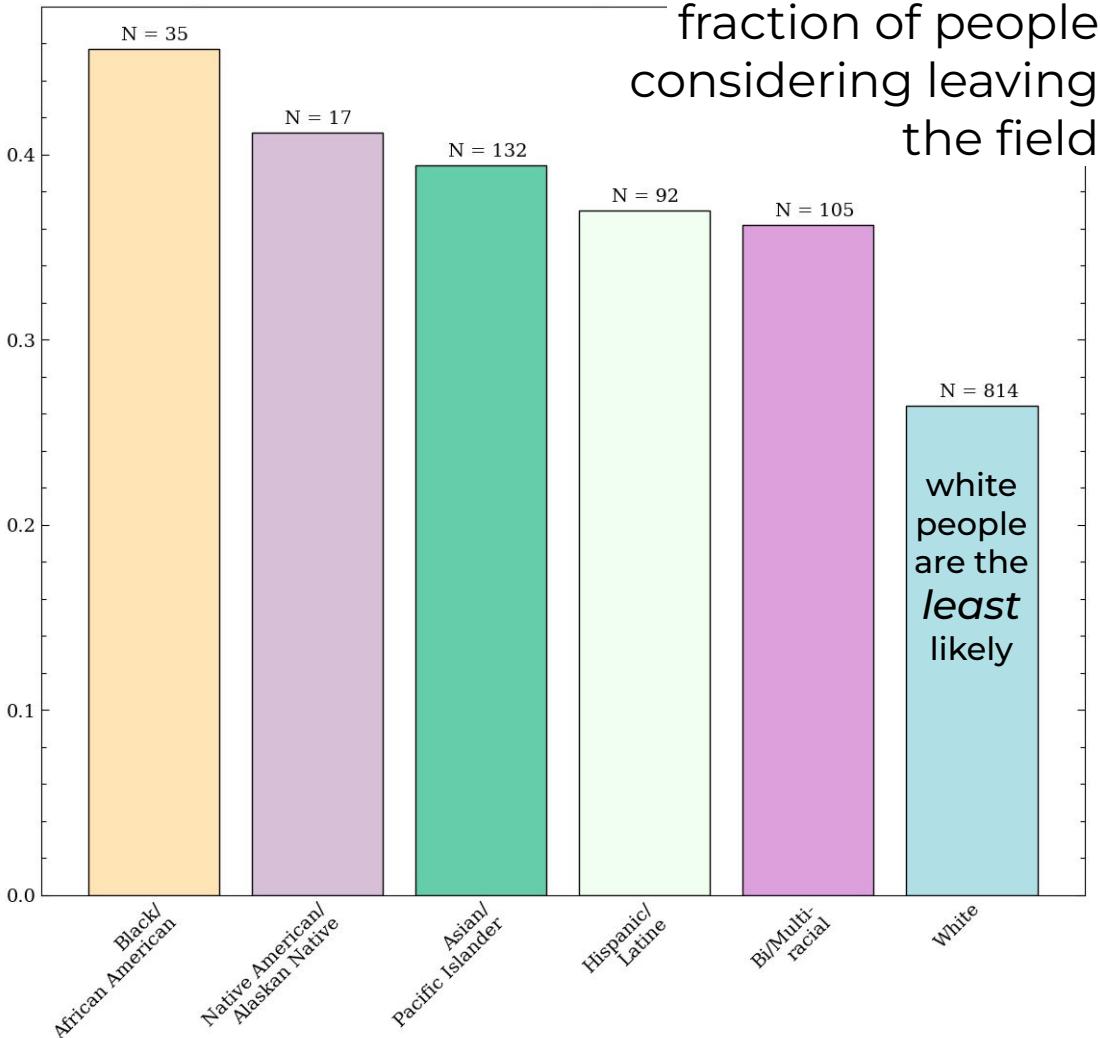
>30% of undergrads+postbacs, grad students, & postdocs say they are considering leaving the due to financial hardship

— *results even more severe when comparing with race/ethnicity*

for all respondents in survey, 1 in 4 say they are considering leaving the field due to financial hardship

of those respondents who have already left the field, 47% did so due to financial hardship

at 47%, Black & African American astronomers are the most likely to have left or be considering leaving the field due to financial hardship.



percent of respondents who have left or are considering leaving the field due to financial hardship:

Pell Grants: subsidies for “undergraduate students who display exceptional financial need” (studentaid.gov)

career stage	for respondents who received “Pell Grants”	for respondents who did NOT receive “Pell Grants”
people working outside academia	50%	26%
undergrads + postbacs	52%	29%
graduate students	45%	38%
postdocs	62%	32%
civil servant + non-faculty research/staff scientist	26%	20%
faculty	7%	6%

percent of respondents who have left or are considering leaving the field due to financial hardship:

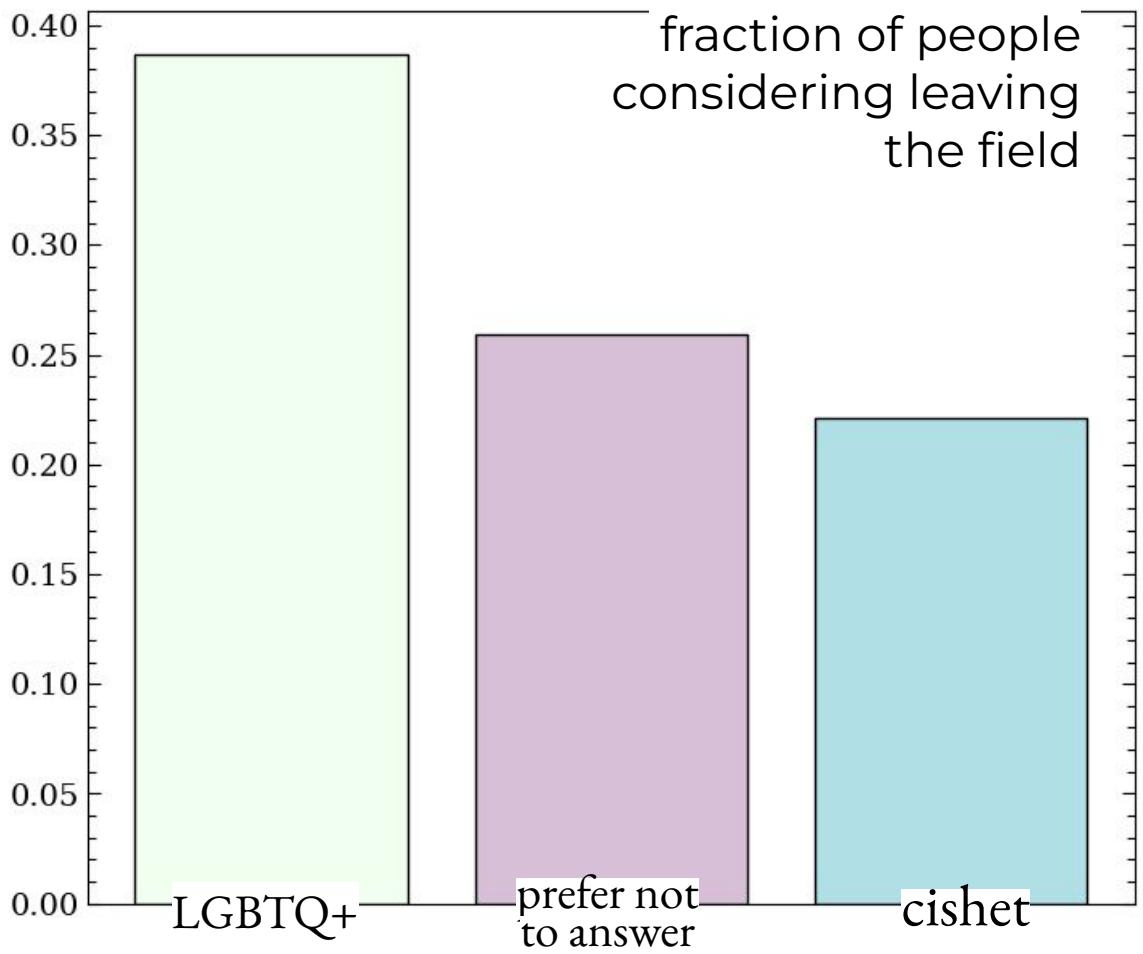
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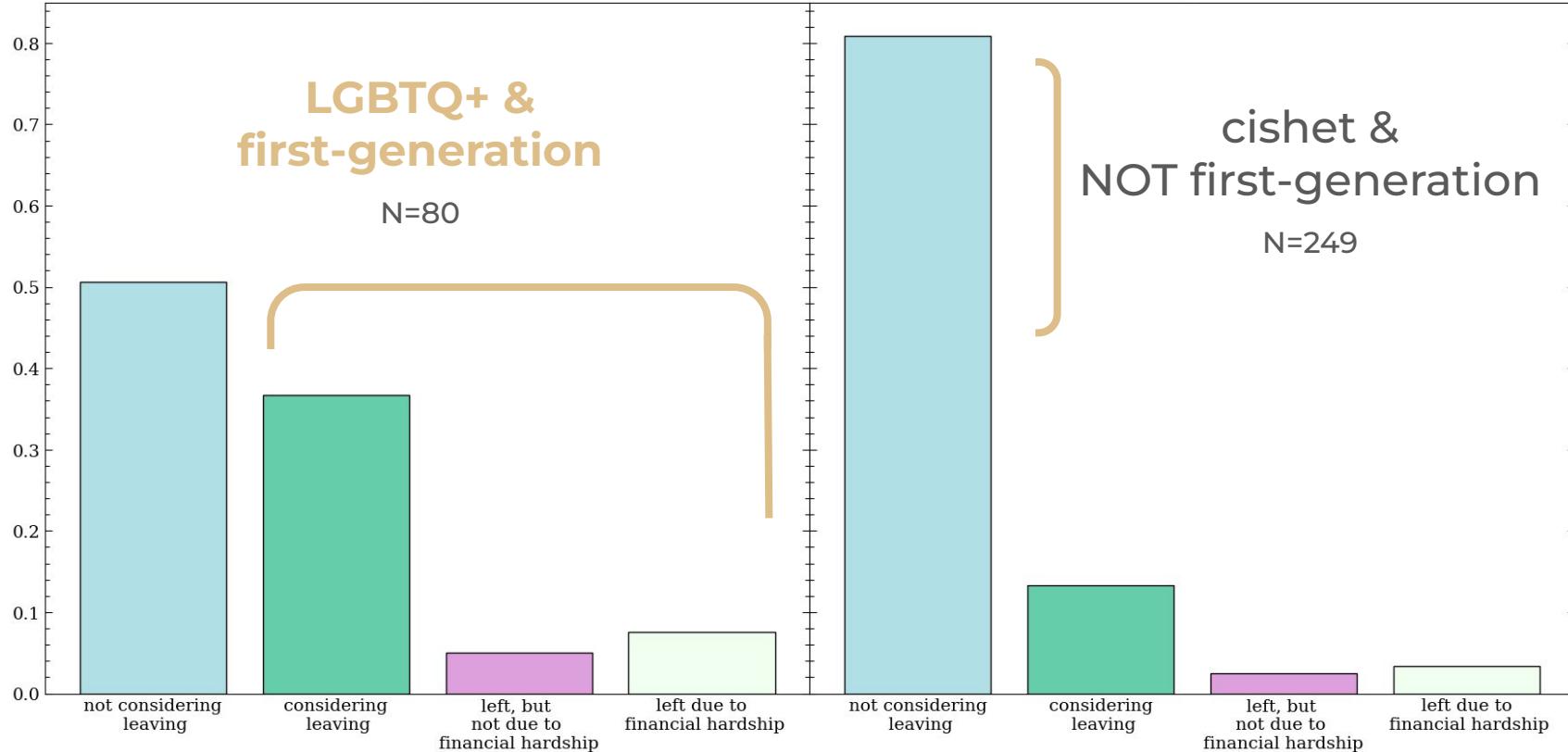


early career academics & people working outside academia are heavily impacted

at 38.7%, **LGBTQ+ people are more likely** to have left or be considering leaving the field due to financial hardship than cishet people (25.9%).

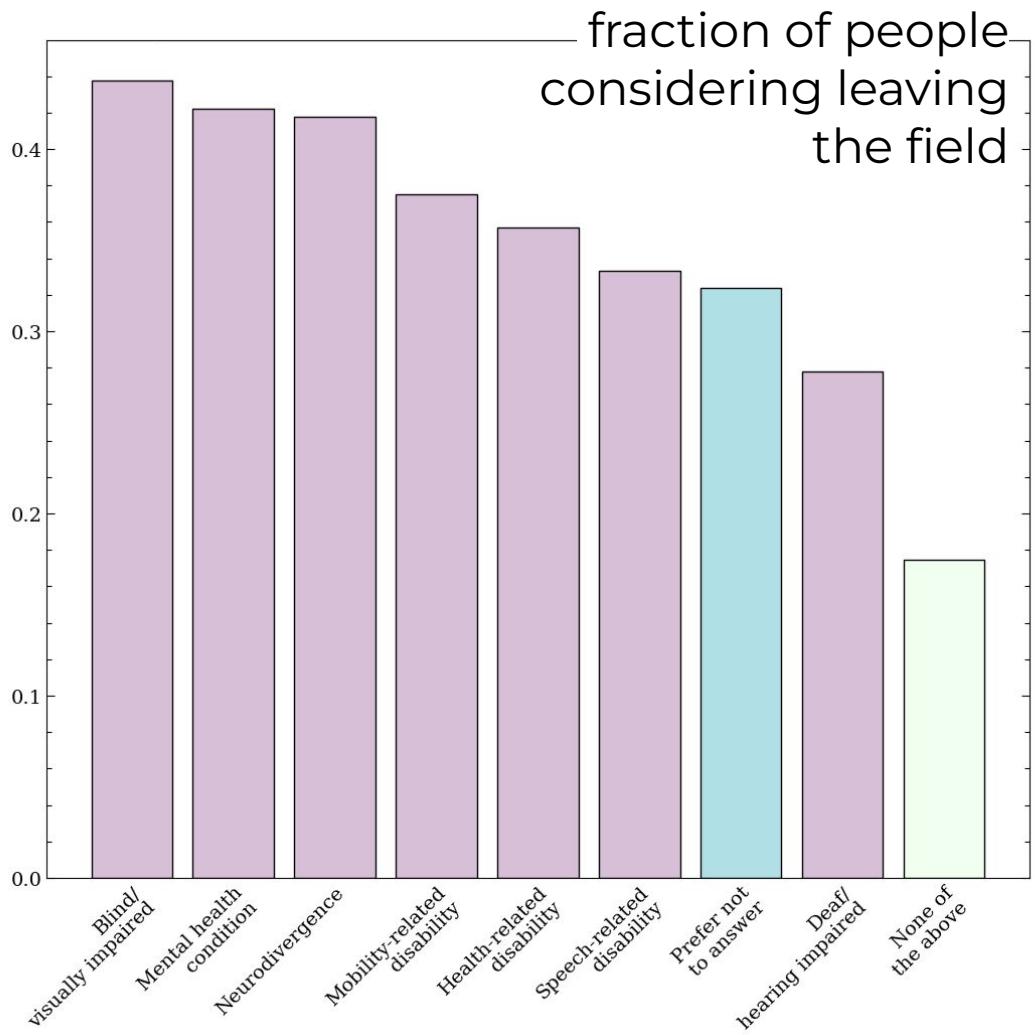


people who identify as both **LGBTQIA+ & first-gen**
are much more likely to be considering leaving the field



respondents with
any condition or disability
are much more likely to
have left or be considering
leaving the field due
to financial hardship

people who selected
“None of the above” are
by far the least likely



RESULT #2

a selection of environmental factors & financial indicators

Nearly half of Black, Indigenous, & Latine women + queer-gender respondents say that finances hindered their ability to study astronomy (47%)

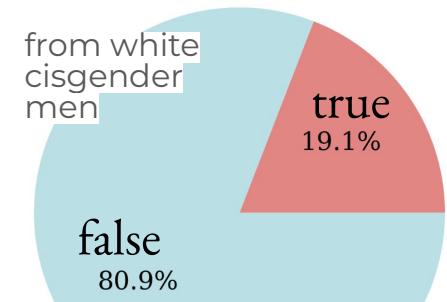
undergraduates & people working outside academia are the most likely to say finances hindered their ability to study astronomy (>40%)

Faculty are *much less likely* to say they faced indicators of financial hardship than astronomers at any other career stage

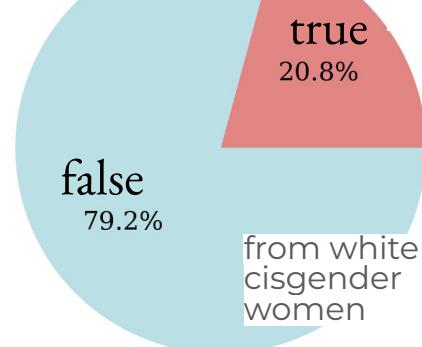
At all career stages, a significant proportion of respondents at some point neglected medical care due to finances (~27–48%)

R#2

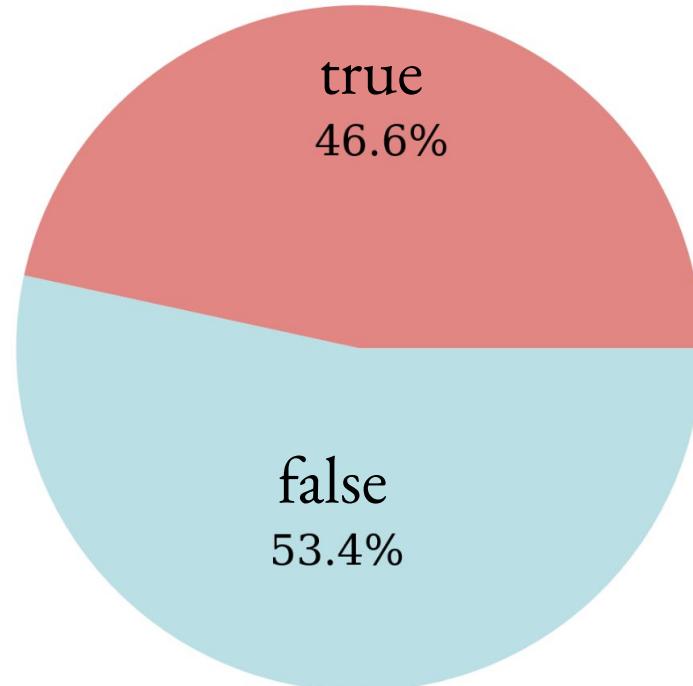
“my finances have hindered my ability to study astronomy”



historical “benchmark”
for comparison

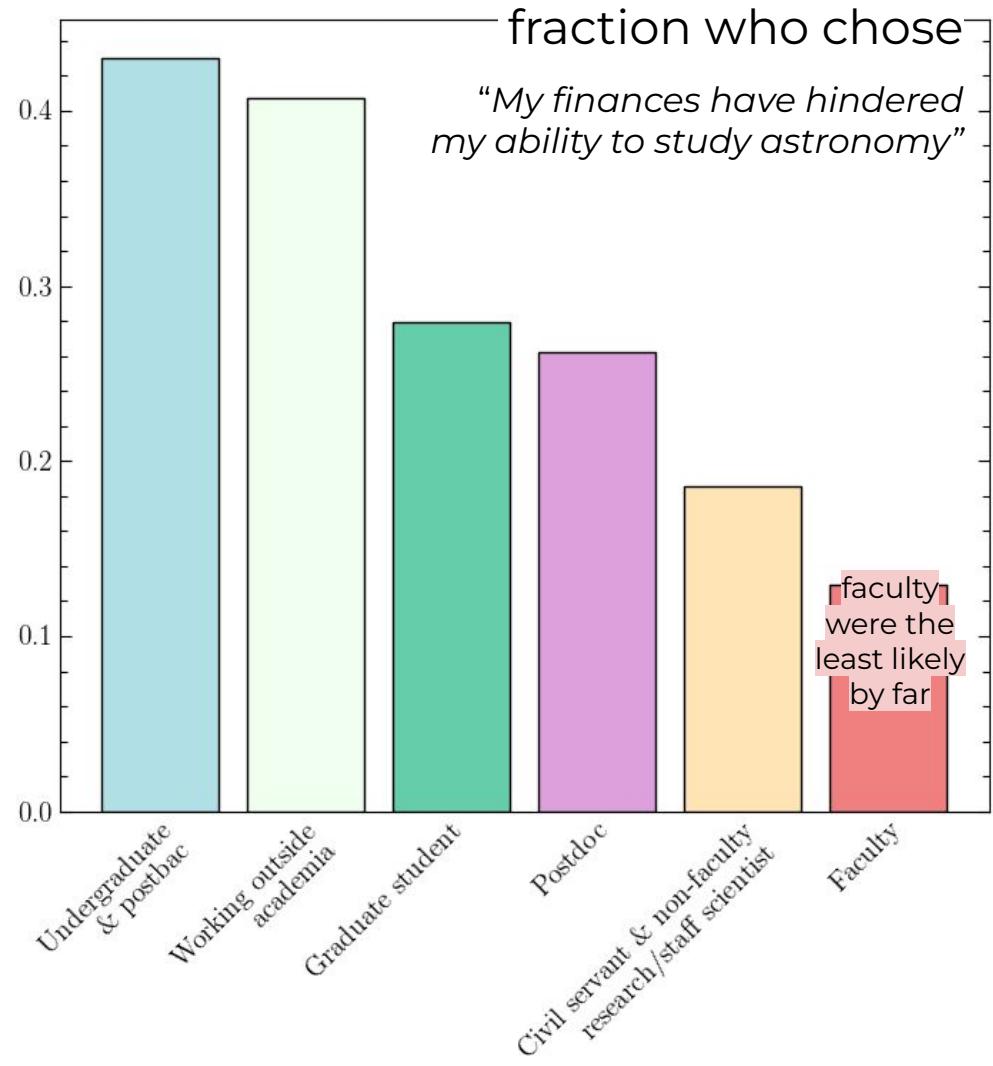


from Black / Indigenous / Latine
Women & Queer-Gender People in Survey



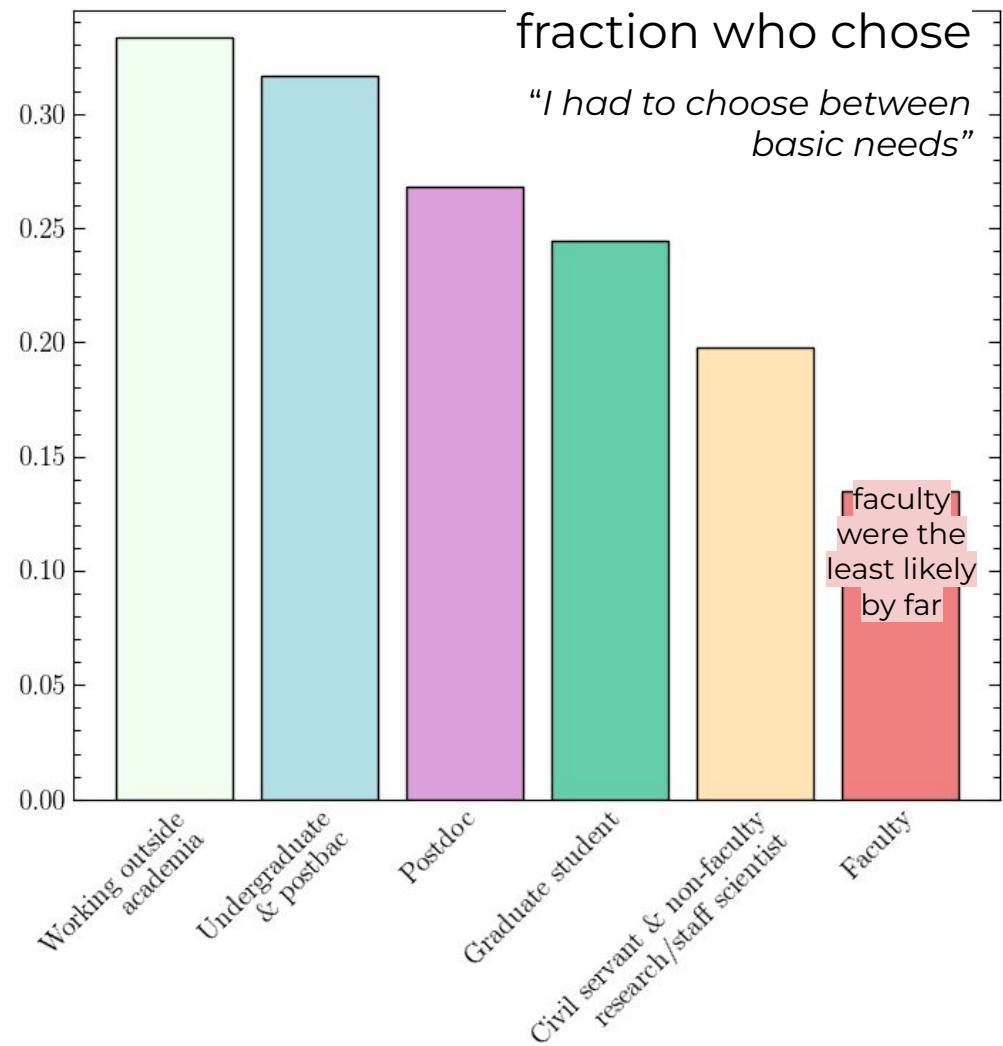
undergrads+postbacs &
people working outside
academia are by far the most
likely to select

*“My finances have hindered my
ability to study astronomy”*



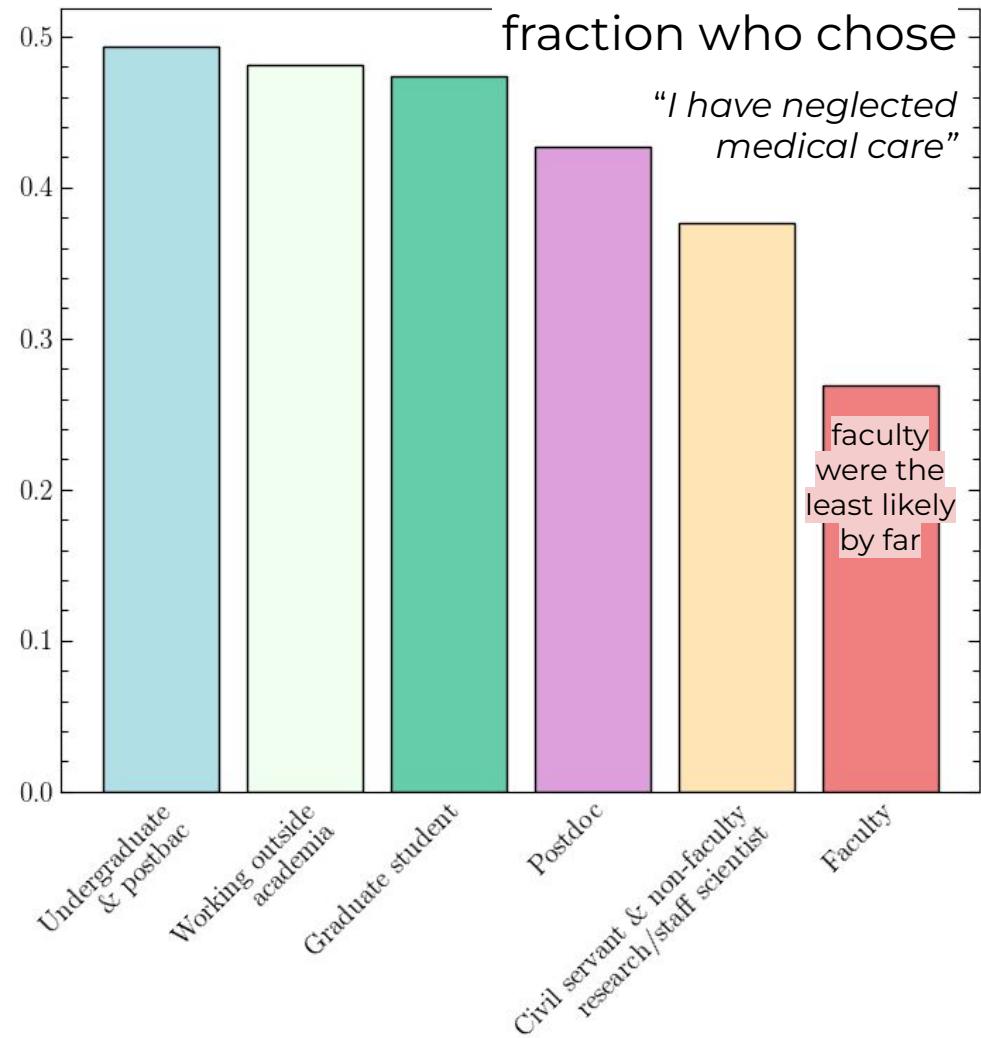
people working outside academia & undergrads+postbacs are the likeliest to select

"I had to choose between basic needs because I could not afford everything"



undergrads+postbacs & people
working outside academia
were the likeliest to select

*"I have neglected medical,
dental, &/or vision care
[due to finances]"*



— NEXT STEPS

an example use case of main results & summarizing some of
the planned outputs from this survey

NEXT STEPS

sharing results, future survey(s)

- ❖ **FLAGSHIP WHITE PAPER** – we plan to post a flagship white paper summarizing the main goals of the survey & our findings
 - we will include big & small recommendations in this work
- ❖ **FOLLOWUP WHITE PAPERS** – there are plans in place for a number of additional, more focused white papers on different factors of the survey (compared to specific demographics, for example).
- ❖ international version of survey?

PANEL

MODERATOR:
Ekta Patel (Aykh-dhuh)

- Carlos Vargas (CAR-los)
- KeShawn Ivory (kee-shaa-n)
- Taylor Hutchison (tAy-ler)
- Jonathan Cohn (JAH-nuh-thn)

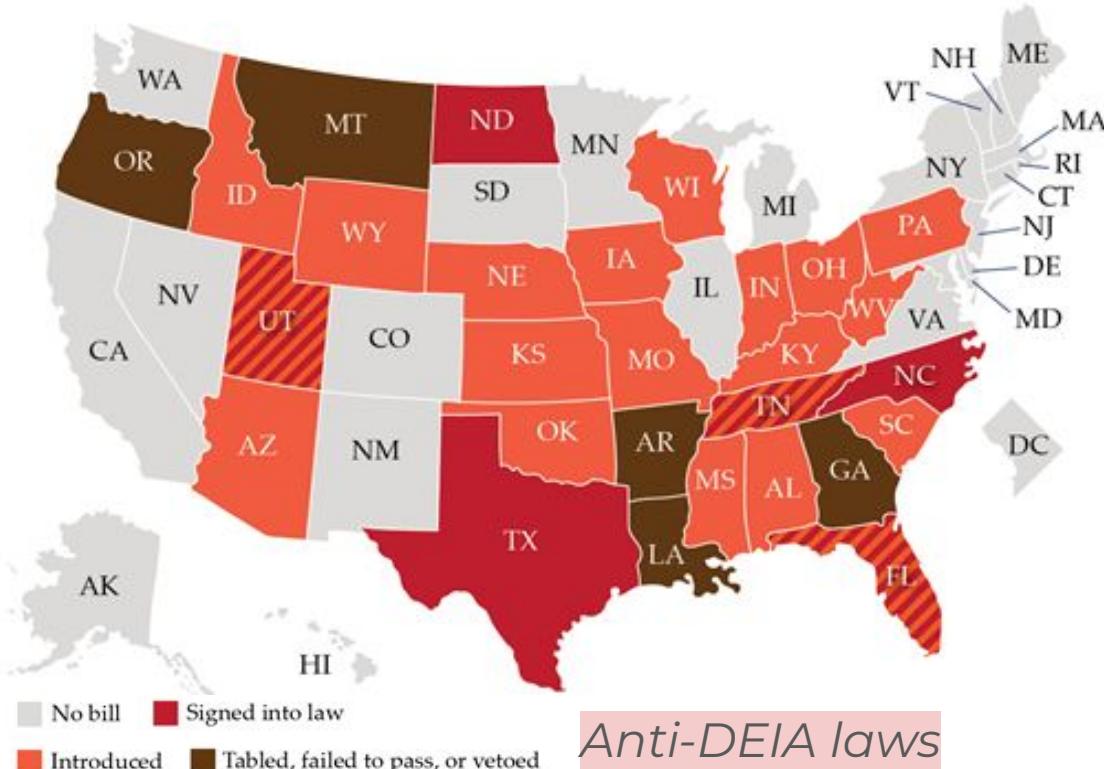
prep for
discussion time

“ for all respondents in survey, 1 in 4 say they are considering leaving the field due to financial hardship. **”**

quick audience poll
(or go to dartgo.org/aas-slido)



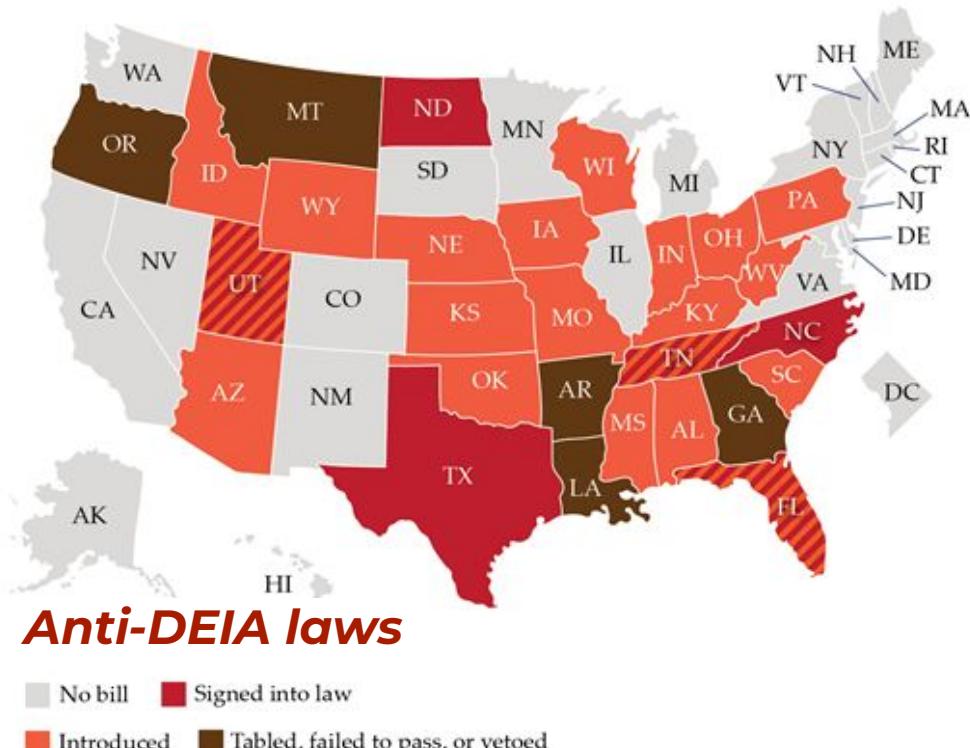
An Example Use Case of this Data-Set to Enable A More Inclusive Astronomy



severe restrictions
or outright bans using race,
ethnicity in many states (also
unclear future given upcoming US
administration change)

— BUT NOT
SOCIO-ECONOMIC STATUS

An Ex. Use Case of this Data-Set to Enable A More Inclusive Astronomy



severe restrictions or outright bans using race, ethnicity in many states (also unclear future given upcoming US admin change)

— BUT NOT SOCIO-ECONOMIC STATUS

using race-neutral alternatives is **CRITICAL** in admissions/hiring

- e.g., rising # of PhD applications & fixed # of spots has significantly decreased acceptance rates across the board
- **from survey:** Nearly half of Black, Indigenous, & Latine respondents say studying astronomy was hindered by finances

slido results

☰ Are you or have you ever considered leaving the field due to financial hardship? 75 📈

Yes



No



— DISCUSSION

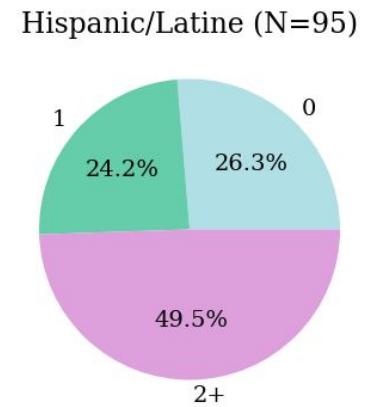
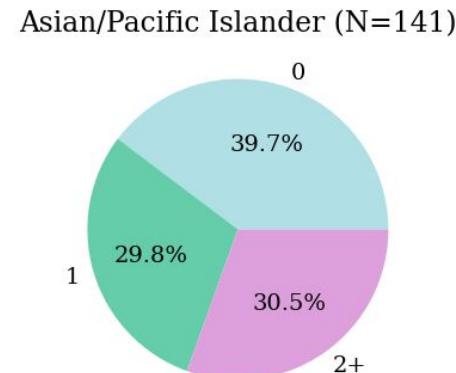
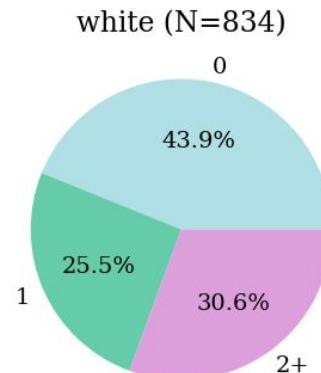
how do you envision using this data in your communities to elicit positive change regarding financial hardship in academia?

Backup Slides

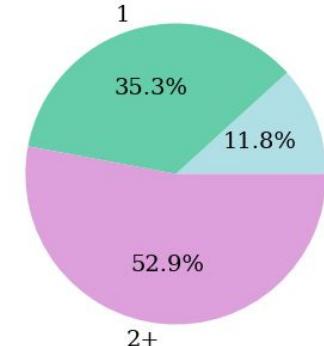
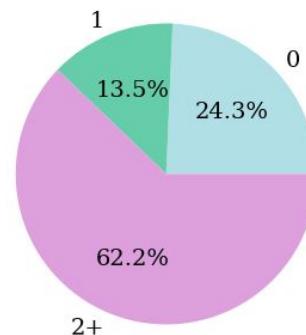
Q10 (number
of indicators of
financial
hardship)
correlates
strongly with
Q26 (race /
ethnicity)

This slide uses the
“contains” version of
race/ethnicity (see
[here](#)). The
multi/bi-racial
category includes
people who selected
“Biracial or Multiracial”,
as well as anyone who
selected 2+ existing
options.

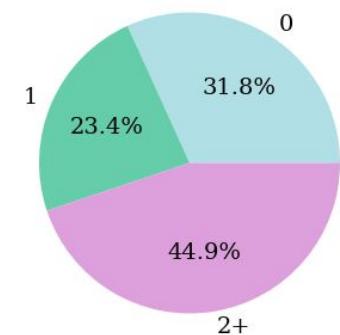
Number of indicators of financial hardship (Q10) vs race/ethnicity (Q26)



Black/African American (N=37) Native American/Alaskan Native (N=17)

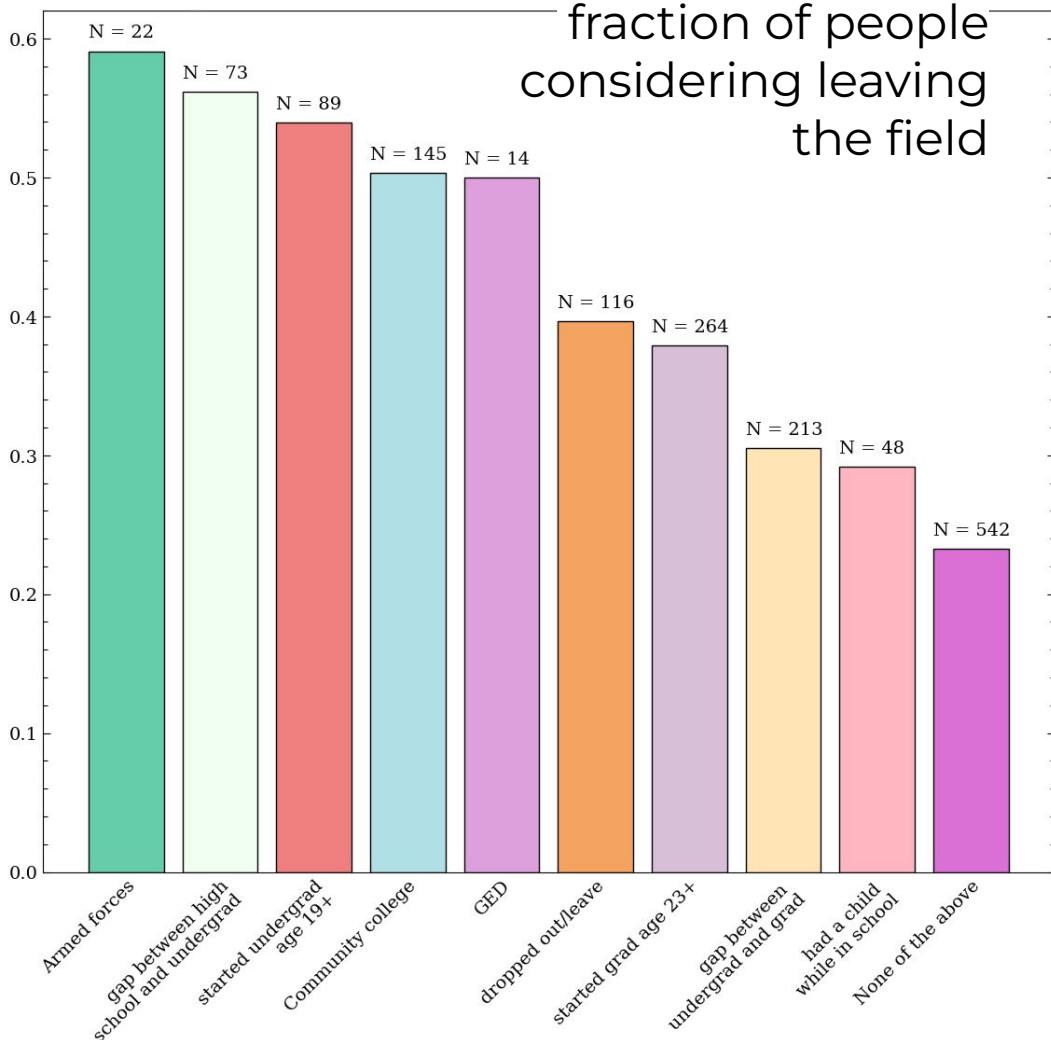


multi/biracial (N=107)



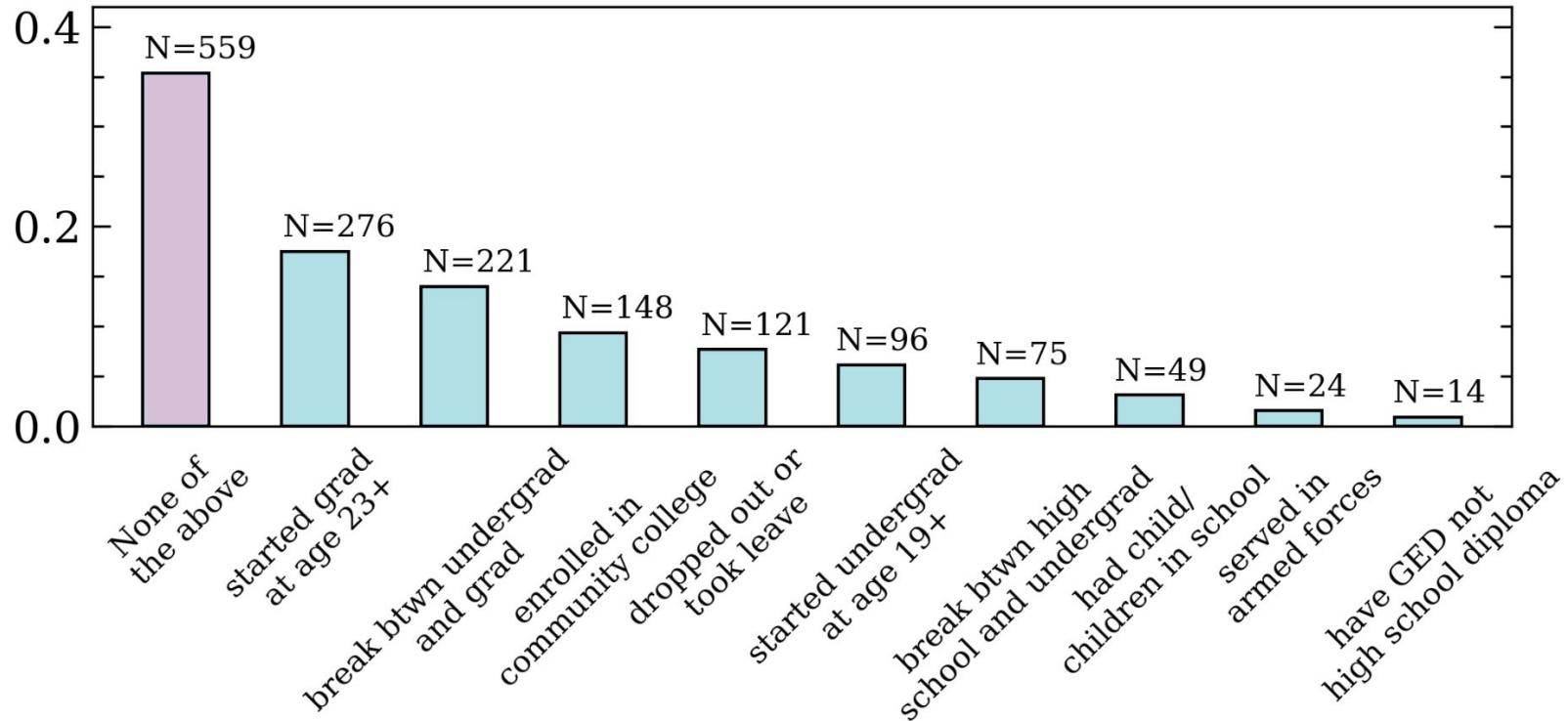
respondents who served in the armed forces are most likely to have left or be considering leaving

people who selected “None of the above” are by far the least likely



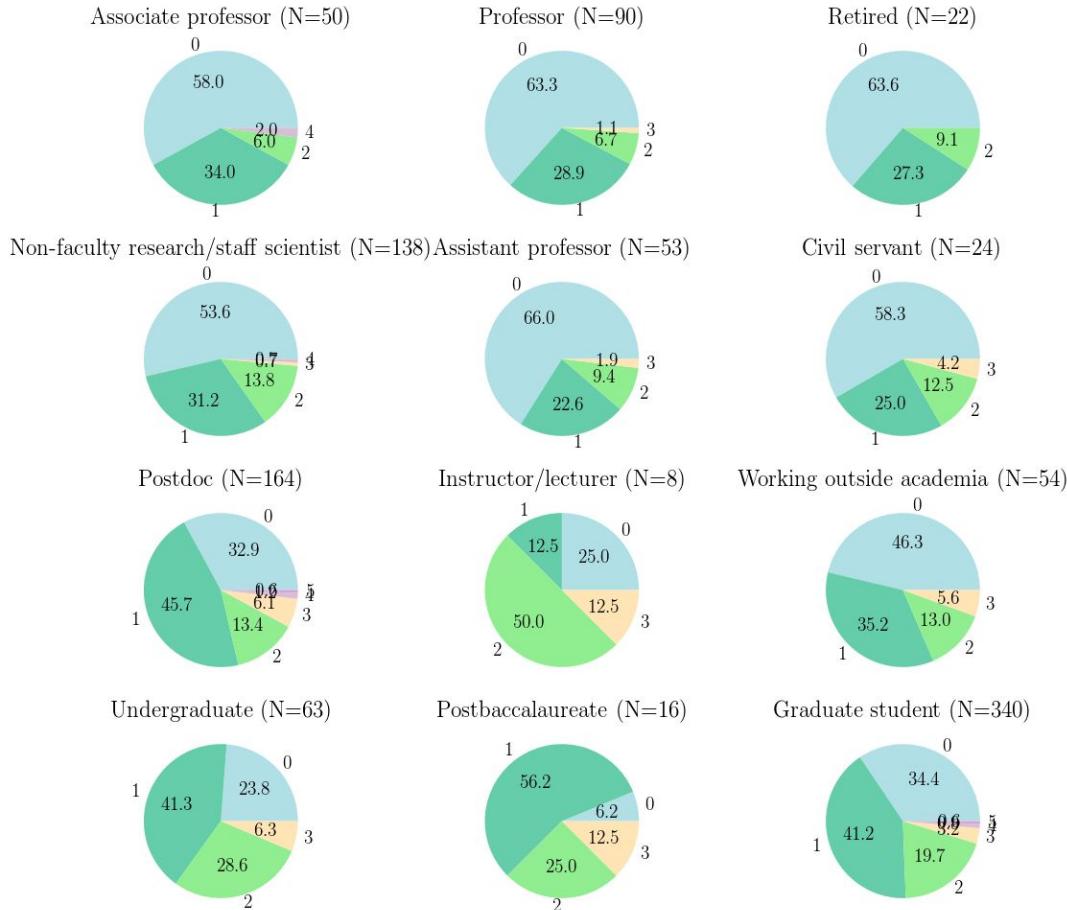
“non-traditional” circumstances

we note that definition what what is “non-traditional”
can change with time

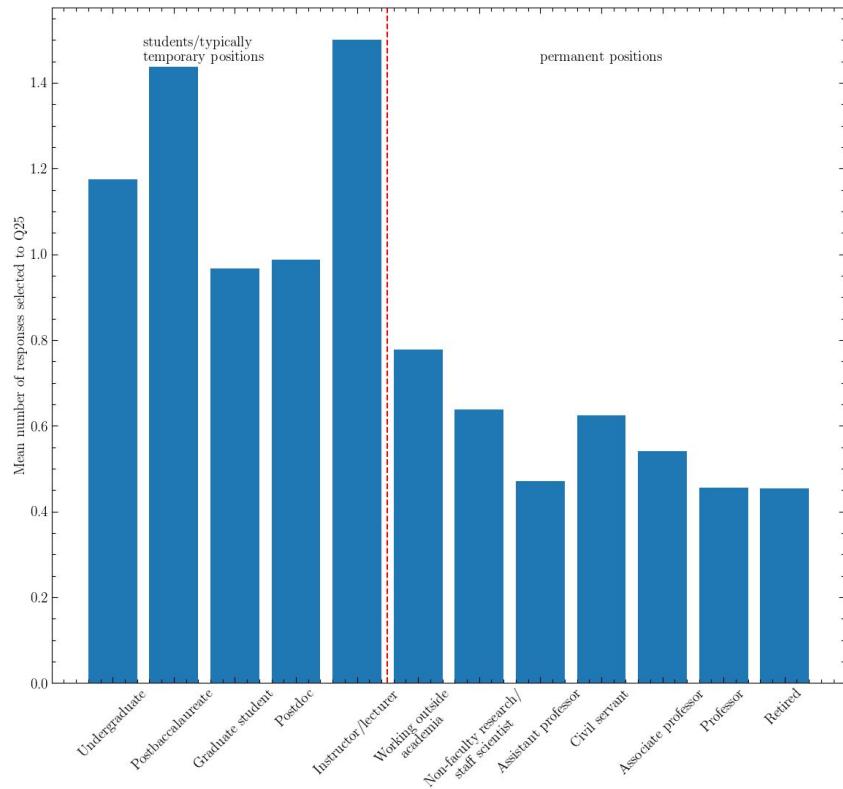


Result 4: health impacts

Q25 – number of conditions and disabilities vs career stage



People working outside academia selected more conditions and disabilities than all other permanent positions



Methods: how did we parse the survey results?

Distillation of Survey Questions in Analysis

We often group indicators together to simplify questions and results. In some cases, there may also be too-small-number statistics *not* to group responses. e.g. :

- a. report “LGBTQIA+” vs breaking it down by individual gender/sexuality responses
- b. any “first-gen” answer, vs breaking down into “high school”, “undergrad”, & “grad”

some distillation thoughts

1. first-pass analysis for many questions was run without processing “Other” answers (“Other” was often a small percentage)
2. race/ethnicity: “==” (preserve N of *respondents*) vs “contains” (include multiracial respondents in respective races/ethnicities)
 - a. both versions have their uses, we just have to be careful and specific about which one a given plot uses. For some demographics questions we use ==, for some we use contains

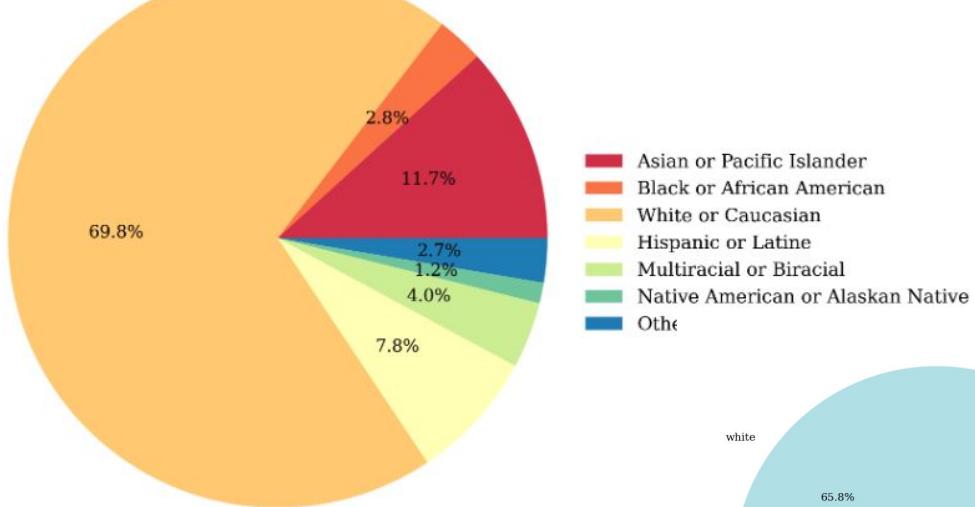
`==` vs `contains`

For most race/ethnicity plots, we currently use “contains” [here](#), to avoid erasing people’s identities. When we use `==` (see e.g. comparing race/ethnicity to career stage [below](#)), we include anyone who selected more than one race in a “bi/multi-racial” category, regardless of whether they selected the “Biracial or Multiracial” response option. We can further expand the “bi/multi-racial” category to show each of the selected options *within* that category, e.g. in the full survey population [here](#).

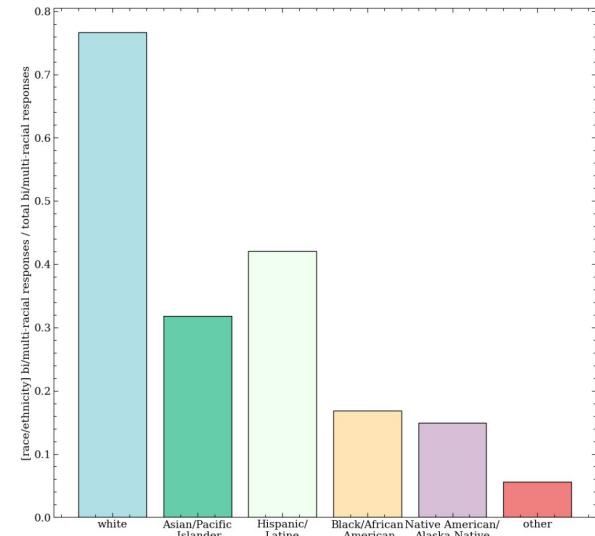
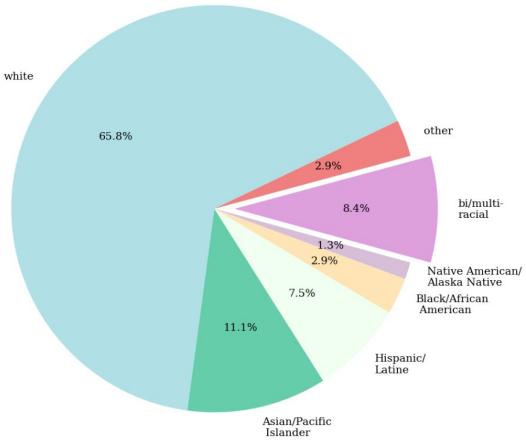
We can use similar considerations for LGBTQ+ responses. For example, the contains responses are shown in this [slide](#), while `==` responses to highlight the exact distribution of LGBTQ+ vs cis het are shown in the full survey population [here](#), and by career stage [here](#).

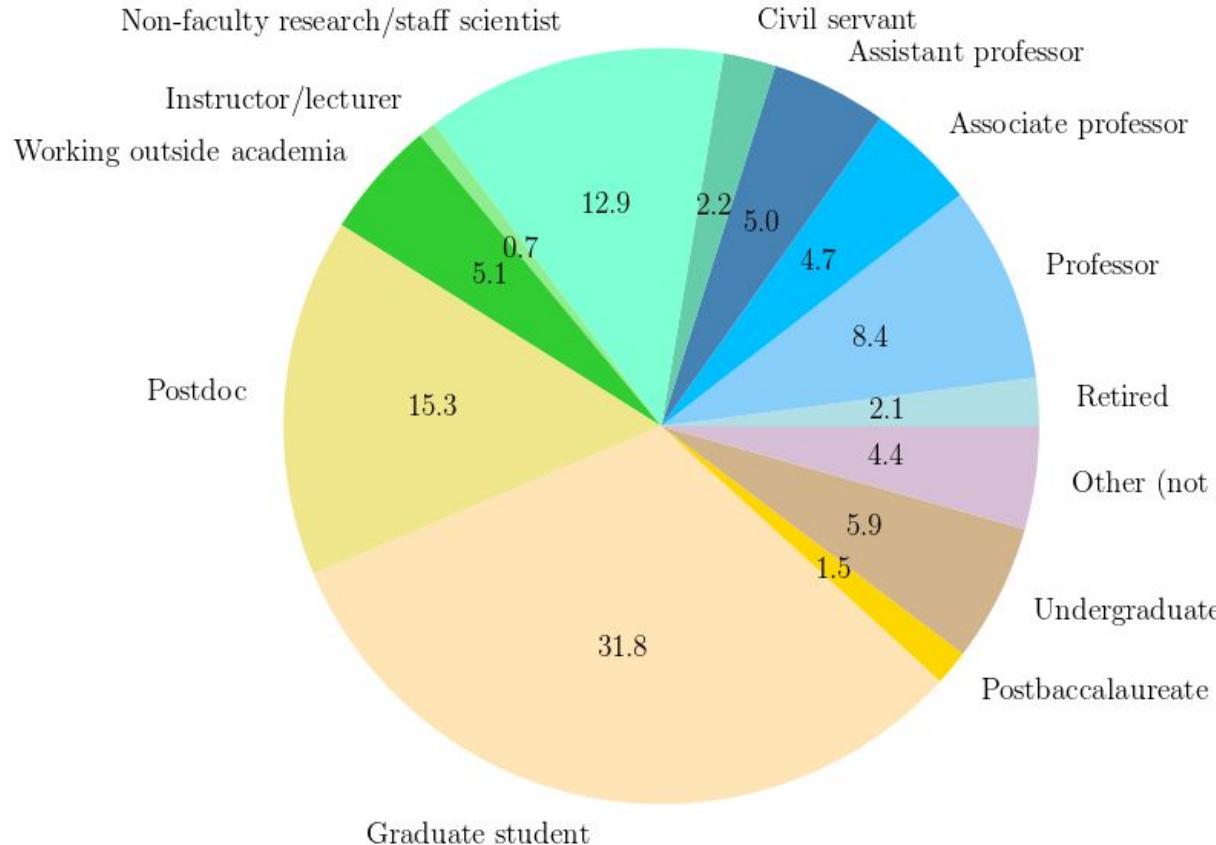
Both are contains style plots – use the latest data drop and show only the bottom right?

Select all that apply to your race/ethnicity
total respondents included: 985/1006



Asian or Pacific Islander
Black or African American
White or Caucasian
Hispanic or Latine
Multiracial or Biracial
Native American or Alaskan Native
Other



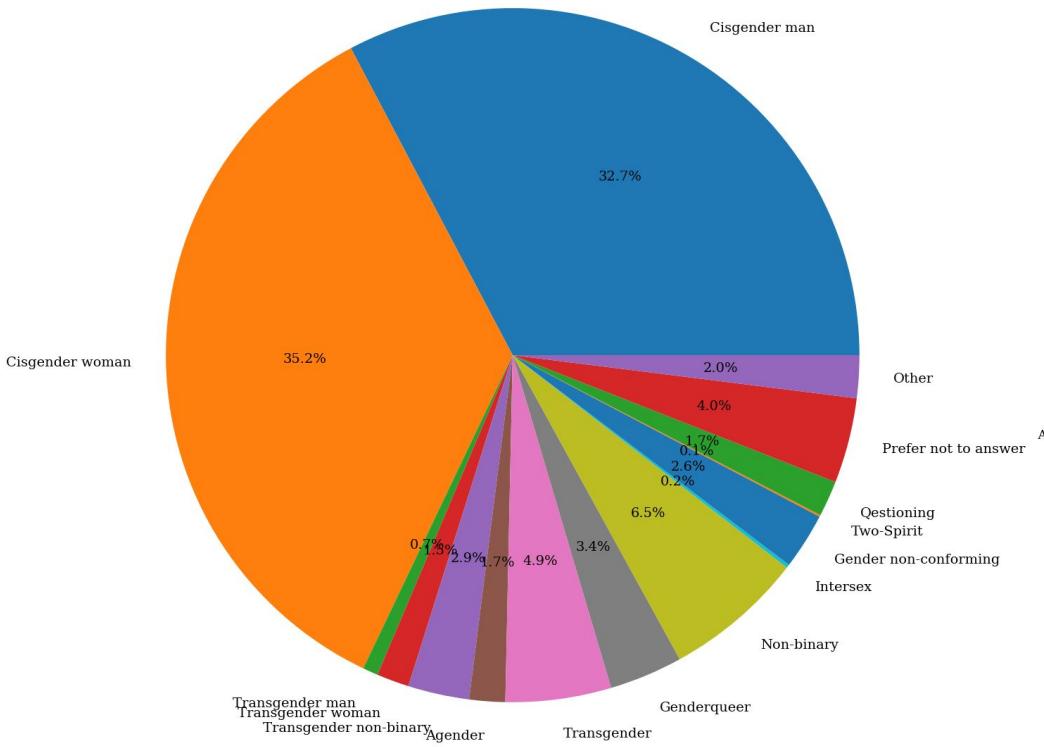


Possible groupings for later questions:

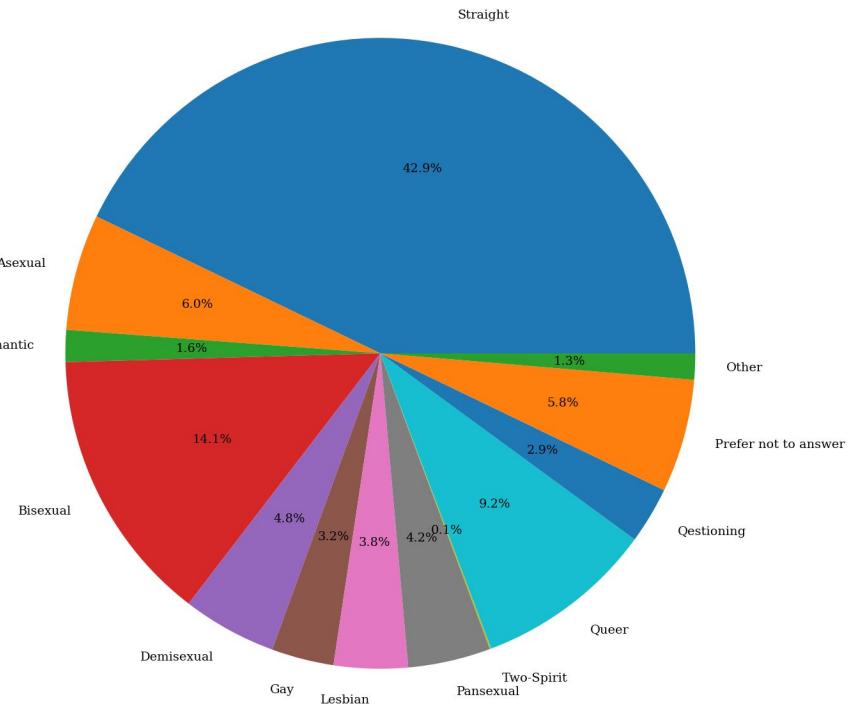
- Professor = professor + associate + assistant (caveat about associate profs here)
- Undergrads + postdocs
- Civil servant + non-faculty research/staff ?? depends on the result

Contains-style plot for gender & sexuality

Q23 contains (N = 1259)

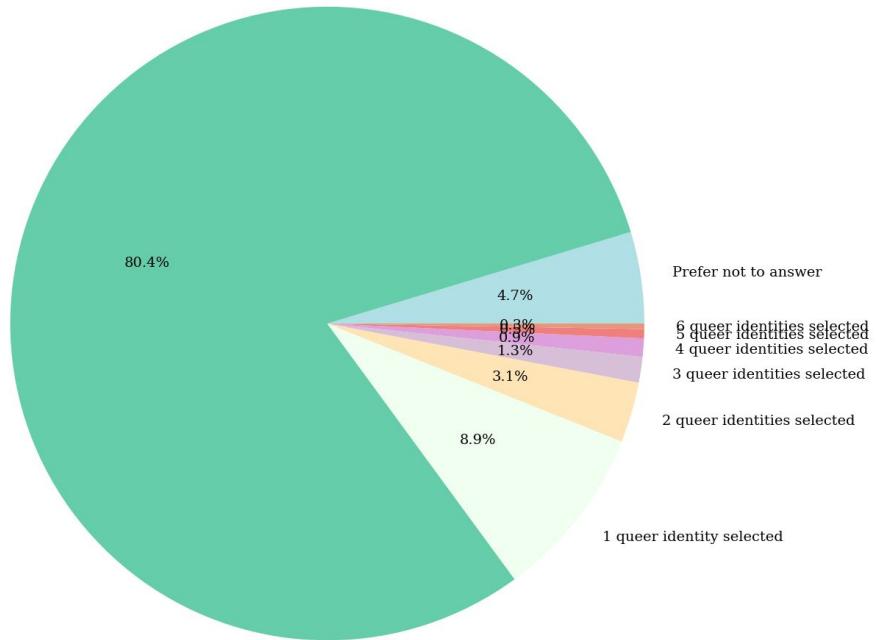


Q24 contains (N = 1344)



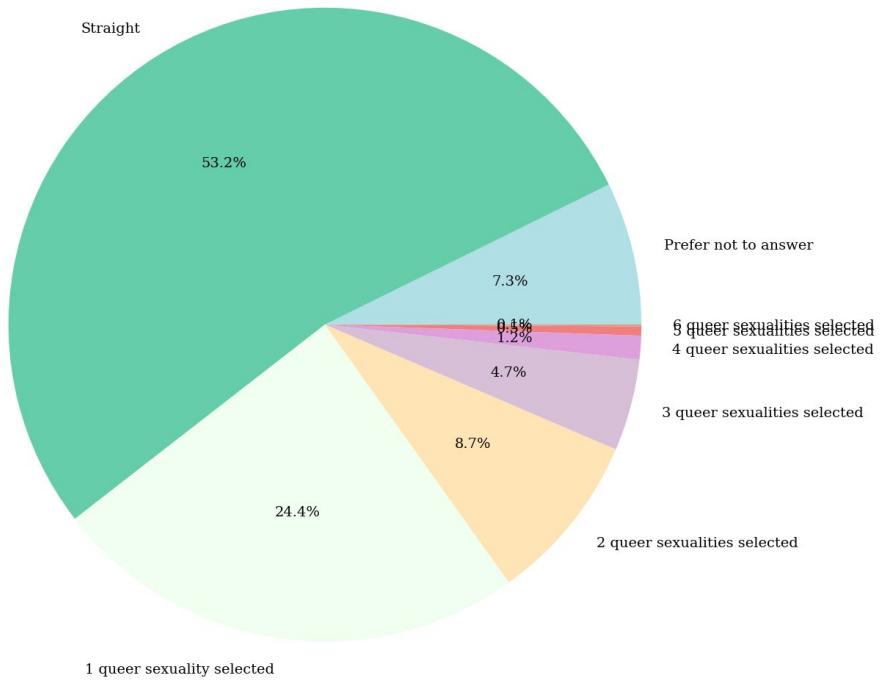
“==”-style plot for gender & sexuality

Cisgender



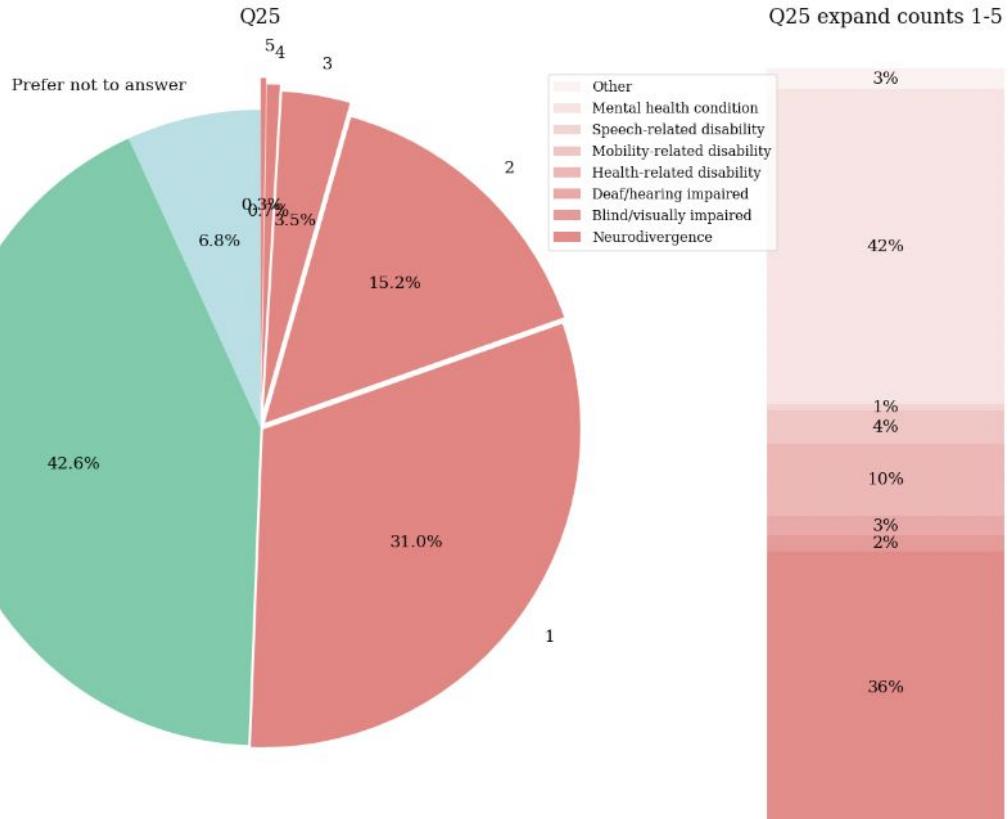
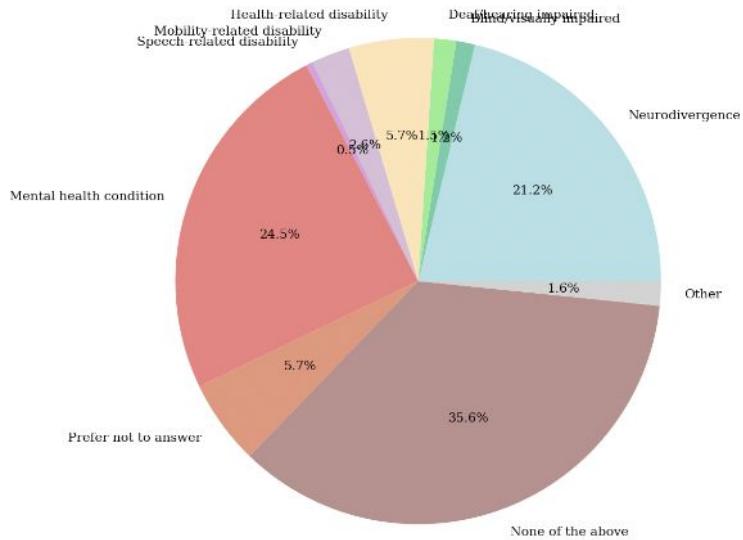
Q24 number of identities (N = 1071)

Straight



Disability Status

Q25 contains (N = 1290)

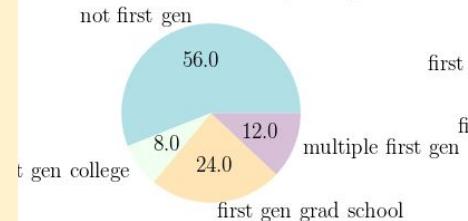


Possible groupings - show a bar for each:

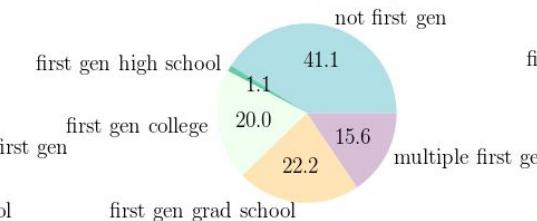
- Professor = professor + associate + assistant (caveat about associate profs here)
- Undergrads + postdocs
- Civil servant + non-faculty research/staff ?? depends on the result
- Keep all others as they are

May also want to only split by first gen vs not first gen

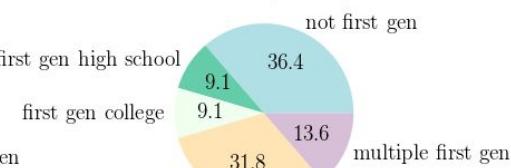
Associate professor (N=50)



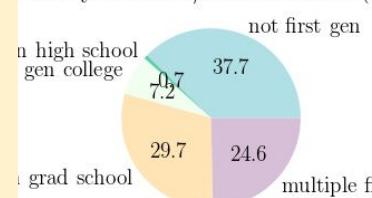
Professor (N=90)



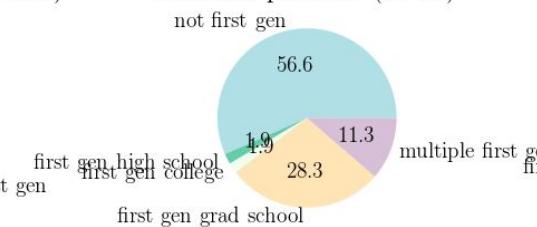
Retired (N=22)



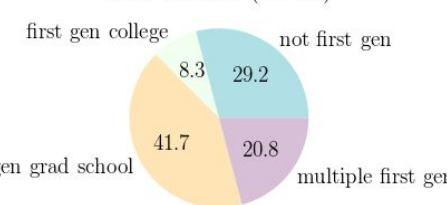
faculty research/staff scientist (N=138)



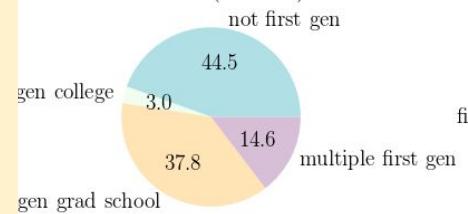
Assistant professor (N=53)



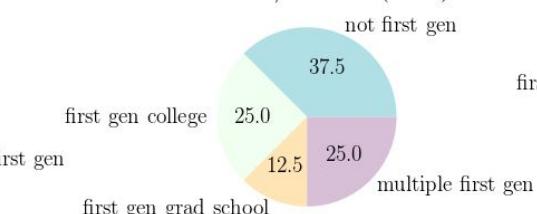
Civil servant (N=24)



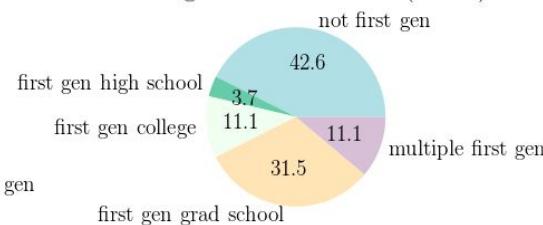
Postdoc (N=164)



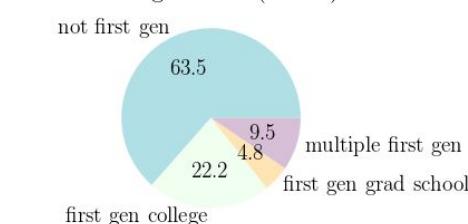
Instructor/lecturer (N=8)



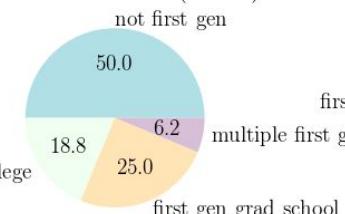
Working outside academia (N=54)



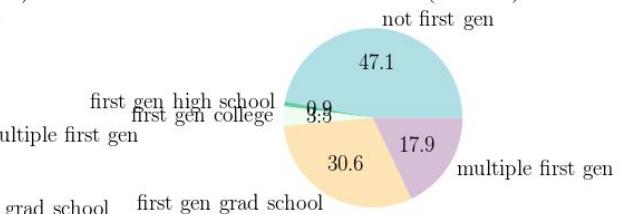
Undergraduate (N=63)

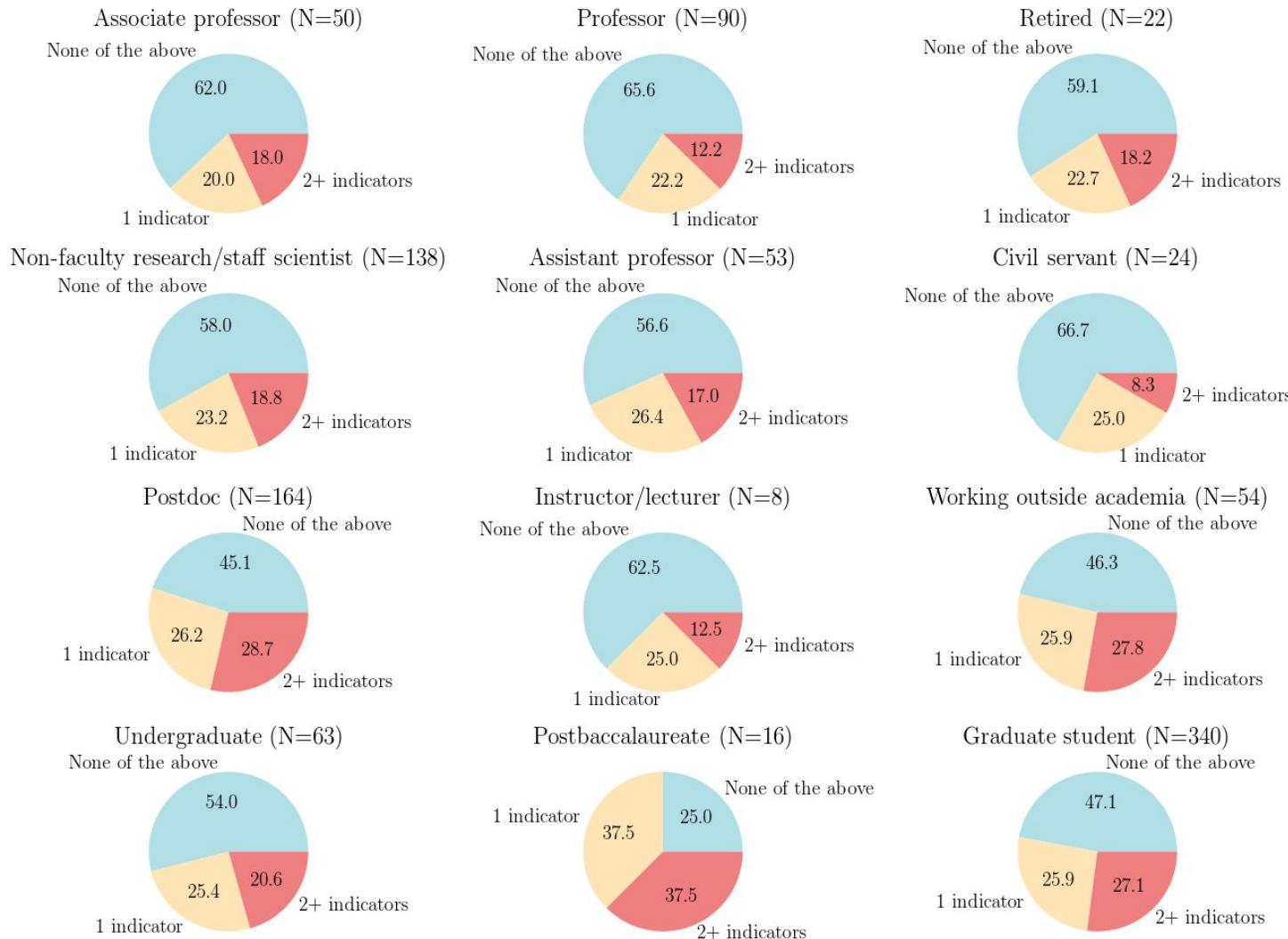


Postbaccalaureate (N=16)



Graduate student (N=340)





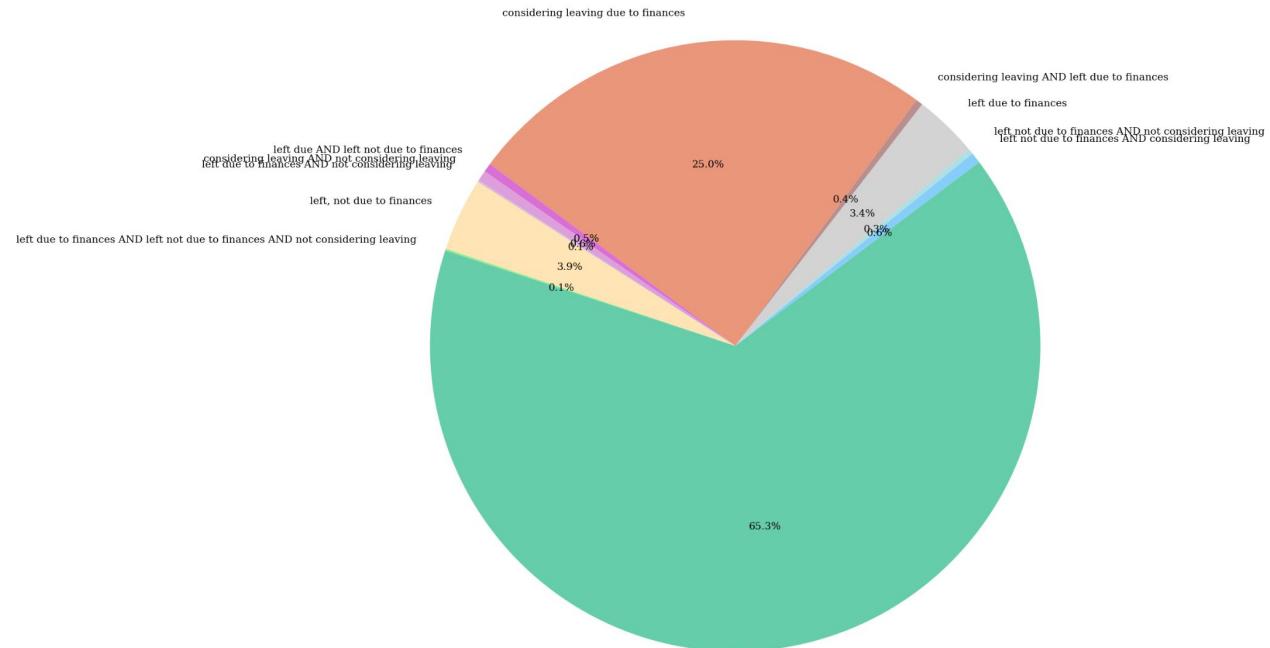
Q22 – Are you a non-traditional student vs Career stage

Finding:

Postdocs, students, and people working outside academia were more likely to identify as non-traditional students than faculty / later-career scientists were

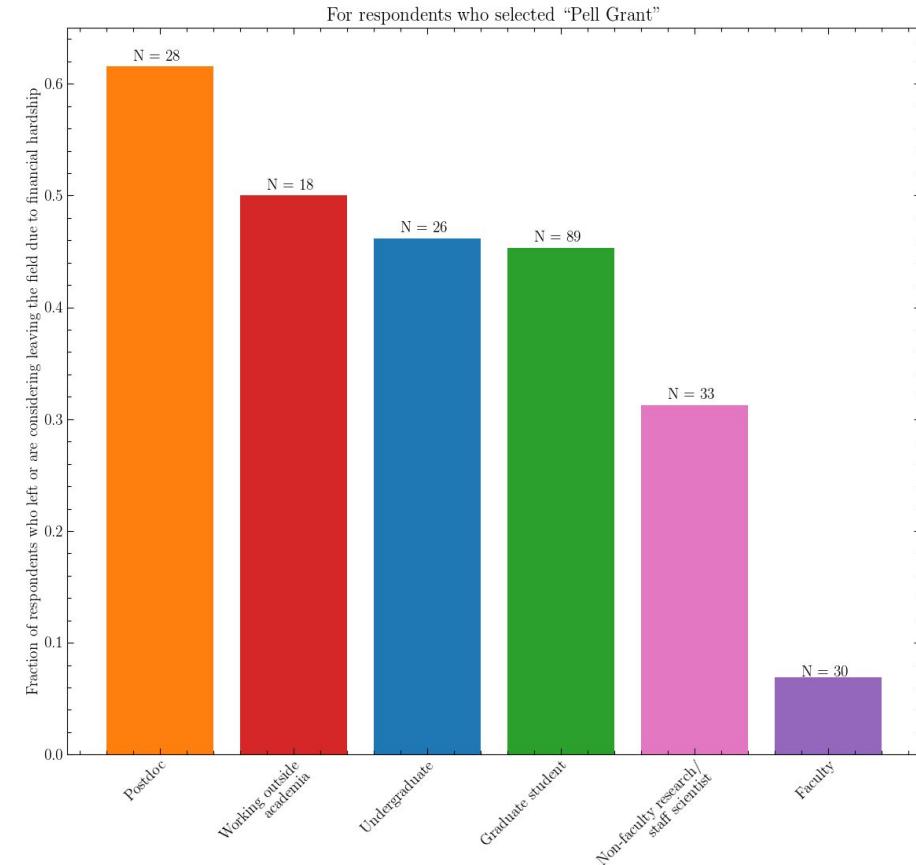
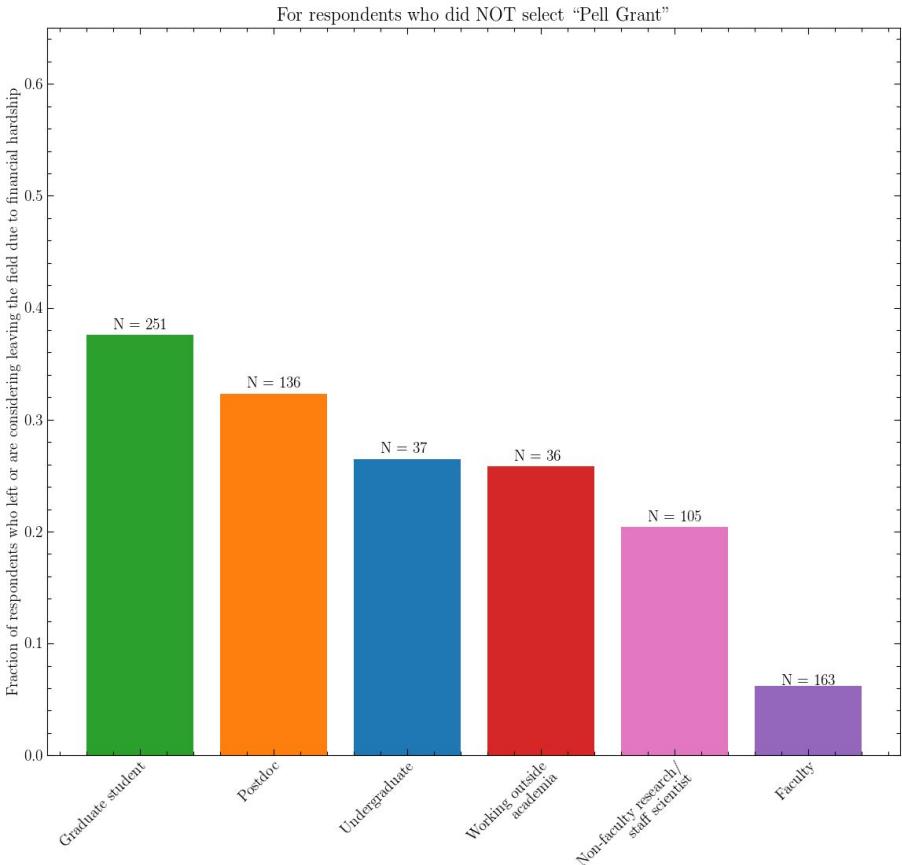
Result 2: left the field or considering leaving the field

Should instead verbally say ‘25% of respondents said they are considering leaving’

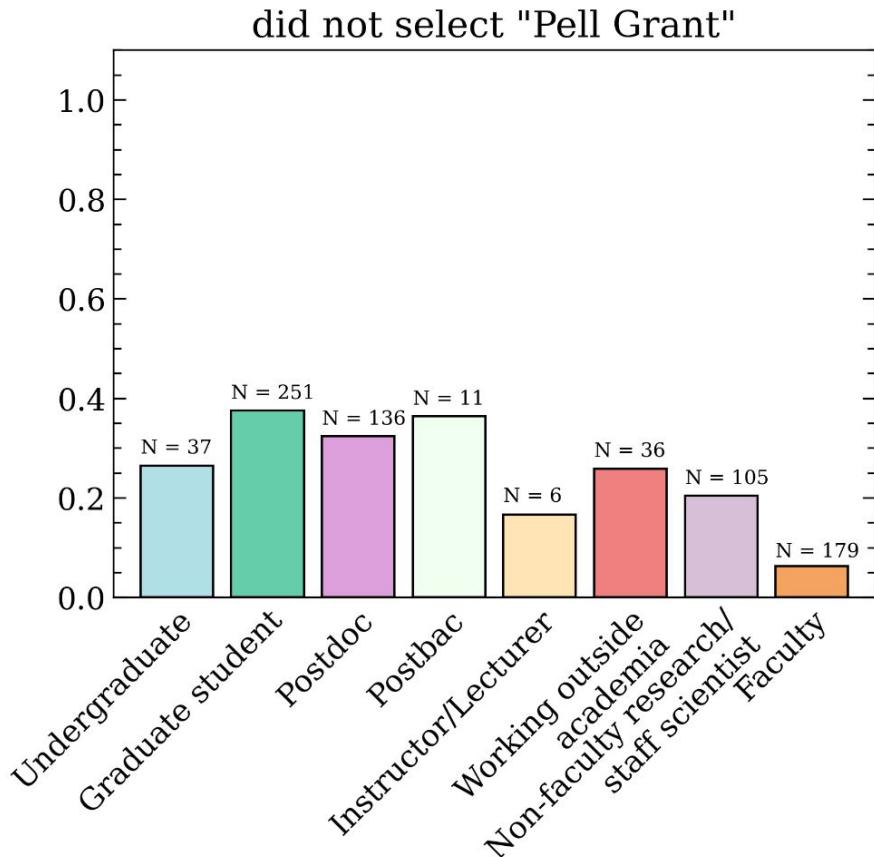
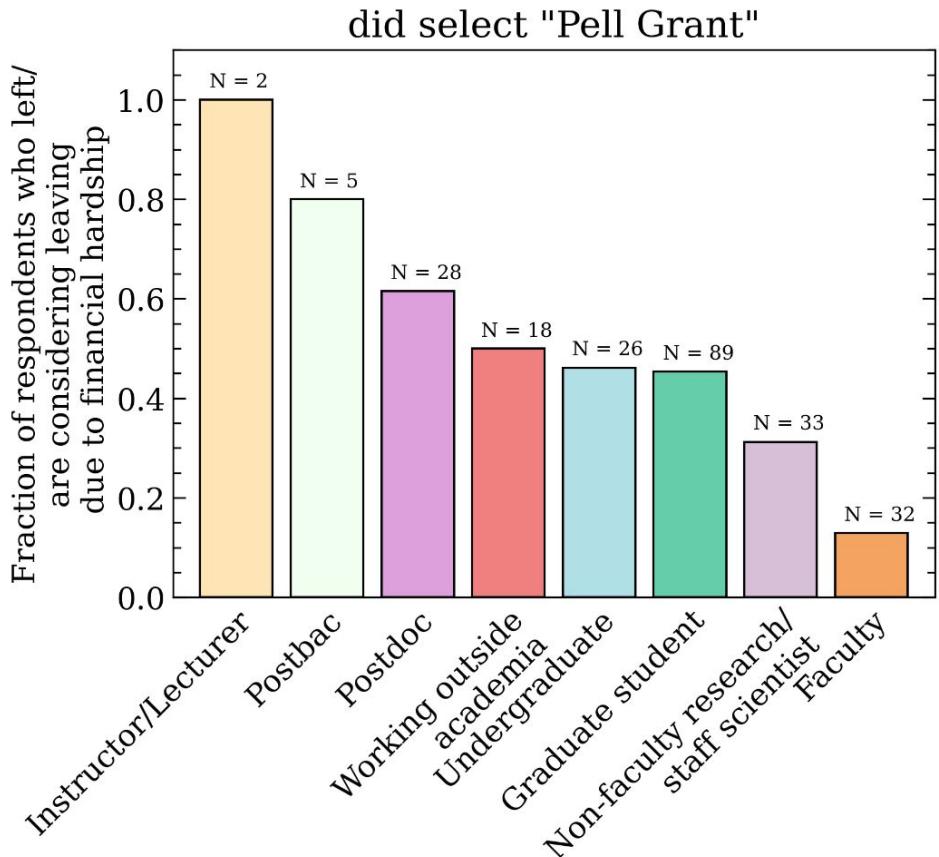


2a) career stage vs leaving the field:

Differences are more extreme here! **Everyone (except faculty)** who selected Pell Grants are more likely to have left or be considering leaving. Faculty alone keep about the same ratio of considering leaving regardless of whether they selected Pell Grant.

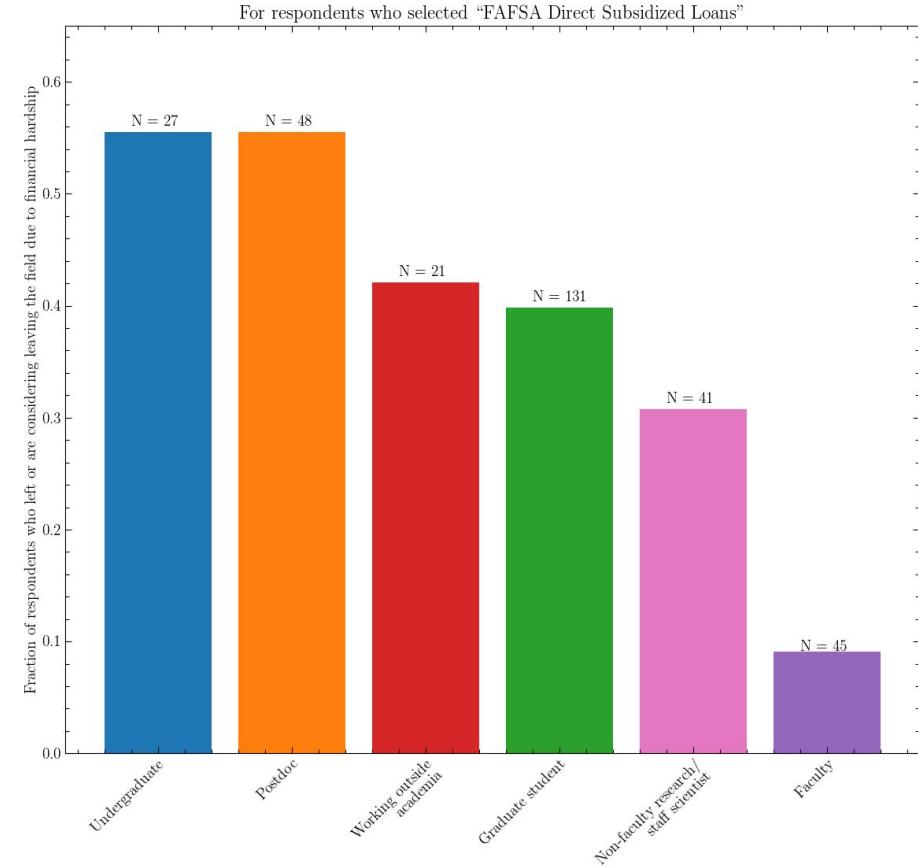
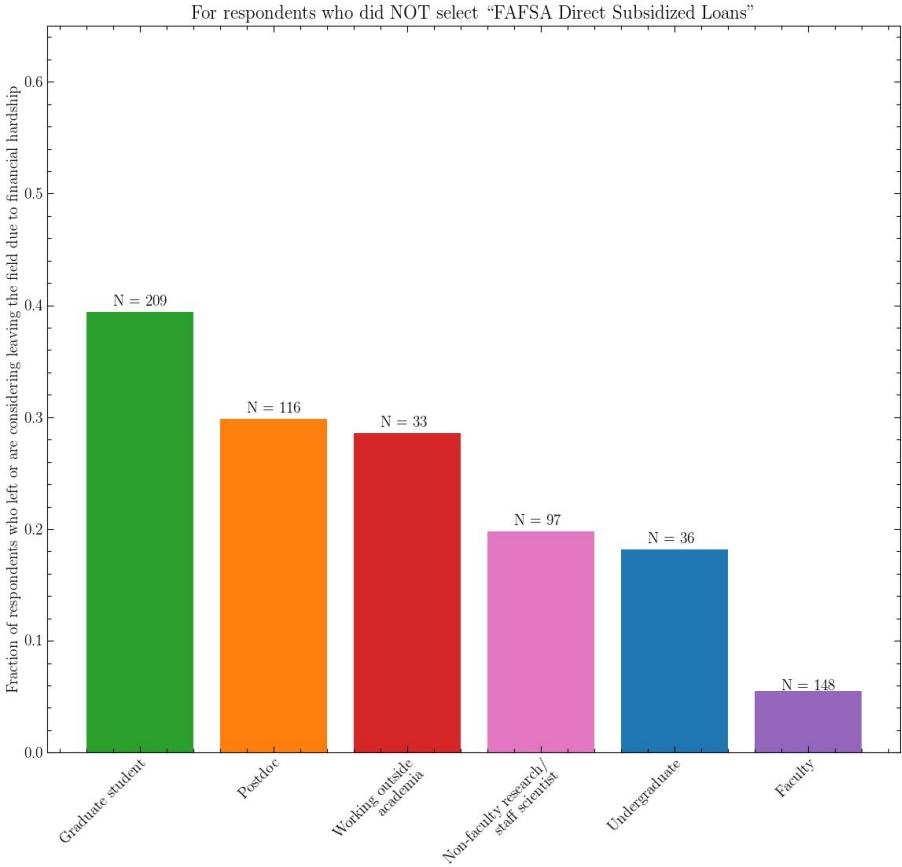


2a) career stage vs leaving the field: including small



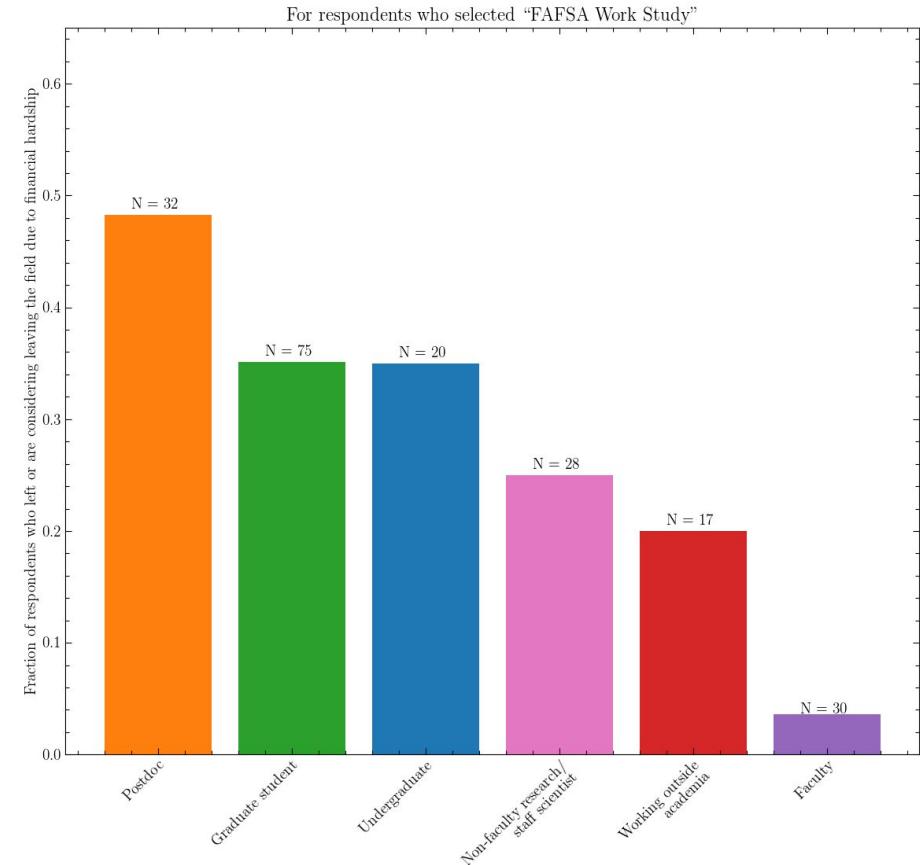
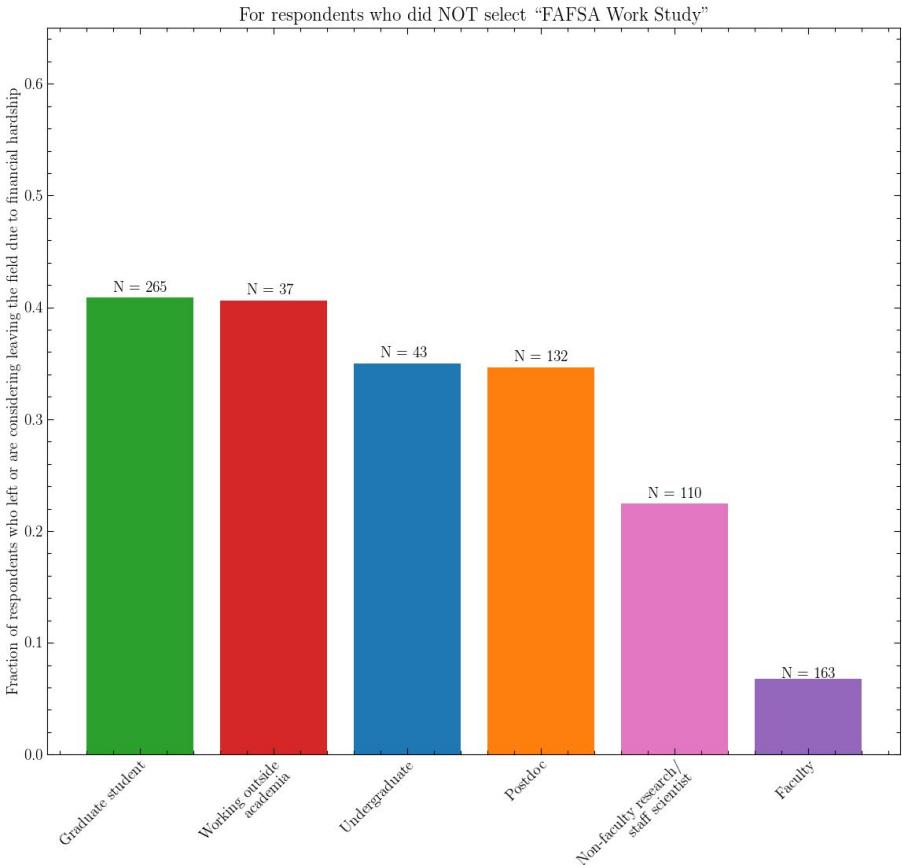
2b) career stage vs leaving the field:

Everyone (except grad students) who selected FAFSA Direct Subsidized Loans are more likely to have left or be considering leaving. Grad students keep about the same ratio of considering leaving regardless of whether they selected FAFSA Direct Subsidized Loans.



2c) career stage vs leaving the field:

Differences are less extreme here. Only **postdocs** who selected FAFSA Work Study seem to be significantly more likely to have left or be considering leaving.

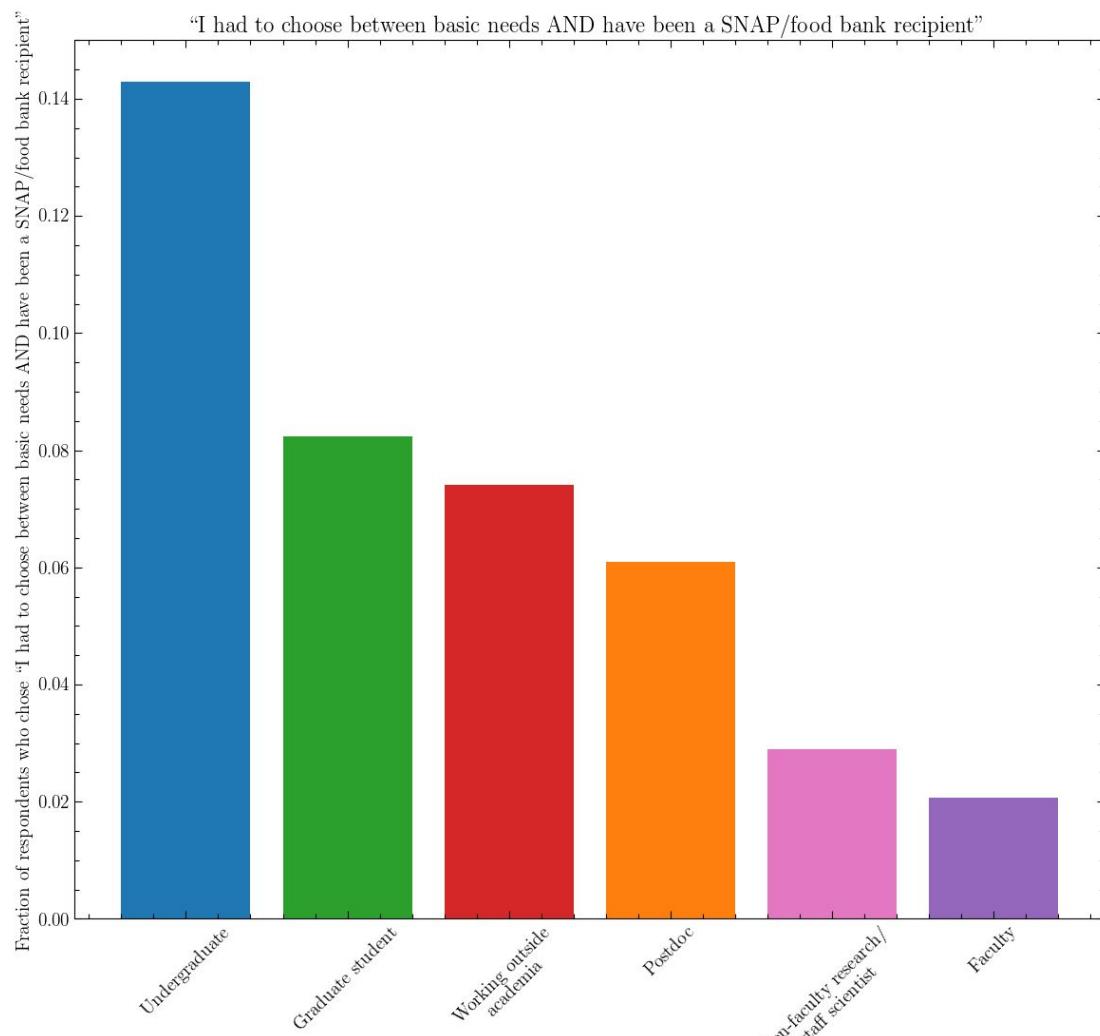


Result 3c+3d: choosing between basic needs AND SNAP/food bank recipient

Undergrads are by far the likeliest to select “**I have been a SNAP or food bank recipient**” AND **choose between basic needs**. People working outside academia are second likeliest. Faculty are the least likely.

Distillation notes:

Q3: combine assistant profs, associate profs, and profs into “faculty”. Not showing smaller N groups (post-baccs, instructors, civil servants, retired).



Jon – question 10 vs career stage

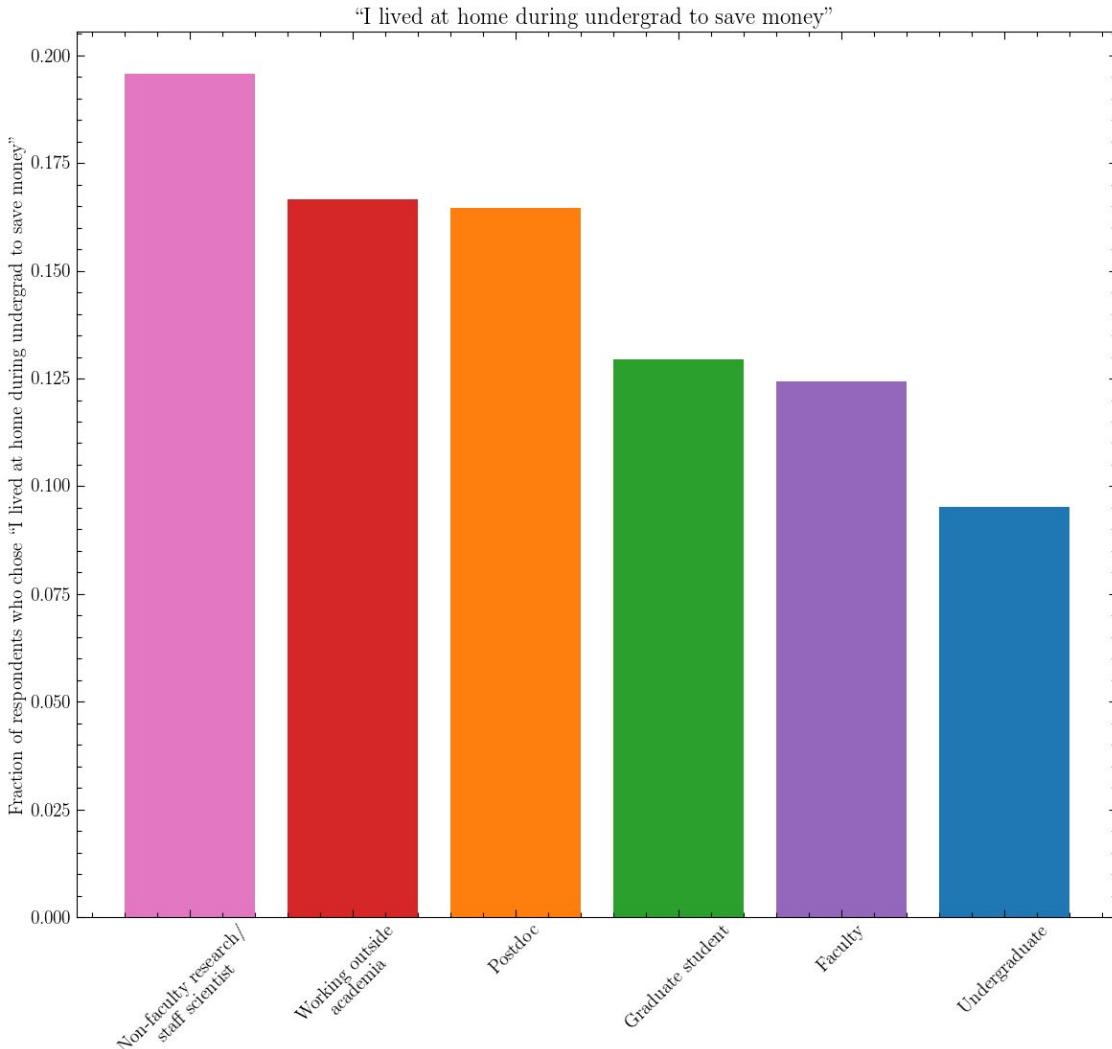
simplified bar plots:

Staff were likeliest to select “I lived at home during undergrad to save money”, followed by people working outside academia and postdocs. Current undergrads were the least likely.

MAYBE hold back on deep discussion of this indicator

Distillation notes:

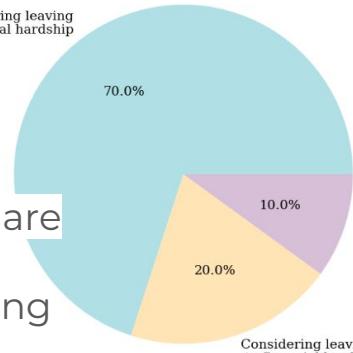
Q3: combine assistant profs, associate profs, and profs into “faculty”. Not showing smaller N groups (post-baccs, instructors, civil servants, retired).



first-gen people are
more likely to be
considering leaving
the field due to
financial hardship

First-gen high school, N=10

Not considering leaving
due to financial hardship



First-gen undergrad, N=79

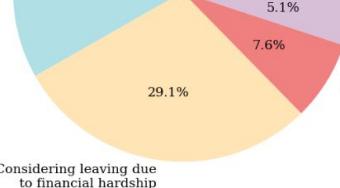
Not considering leaving
due to financial hardship

58.2%

29.1%

7.6%

Left, but not due
to financial hardship
Left due to
financial hardship



First-gen grad, N=296

Not considering leaving
due to financial hardship

60.8%

30.1%

Considering leaving due
to financial hardship
Left due to
financial hardship

Left, but not due
to financial hardship

Not first-gen, N=457

Not considering leaving
due to financial hardship

71.6%

21.2%

Considering leaving due
to financial hardship

Left due to
financial hardship
Left, but not due
to financial hardship

Multiple first-gen IDs, N=164

Not considering leaving
due to financial hardship

61.0%

Considering leaving due
to financial hardship
Left due to
financial hardship
Left, but not due
to financial hardship

Any first-gen ID, N=549

Not considering leaving
due to financial hardship

60.7%

Considering leaving due
to financial hardship

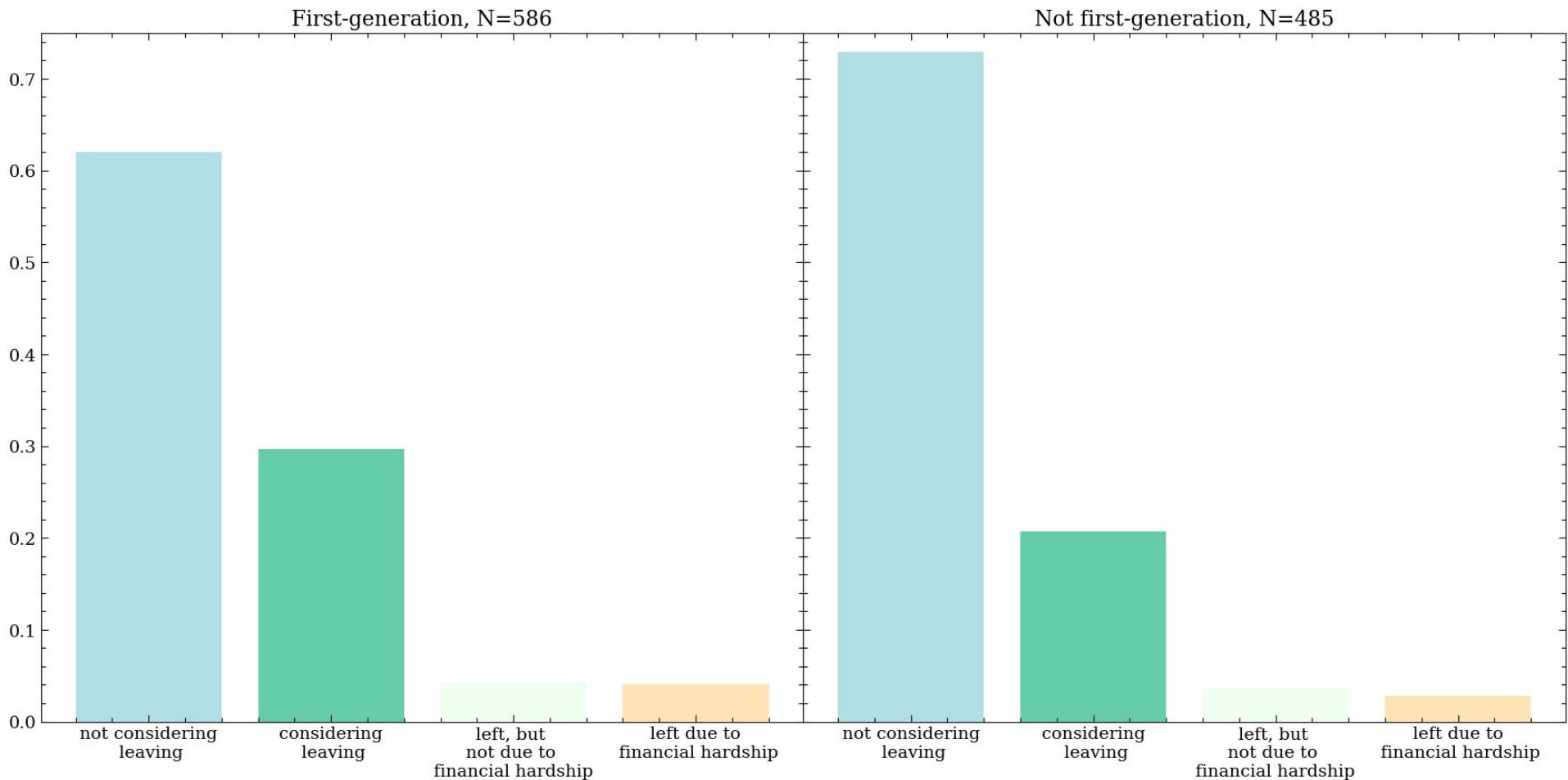
Left, but not due
to financial hardship
Left due to
financial hardship

4.9%

4.2%

30.2%

first-gen people are more likely to be considering leaving the field due to financial hardship



(Jonathan)

ethnicity/race & first-generation vs leaving the field

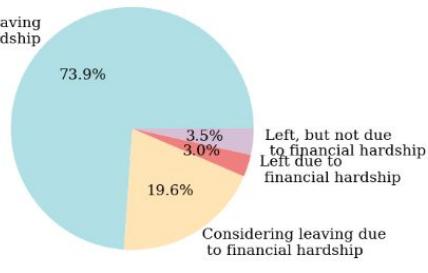
part 1

Result: first gen people of all races/ethnicities are more likely to be considering leaving the field than non-first-gen respondents

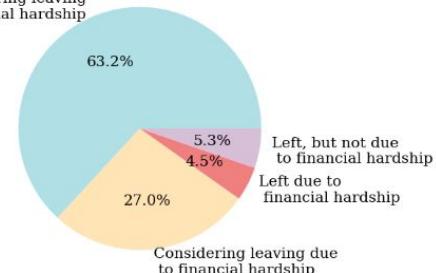
Also: white respondents are less likely to be considering leaving the field than respondents of all other races / ethnicities*

*This is not true for non-1st-gen Hispanic / Latine respondents, but small N statistics

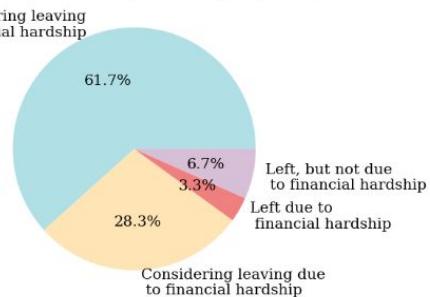
white, no first gen (N=372)



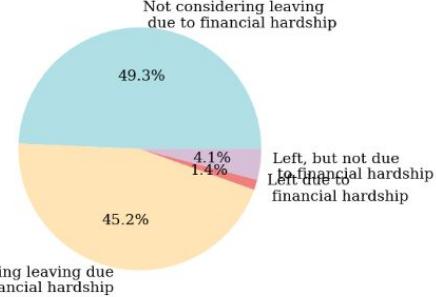
white, 1+ first gen (N=418)



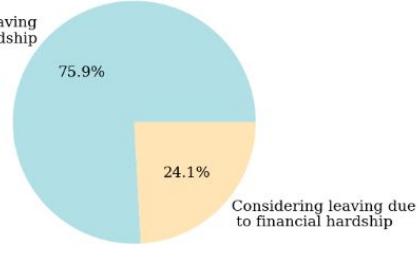
Asian/Pacific islander, no first gen (N=60)



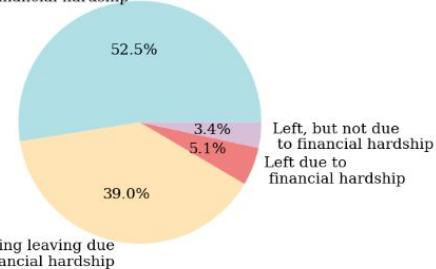
Asian/Pacific islander, 1+ first gen (N=73)



Hispanic/Latine, no first gen (N=29)



Hispanic/Latine, 1+ first gen (N=59)



(Jonathan)

ethnicity/race & first-generation vs leaving the field

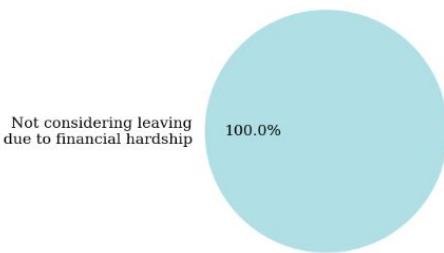
part 1

Result: first gen people of all races/ethnicities** are more likely to be considering leaving the field than non-first-gen respondents

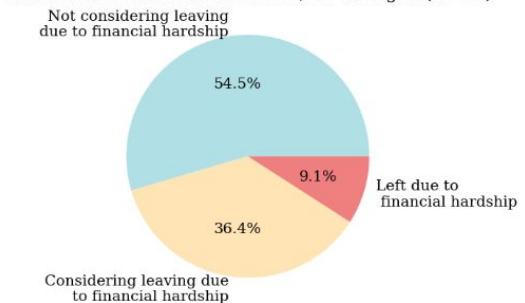
Also: white respondents are less likely to be considering leaving the field than respondents of all other races / ethnicities

**This is not true for Black respondents, but very small number statistics

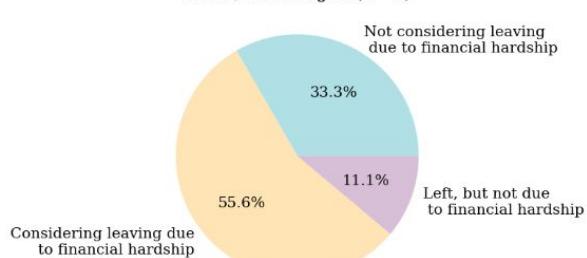
Native American/Alaskan Native, no first gen (N=3)



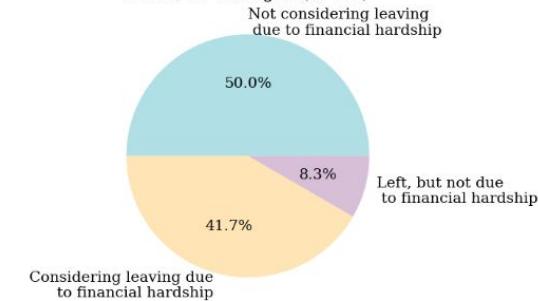
Native American/Alaskan Native, 1+ first gen (N=11)



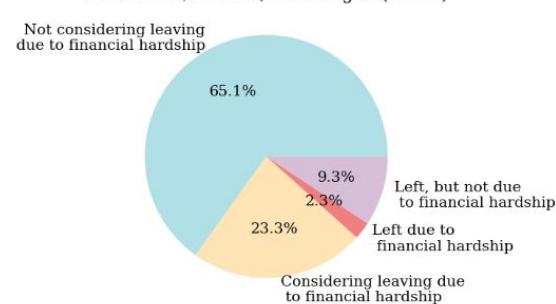
Black, no first gen (N=9)



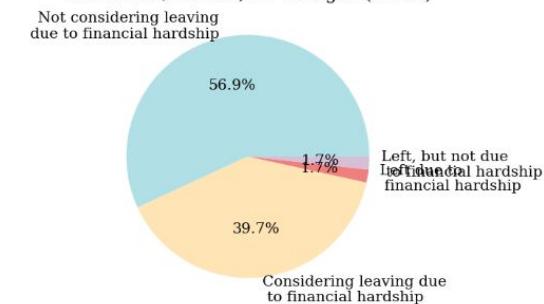
Black, 1+ first gen (N=24)



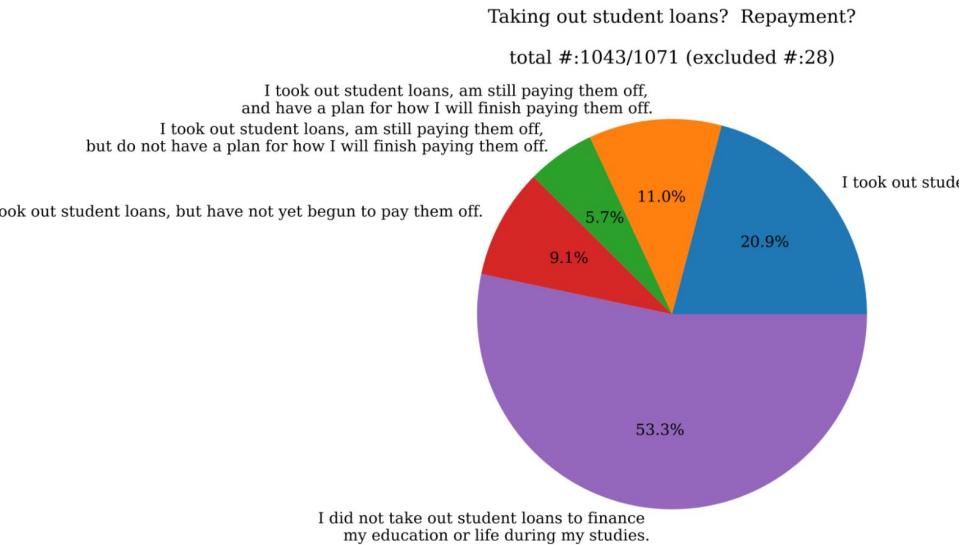
Multiracial/Biracial, no first gen (N=43)



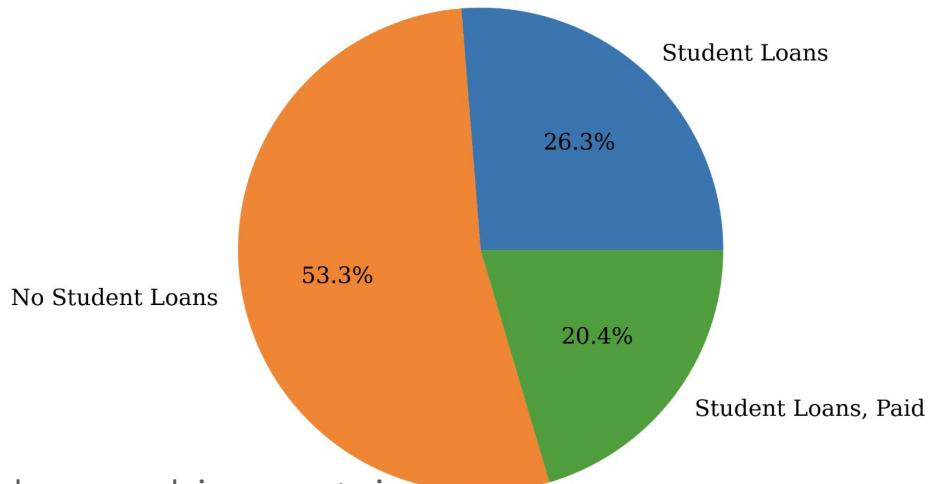
Multiracial/Biracial, 1+ first gen (N=58)



Result 3a: Student loans status



Taking out student loans? Repayment?
total respondents included: 1043/1071

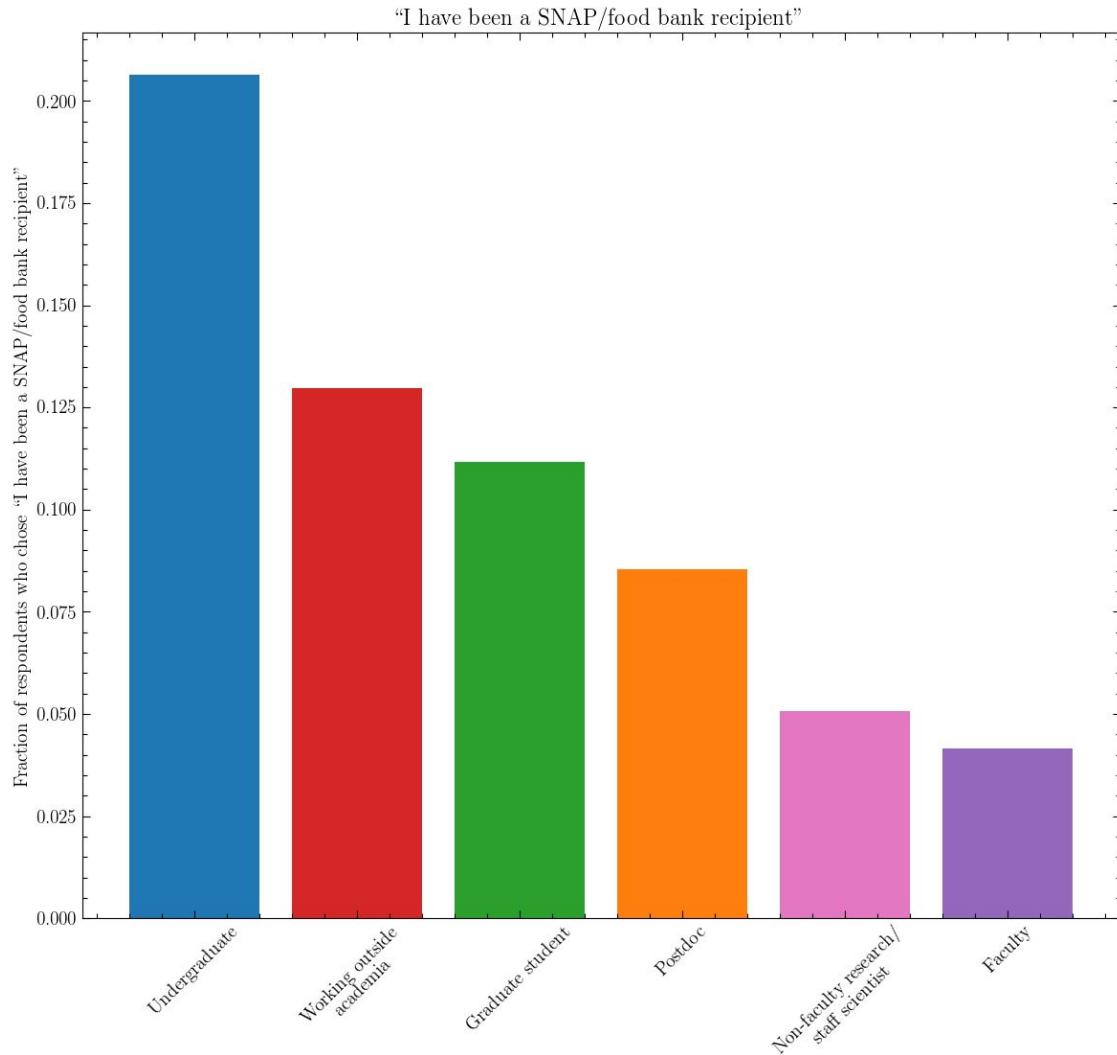


while the individual responses can be useful when probing certain questions, for correlating with other questions, **it's easier to condense these into fewer categories**

in this case, the answer choices in this question could be condensed into these three categories.

Result 3d: SNAP/food bank recipient

Undergrads are by far the likeliest to select “**I have been a SNAP or food bank recipient**”. People working outside academia are second likeliest. Faculty are the least likely.



Distillation notes:

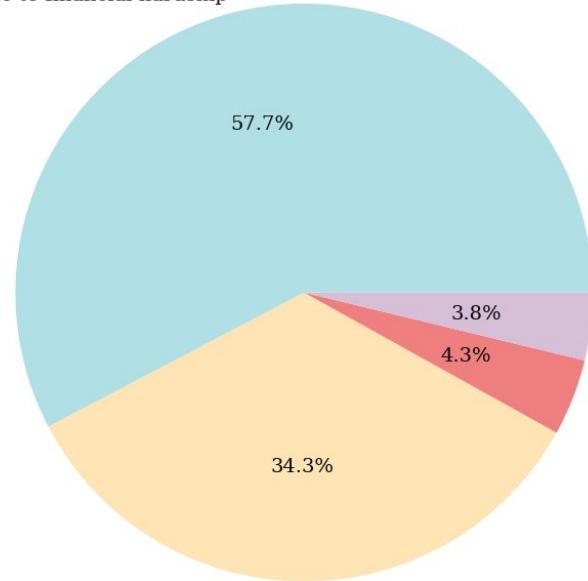
Q3: combine assistant profs, associate profs, and profs into “faculty”. Not showing smaller N groups (post-baccs, instructors, civil servants, retired).

LGBTQ+ people are more likely to be considering leaving the field due to financial hardship

(Jonathan)

LGBTQIA+, N=397

Not considering leaving
due to financial hardship

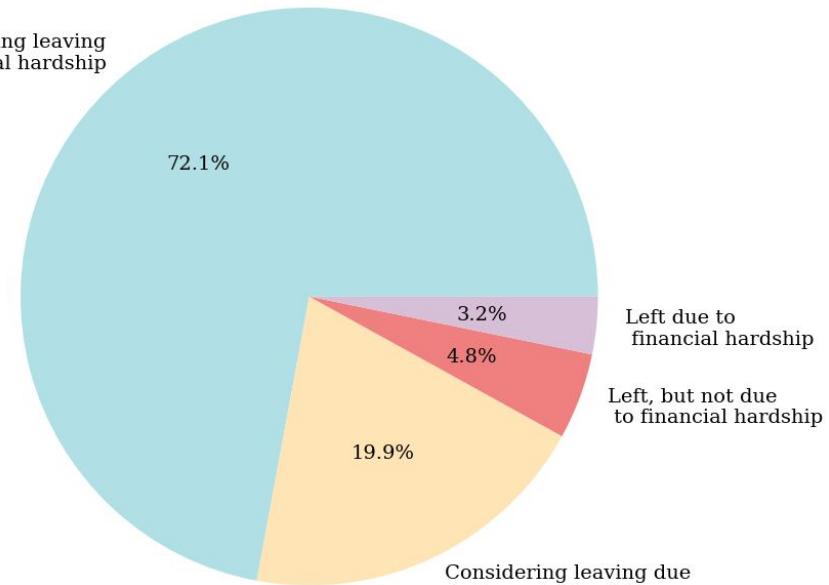


Cishet, N=498

Not considering leaving
due to financial hardship

Left, but not due
to financial hardship

Left due to
financial hardship



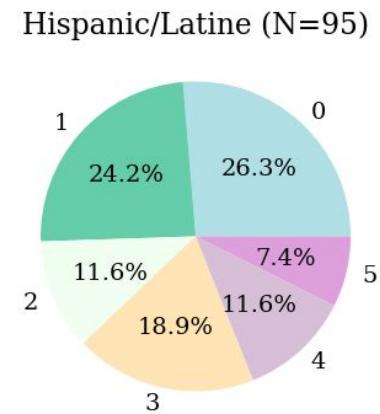
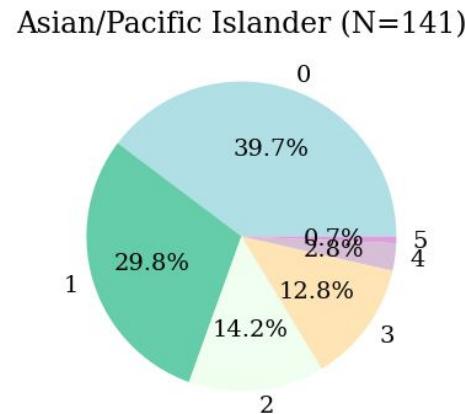
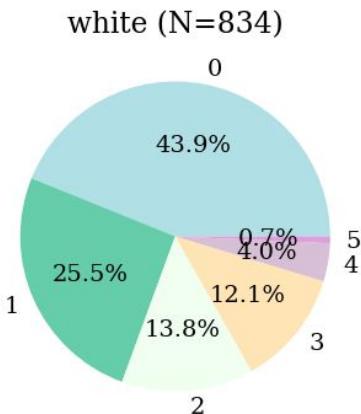
NOTE: as shown later, LGBTQ+ responses correlate strongly with time since highest degree (which, with career stage, is our only direct age indicator)

Q10 (number of indicators of financial hardship) **correlates strongly** with Q26 (race / ethnicity)

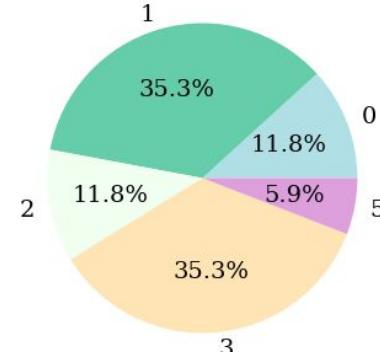
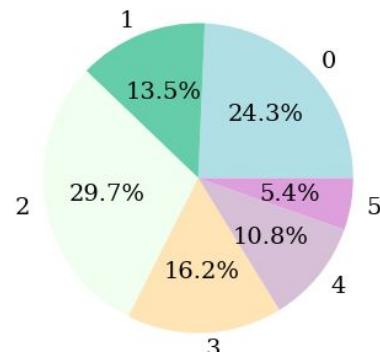
This slide uses the “contains” version of race/ethnicity (see [here](#)). The multi/bi-racial category includes people who selected “Biracial or Multiracial”, as well as anyone who selected 2+ existing options.

(Jonathan)

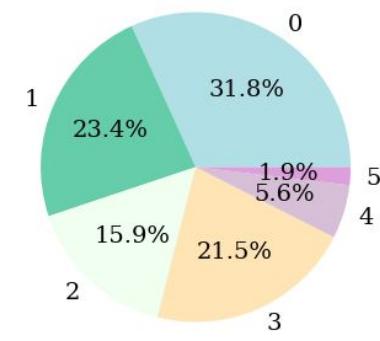
Number of indicators of financial hardship (Q10) vs race/ethnicity (Q26)



Black/African American (N=37) Native American/Alaskan Native (N=17)

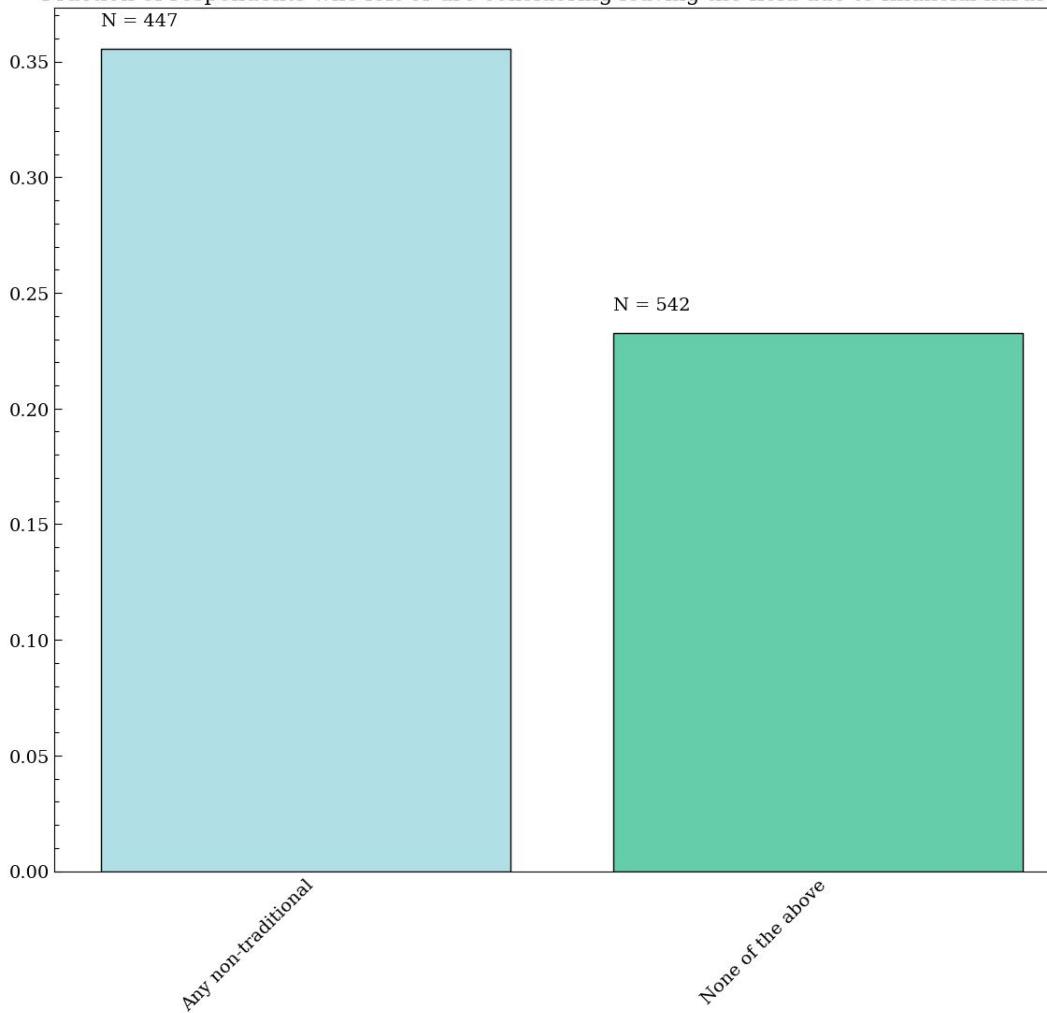


multi/biracial (N=107)

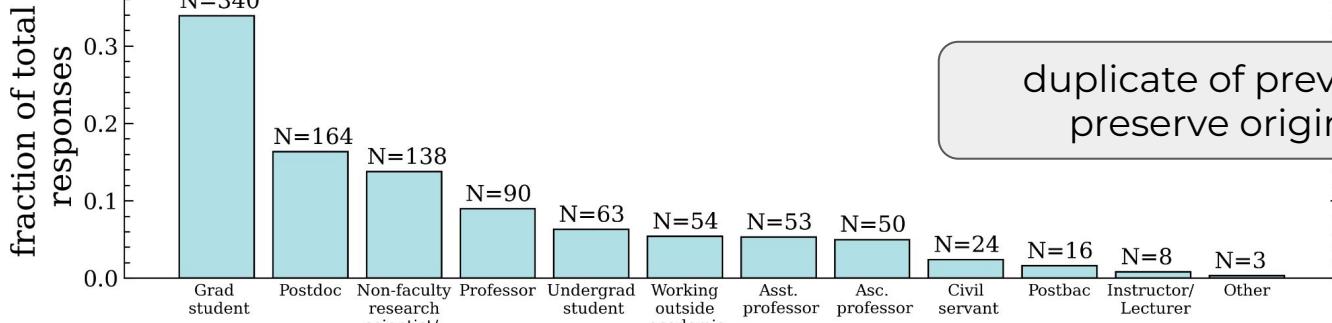


extra backup – things we looked at
while reviewing final slides

Fraction of respondents who left or are considering leaving the field due to financial hardship

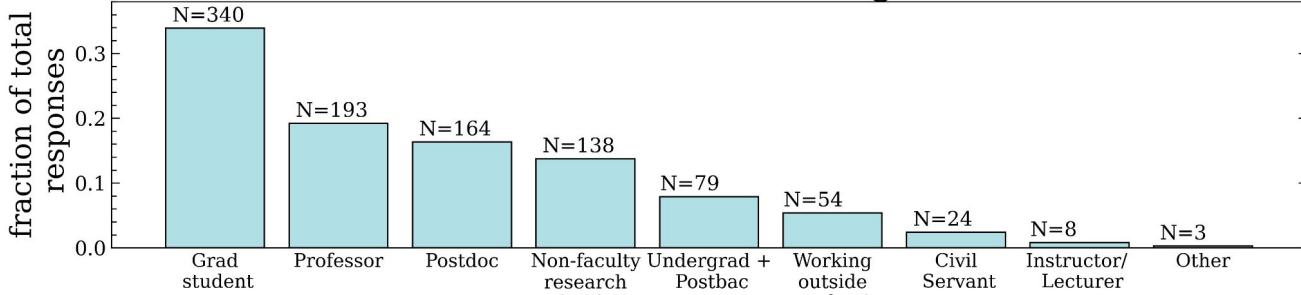


current career stage



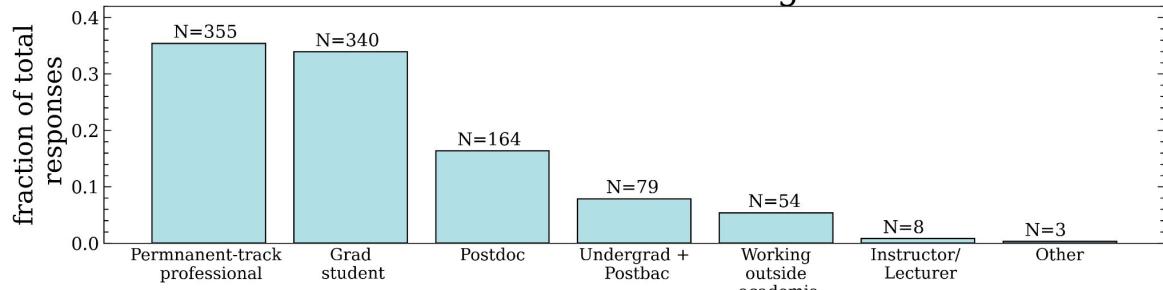
duplicate of previous slide, to preserve original figures

current career stage



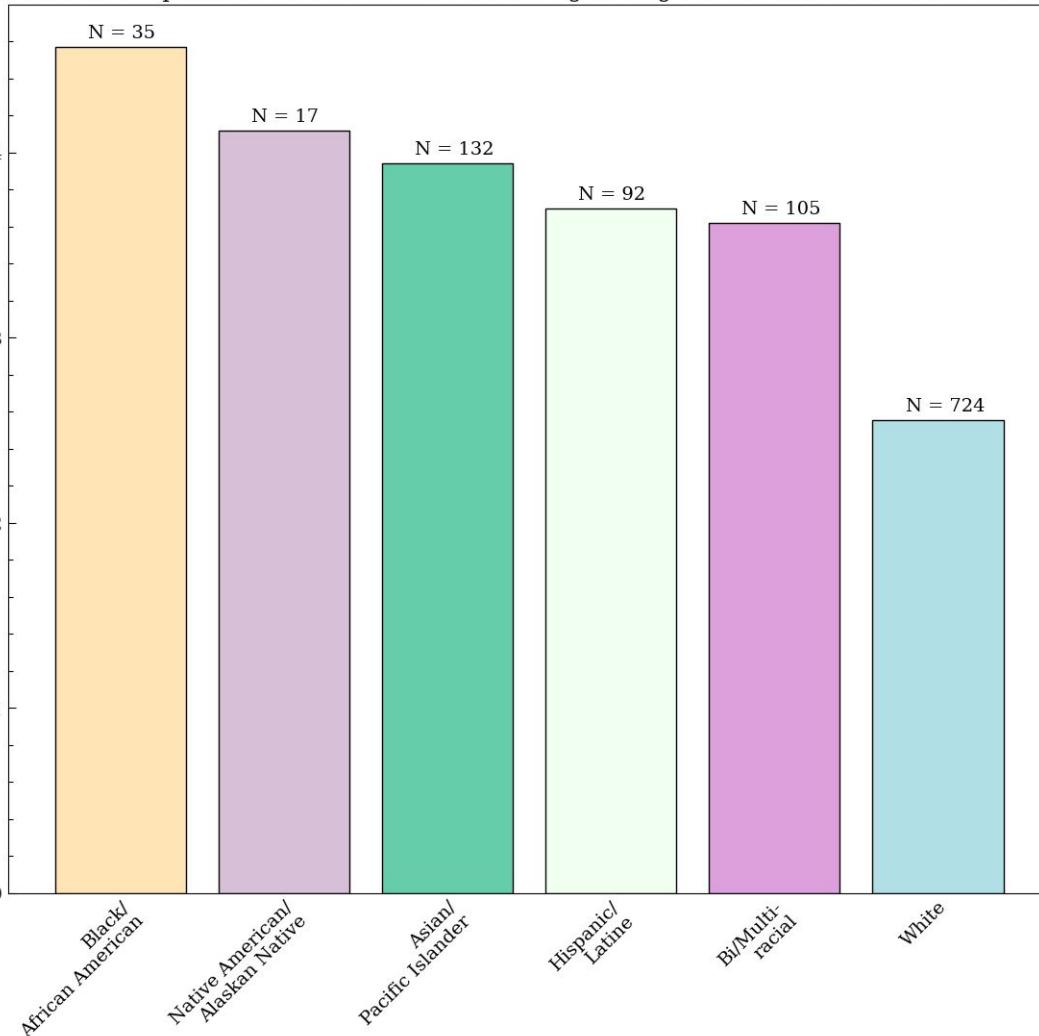
Professor =
professor + asst
professor + asc
professor

current career stage



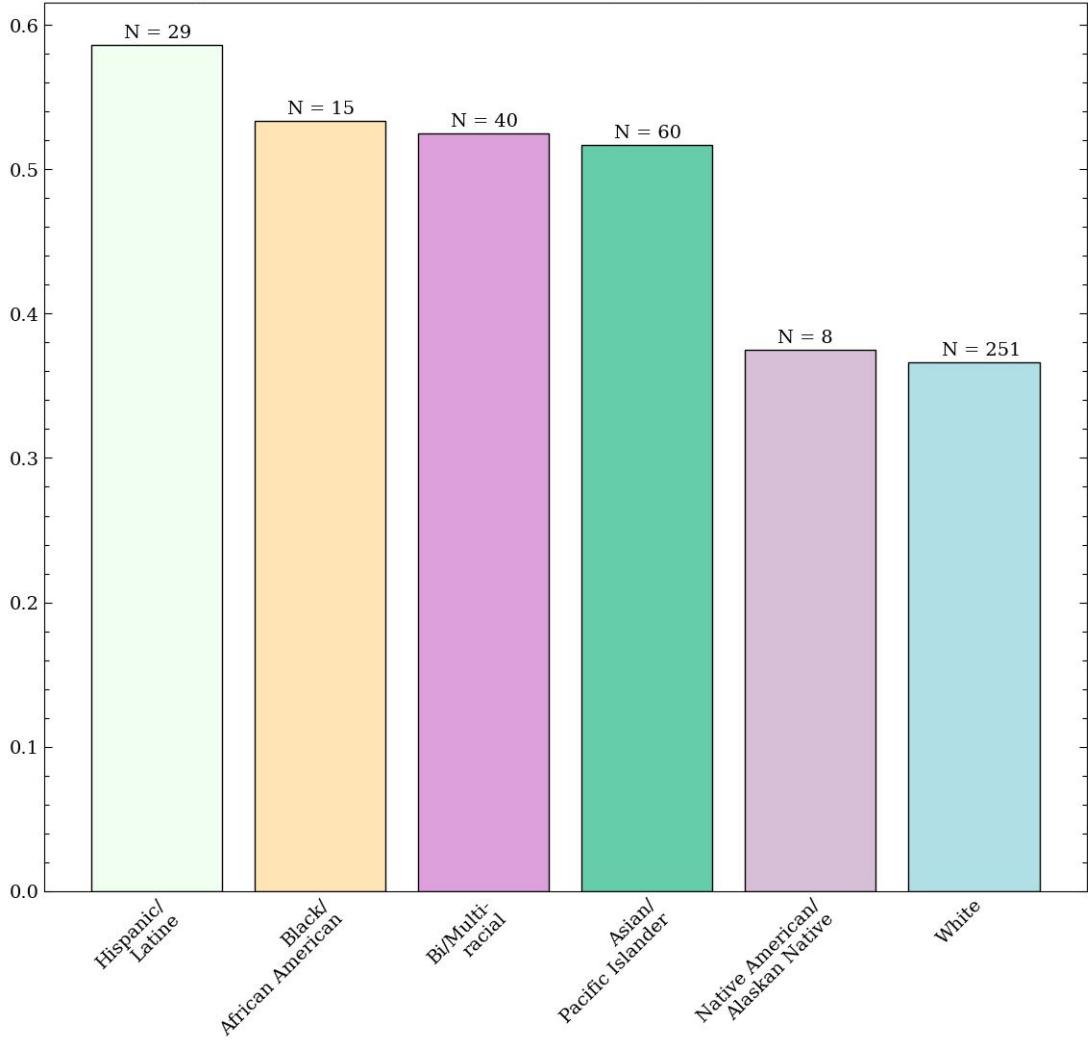
Permanent-track =
professors + civil
servants +
research staff

Fraction of respondents who left or are considering leaving the field due to financial hardship



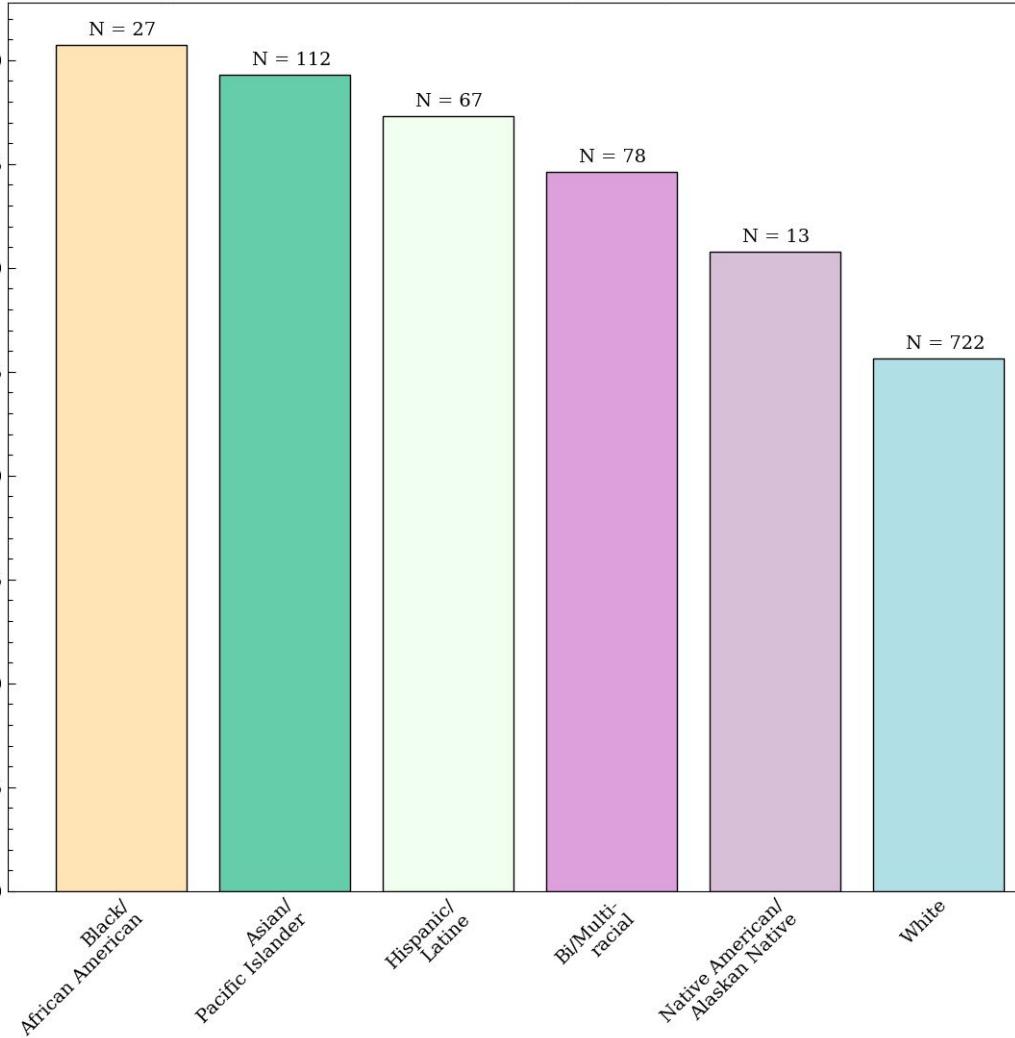
Same as above,
white==, rest
contains

Fraction of respondents who left or are considering leaving the field due to financial hardship



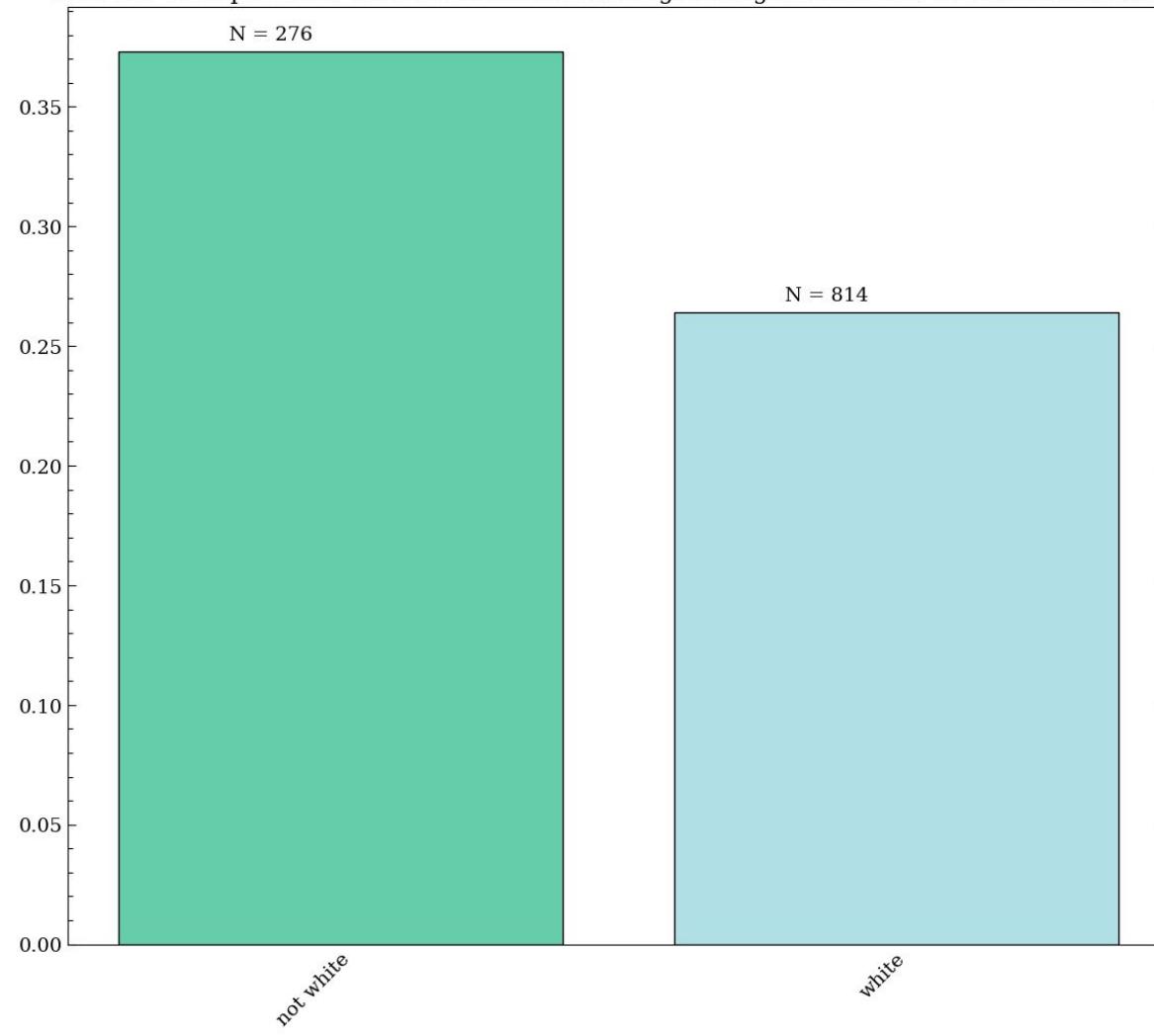
Same as above, grad
students only

Fraction of respondents who left or are considering leaving the field due to financial hardship



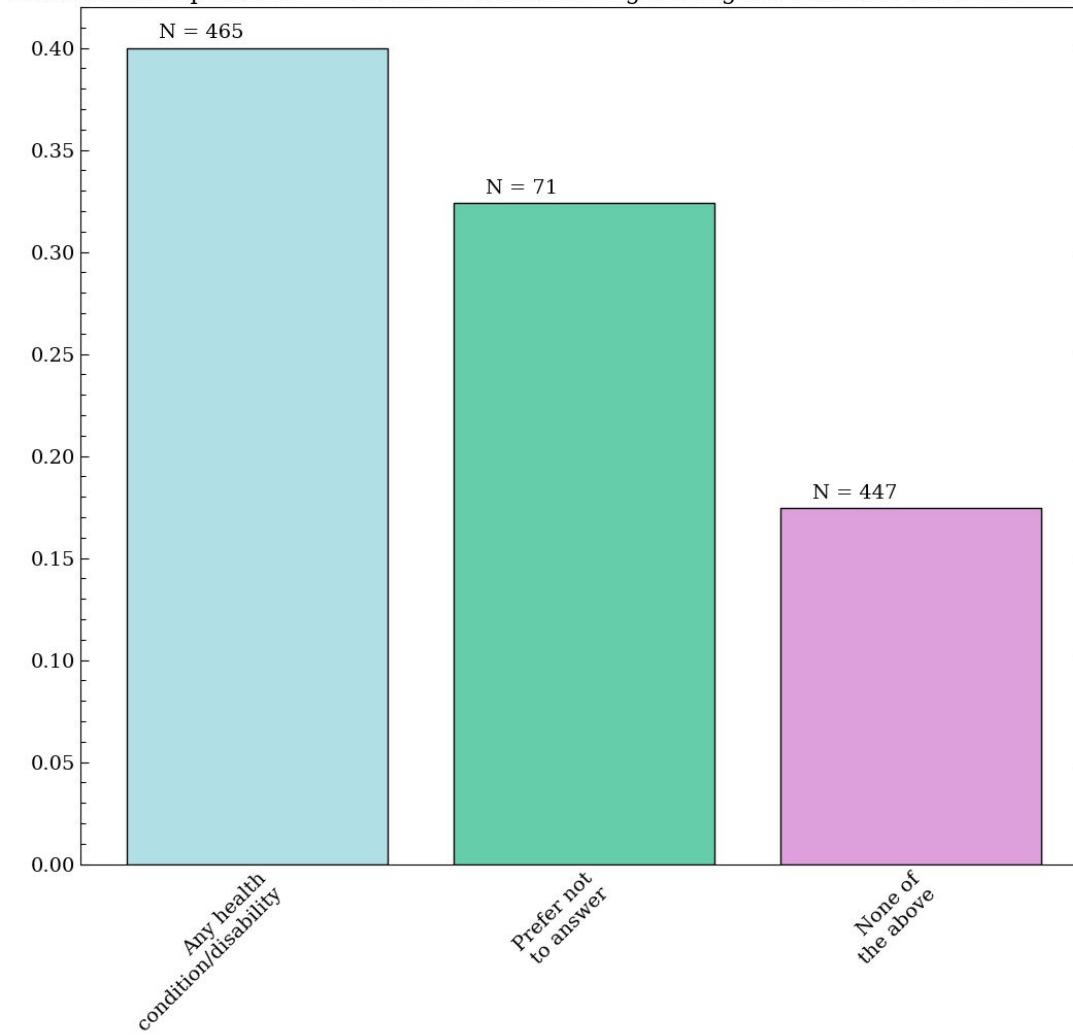
Same as above, grad
and people w/PhD
only

Fraction of respondents who left or are considering leaving the field due to financial hardship



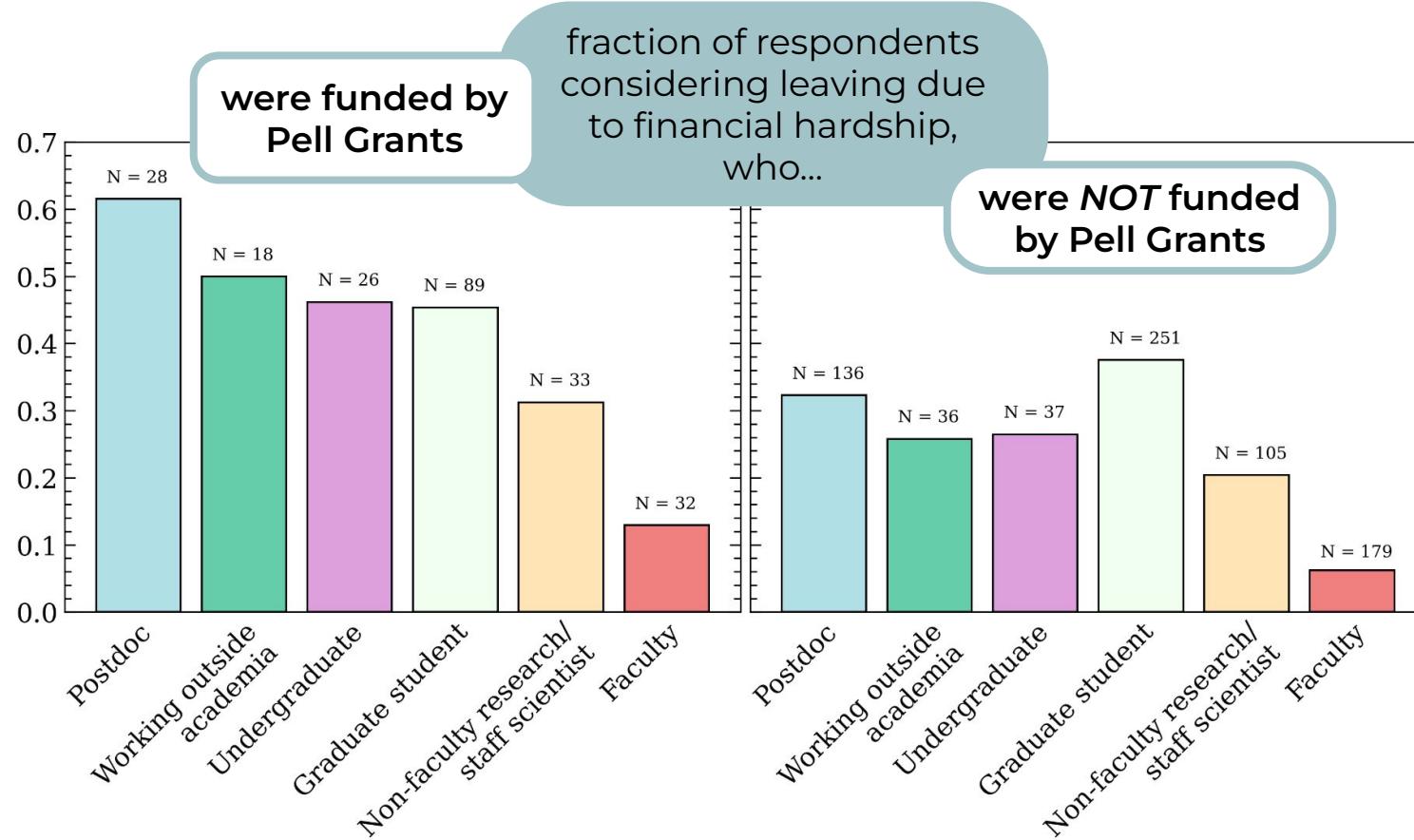
Same as above,
white vs not
white

Fraction of respondents who left or are considering leaving the field due to financial hardship



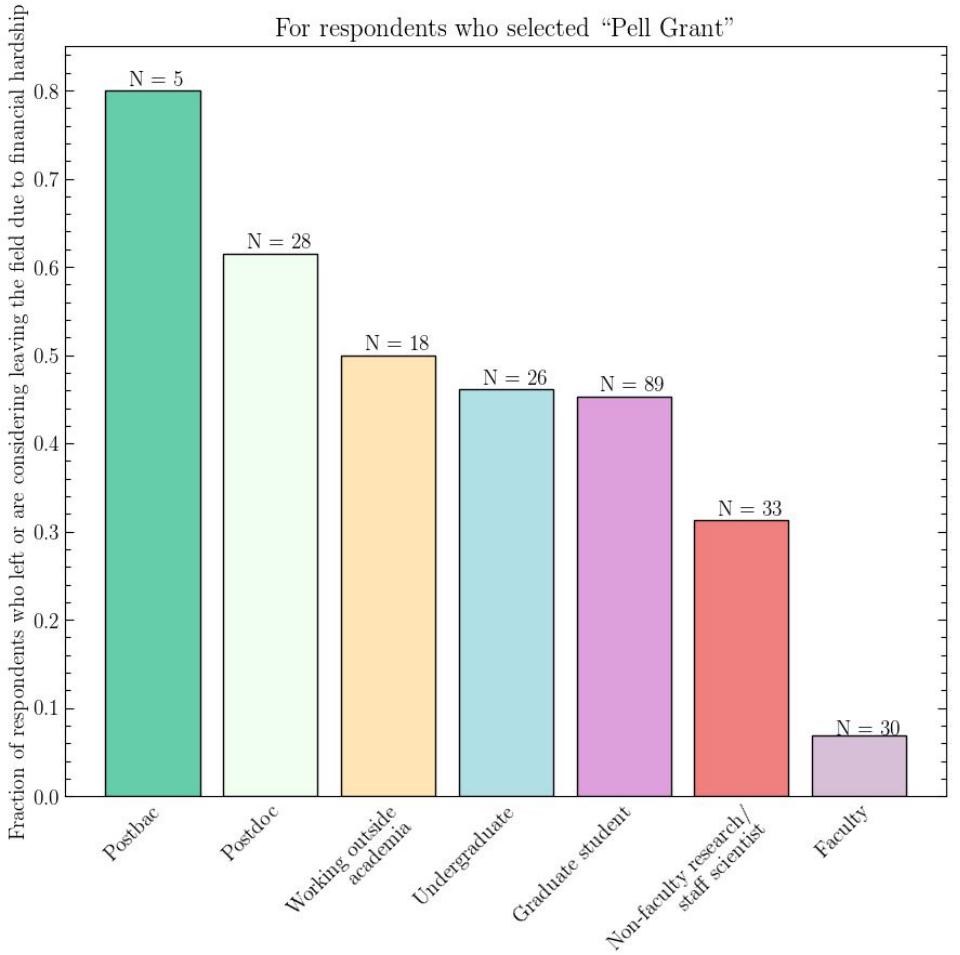
Same as above,
any health
condition or
disability vs none
vs prefer not to
answer

R#1 probing financial hardship (using Pell Grants as an indicator)

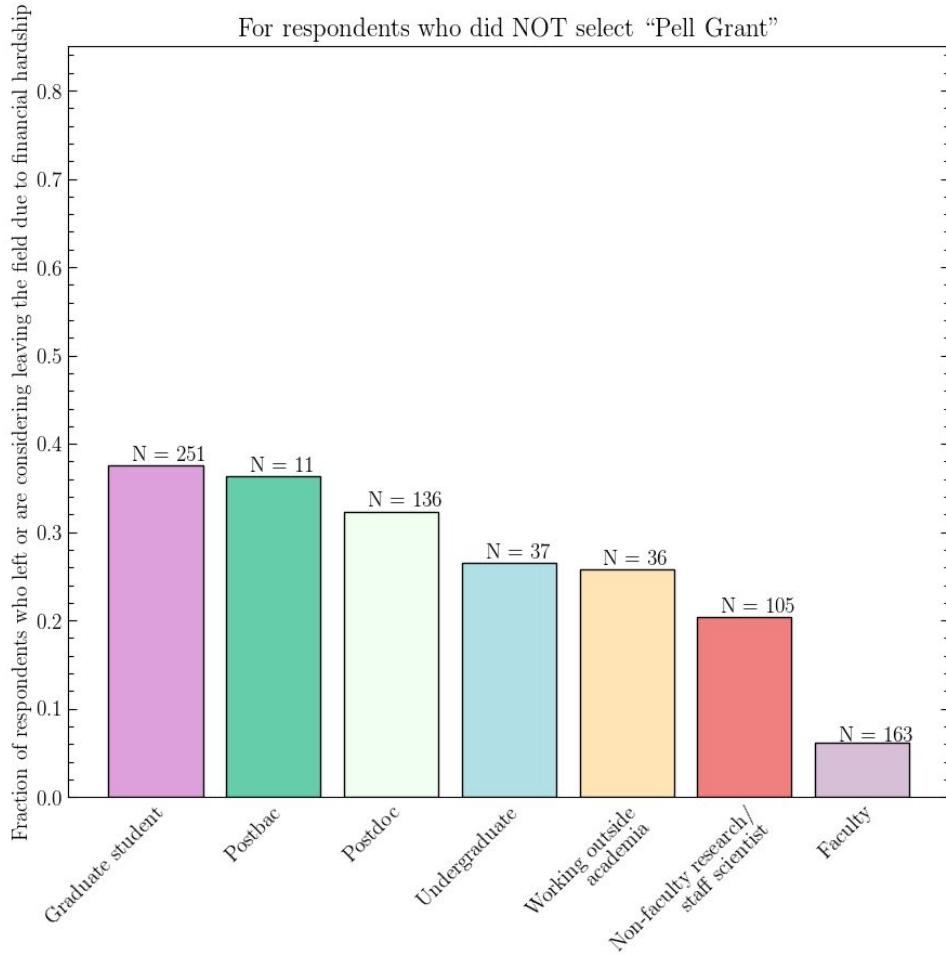


Same as above, include postbacs

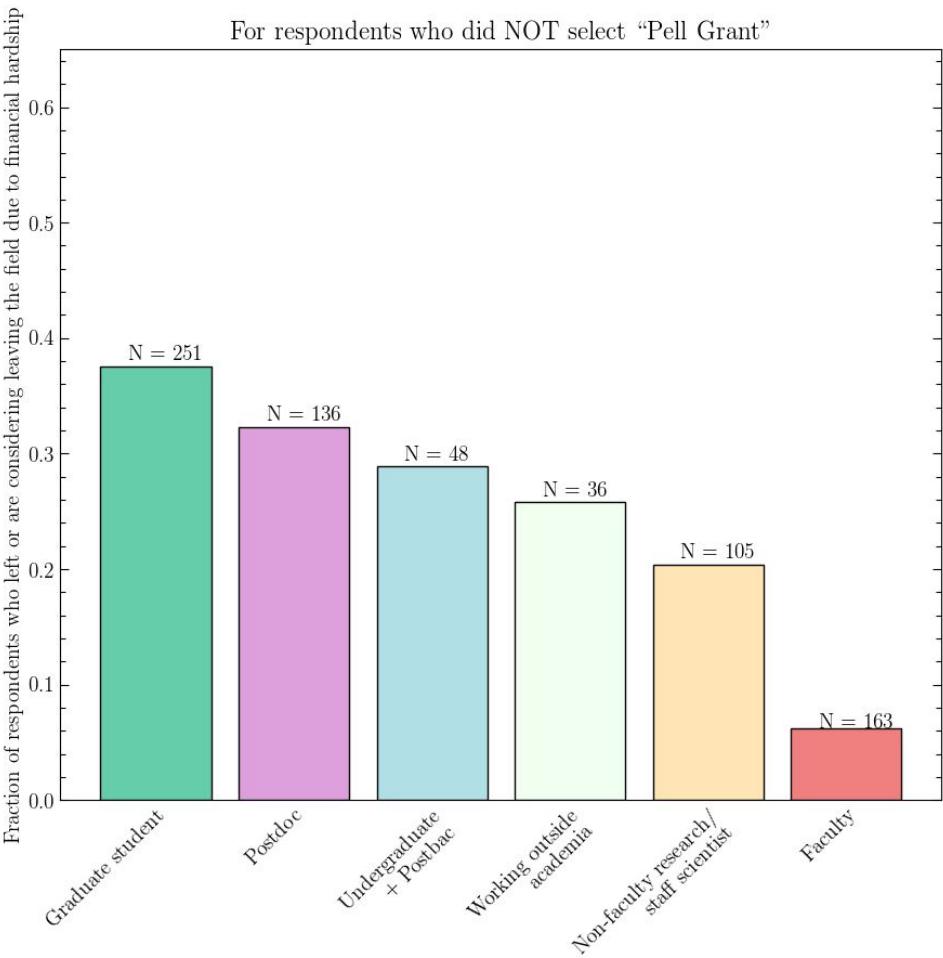
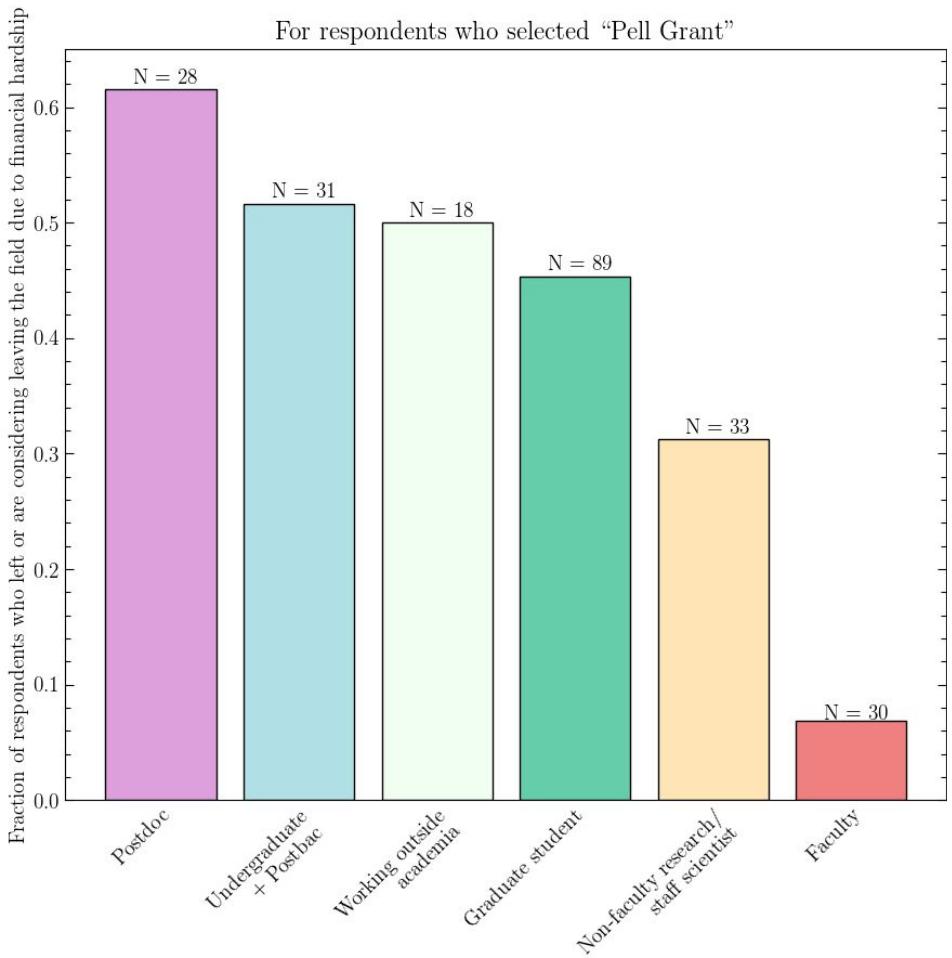
For respondents who selected “Pell Grant”



For respondents who did NOT select “Pell Grant”

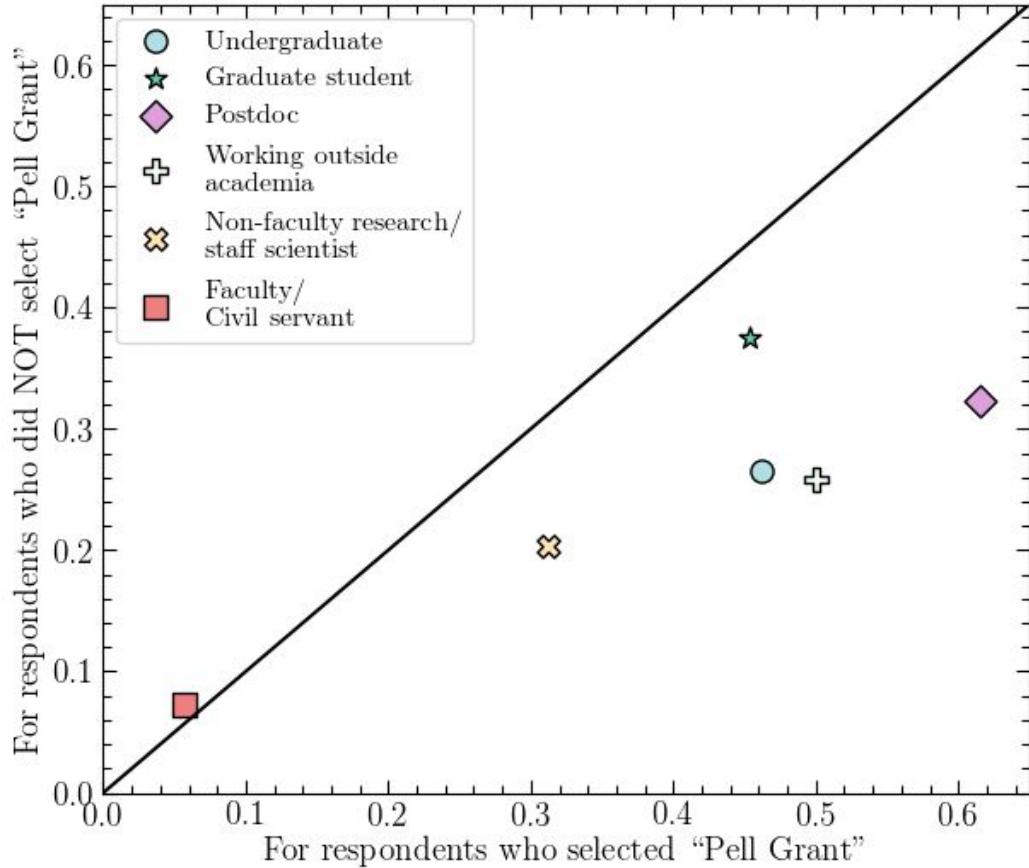


Same as above, include group undergrad+postbac



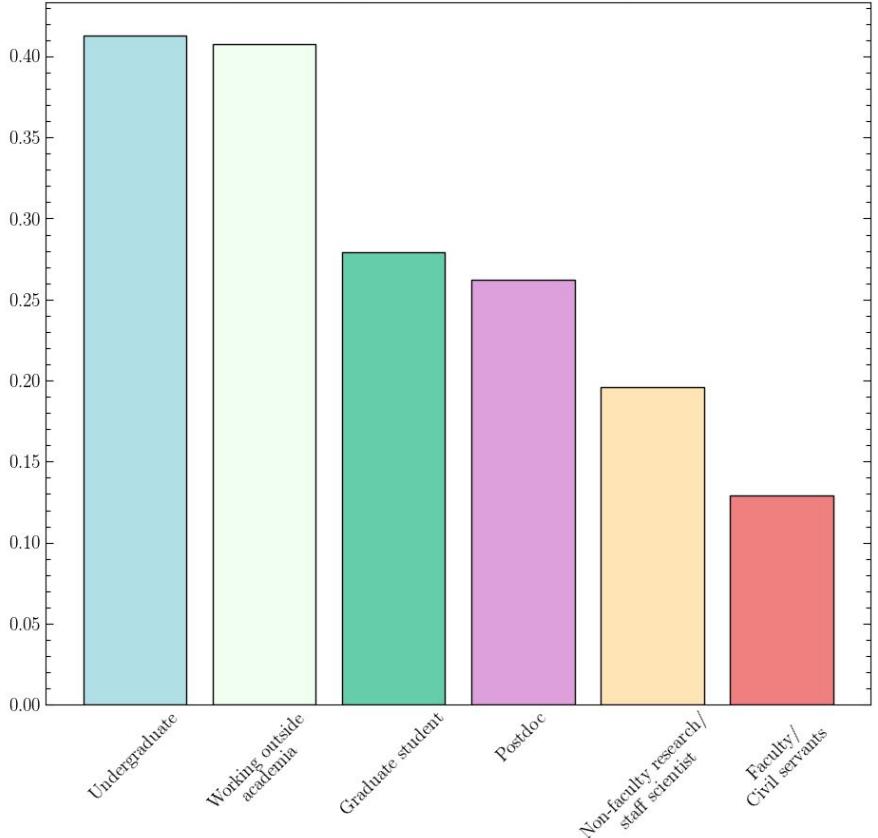
Same as above, group faculty+civil servants

Fraction of respondents who left or are considering leaving the field due to financial hardship



Result #2, for Faculty+Civil servants combined

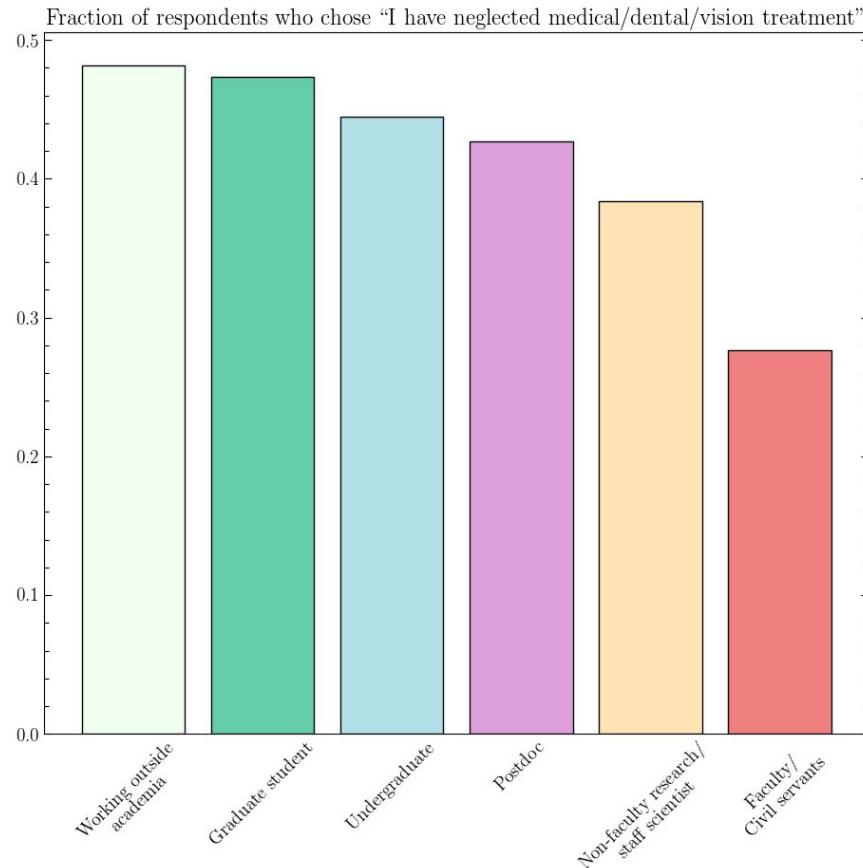
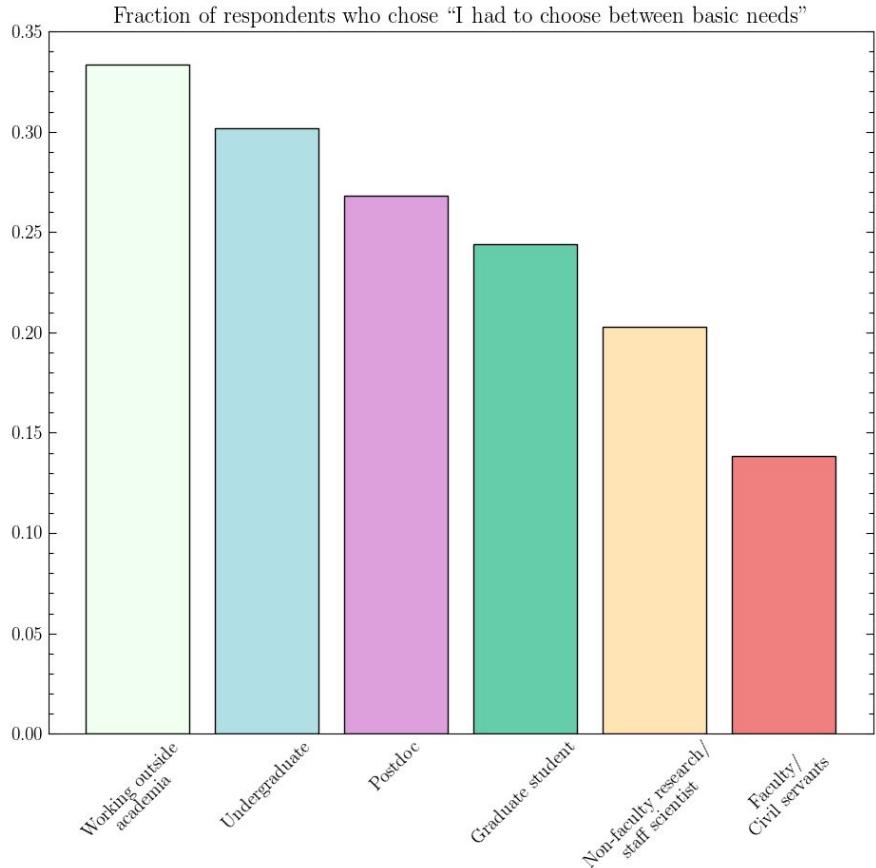
Fraction of respondents who chose “My finances have hindered my ability to study astronomy”



Likely due to N of civil servants being << N of faculty, this is not dramatically changed from the faculty-only results

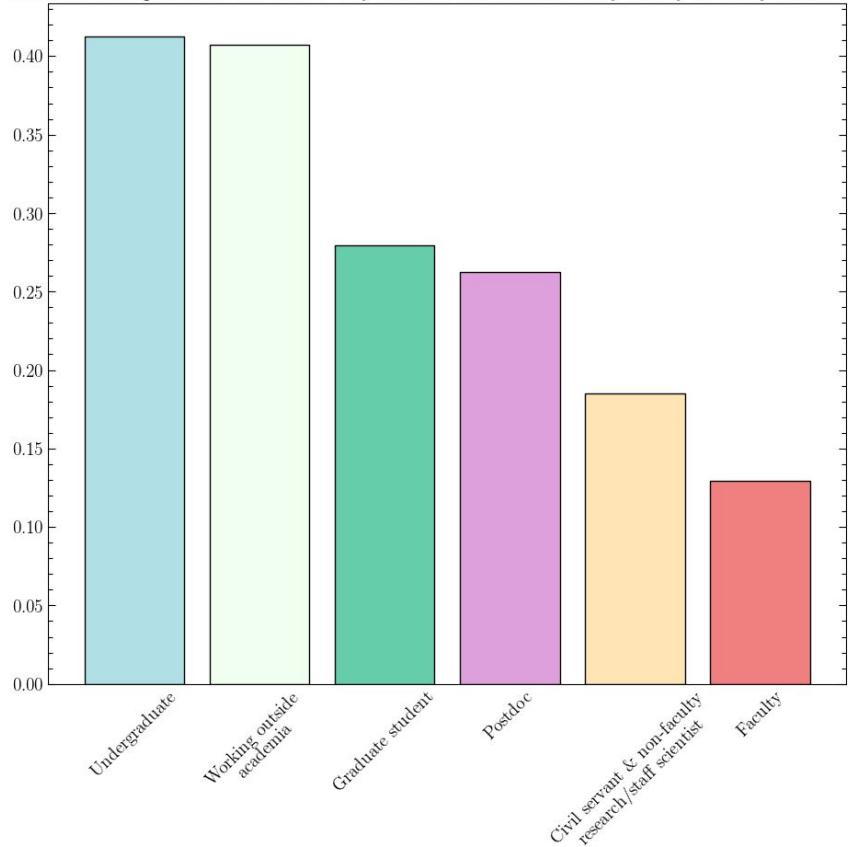
Continued on next slide...

Result #2, for Faculty+Civil servants combined



Result #2, for staff/research+civil servants combined

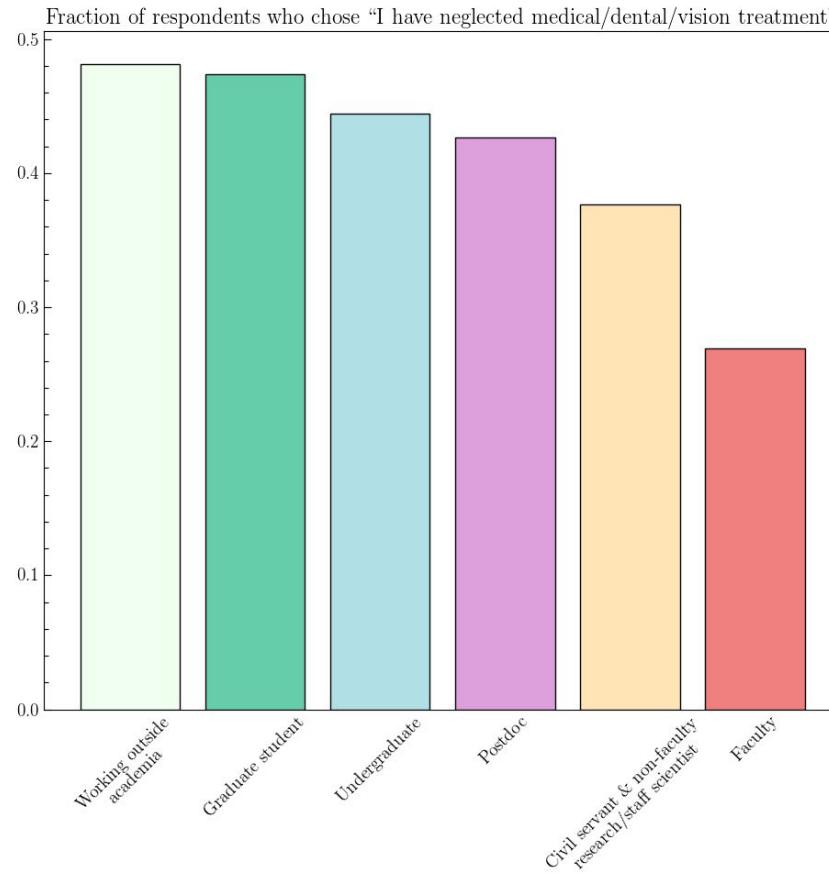
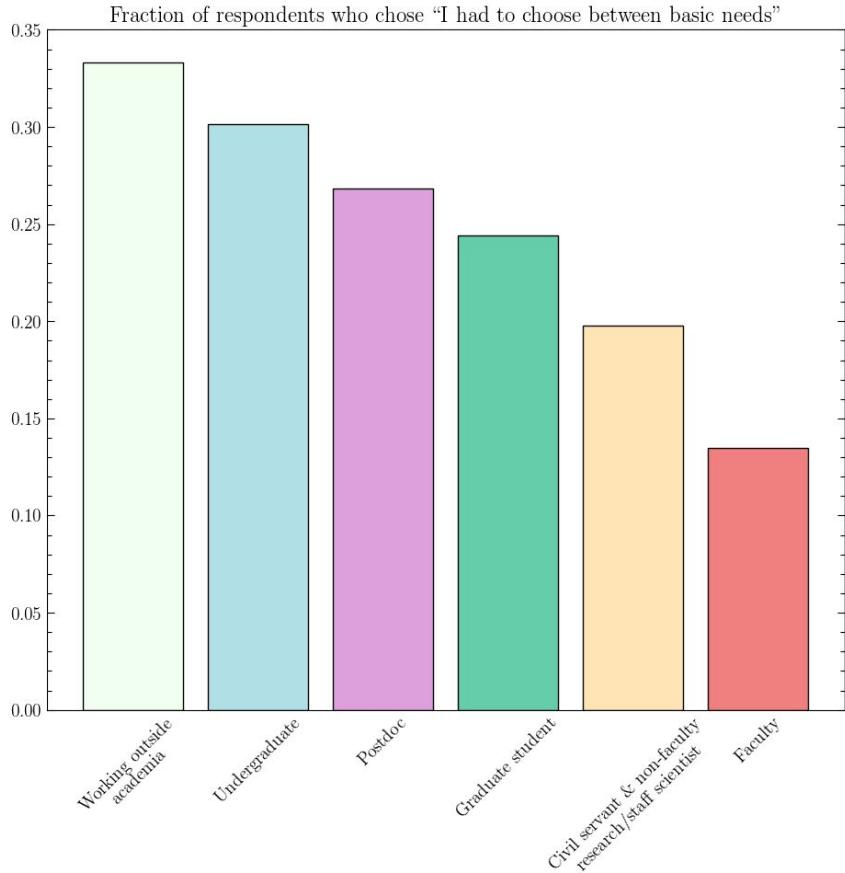
Fraction of respondents who chose "My finances have hindered my ability to study astronomy"



Likely due to N of civil servants being << N of non-faculty staff/research scientists, this is not dramatically changed from the non-combined results

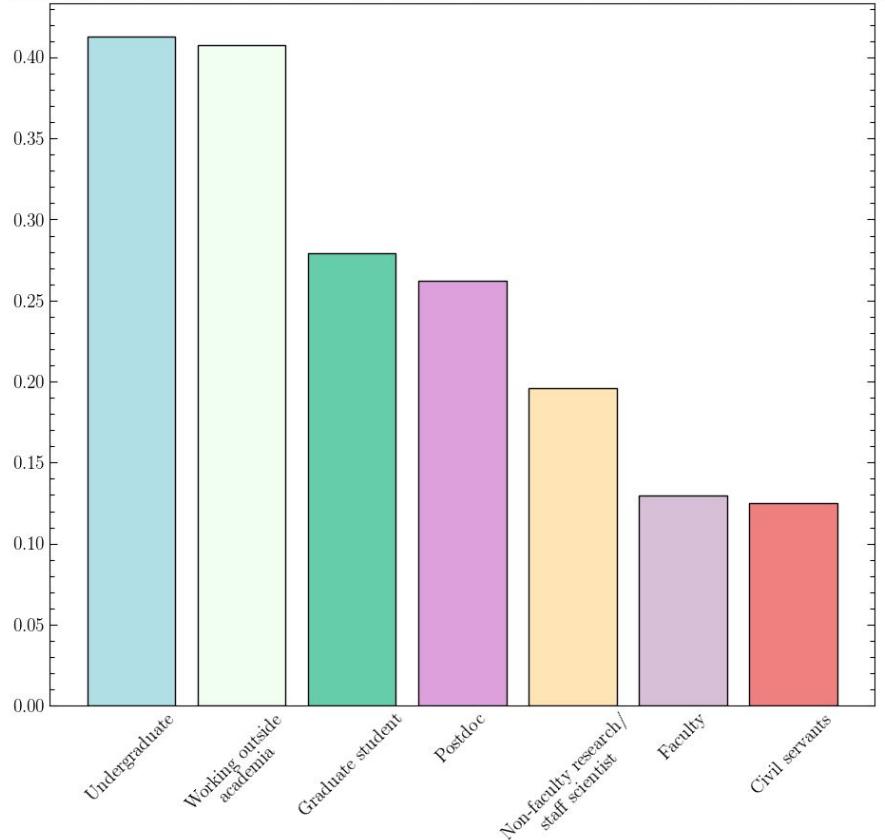
Continued on next slide...

Result #2, for staff/research+civil servants combined



Result #2, for including civil servants separately

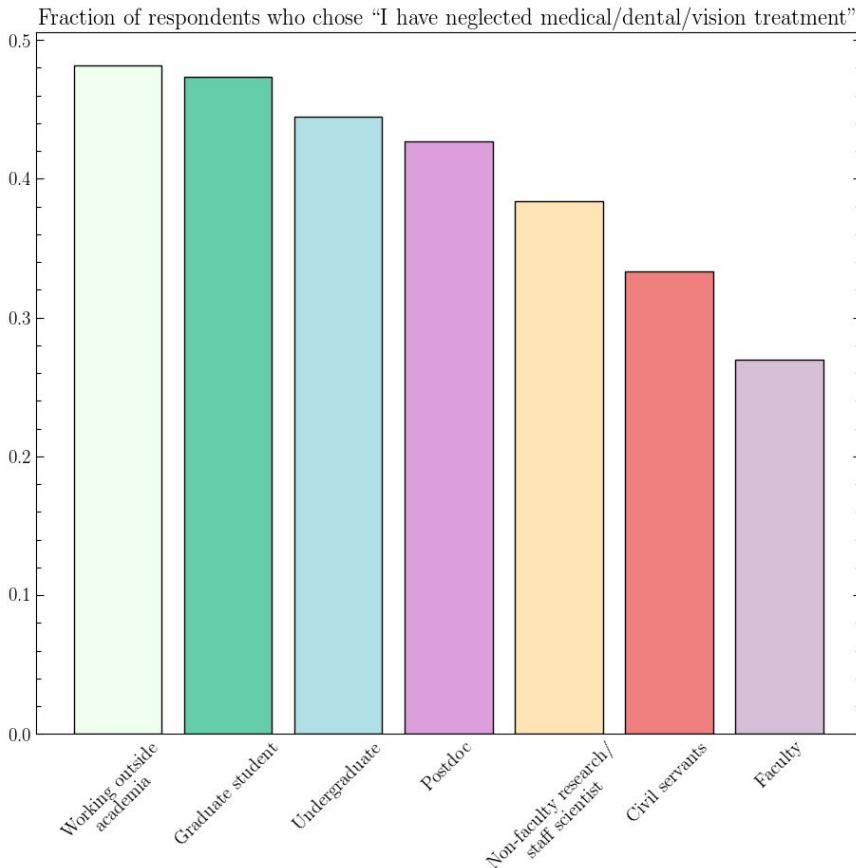
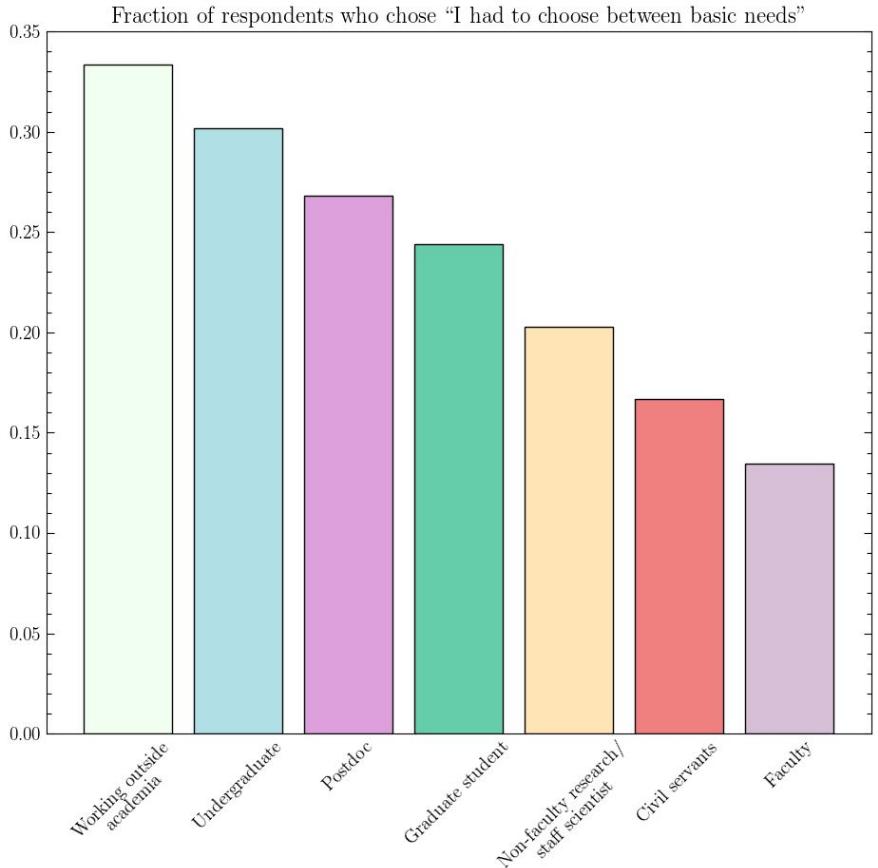
Fraction of respondents who chose “My finances have hindered my ability to study astronomy”

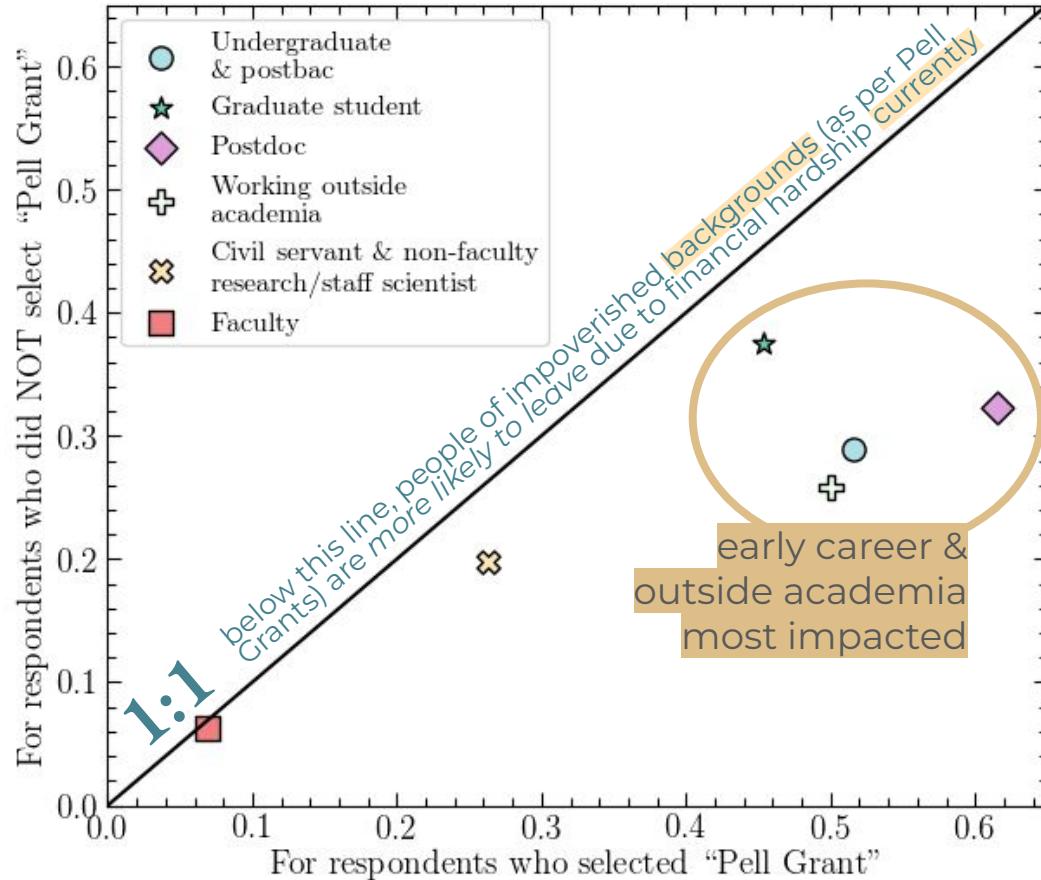


Civil servants fall
near/in between
faculty & non-faculty
research/staff
scientists

Continued on next
slide...

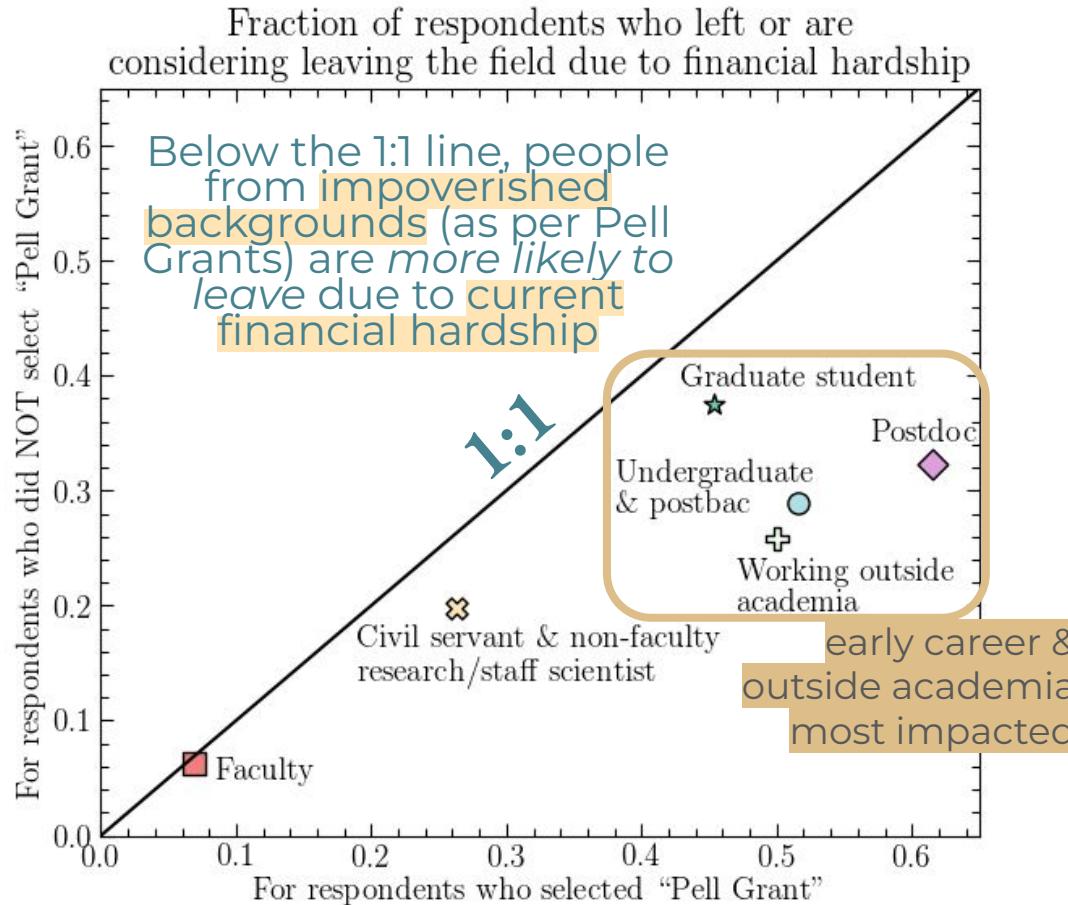
Result #2, for including civil servants separately





the fraction of respondents who have left or are considering leaving due to financial hardship is higher for those funded by Pell Grants

this is especially the case for early career academics & people working outside academia



the fraction of respondents who have left or are considering leaving due to financial hardship is higher for those funded by Pell Grants, especially for early career academics & people working outside academia

Pell Grants: subsidies for “undergraduate students who display exceptional financial need” (studentaid.gov)

percent of respondents who have left or are considering leaving the field due to financial hardship:

career stage	for respondents who received “Pell Grants”	for respondents who did NOT receive “Pell Grants”
people working outside academia	50%	26%
undergrads + postbacs	52%	29%
graduate students	45%	38%
postdocs	62%	32%
civil servant + non-faculty research/staff scientist	26%	20%
faculty	7%	6%

Pell Grants: subsidies for “undergraduate students who display exceptional financial need” (studentaid.gov)

early career academics & people working outside academia are more likely to have left or be considering leaving due to financial hardship, especially for those funded by Pell Grants