

Supplemental Material 1. Survey questions relevant to this study

These are original survey questions, drafted for the purpose of this study. Career categories were derived by B. Lindstaedt, with feedback from C. N. Fuhrmann and faculty interested in the project. Prior to wide distribution, the survey was read for clarity by five current graduate students in the basic biomedical sciences, and one social sciences researcher. Further tests of validity were not undertaken. Future use of this survey should first include further validation, such as ensuring that all major career categories are included and that students' interpretations of each career path category agree with authors' definitions.

The questions listed below are a sub-set of the questions in the student and postdoctoral surveys. Both surveys used this set of career-related questions.

Career paths you are considering

1. Which of the following common post-PhD career paths are you *strongly considering*? (check all that apply)

- principal investigator of a lab in a major research-intensive institution**
- other research-intensive careers in academia:** senior bench scientist or lab manager in a larger lab, director of a multi-user research facility within an academic institution
- research-intensive career paths in biotech/pharma:** bench researcher, managing research teams or research facilities
- bench science careers in government:** bench researcher (e.g., at NIH, EPA, DOE, USDA), or forensic science (intelligence agencies, federal/state dept. of justice)
- careers in academia with heavy emphasis on teaching along with research:** faculty at a 4-year college, masters-granting university, or doctoral-granting university whose job includes both research and major teaching responsibilities.
- teaching-intensive careers in academia:** faculty in community college, university lecturer, course director
- science education for the general public:** working at a science museum, public outreach for science-based organizations
- science education for schools:** curriculum development, science education researcher, K-12 teacher or science specialist, science education partnership director in university

- healthcare-related careers:** public health agency, genetics counseling, medical informatics/biostatistics
- writing-related careers:** science writing, medical writing, technical writing, editing, science journalism, publishing, other communications
- policy-related careers:** science policy in public sector, science policy in private sector (think tanks, etc.), educational policy, management of science services or societies, working at a foundation or research-funding agency
- law-related careers:** patent agent, patent attorney, technology transfer
- careers related to the business of science:** management consulting, business development in a biotech company, venture capital, biotech entrepreneurship, market research, investment banking, technical sales, technical support
- careers related to drug approval and production:** regulatory (FDA or within a company), clinical research/trials management, process development (e.g., scaling up drug production), quality control
- other science-related career (please specify below)**
- other career not using your science content knowledge (please specify below)**

Other (please specify): _____

Current Career Path Choice

1. **Right now, if you had to choose *only one* career path from this list, which one would you choose?**

- principal investigator of a lab in a major research-intensive institution**
- other research-intensive careers in academia:** senior bench scientist or lab manager in a larger lab, director of a multi-user research facility within an academic institution
- research-intensive career paths in biotech/pharma:** bench researcher, managing research teams or research facilities
- bench science careers in government:** bench researcher (e.g., at NIH, EPA, DOE, USDA), or forensic science (intelligence agencies, federal/state dept. of justice)
- careers in academia with heavy emphasis on teaching along with research:** faculty at a 4-year college, masters-granting university, or doctoral-granting university whose job includes both research and major teaching responsibilities.

- teaching-intensive careers in academia:** faculty in community college, university lecturer, course director
- science education for the general public:** working at a science museum, public outreach for science-based organizations
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- healthcare-related careers:** public health agency, genetics counseling, medical informatics/biostatistics
- writing-related careers:** science writing, medical writing, technical writing, editing, science journalism, publishing, other communications
- policy-related careers:** science policy in public sector, science policy in private sector (think tanks, etc.), educational policy, management of science services or societies, working at a foundation or research-funding agency
- law-related careers:** patent agent, patent attorney, technology transfer
- careers related to the business of science:** management consulting, business development in a biotech company, venture capital, biotech entrepreneurship, market research, investment banking, technical sales, technical support
- careers related to drug approval and production:** regulatory (FDA or within a company), clinical research/trials management, process development (e.g., scaling up drug production), quality control
- other science-related career (please specify below)**
- other career not using your science content knowledge (please specify below)**

If you selected "other" above, please describe here: _____

2. Related to the question above, mark the sentence that best describes your situation:

- I am very confident in this career choice.
- I am fairly confident in this career choice.
- I am still considering a range of options.

3. Is the career path you selected above different from the career path you were most

strongly considering when you entered graduate school?

- Yes**, my career path preference **has changed** since entering graduate school. [...since beginning my postdoctoral training.]
- No**, my career path preference **is the same** as when I entered graduate school. [... as when I began my postdoctoral training.]
- I did not previously have any career path preference.

4. If your career path preference has changed, please briefly describe the reason(s) for this change. _____

Demographics of graduate students

Information about you

The answers to these questions will allow us to analyze the aggregated survey results, filtered with respect to various demographic information provided below.

All survey data will be analyzed in aggregate; no answers will be analyzed individually. As a result of aggregation, we will ensure that no individual's identity is revealed during this study.

1. What "year" are you in graduate school? (Example: If you arrived this Fall, then you would be "Year 1")

- Year 1
- Year 2
- Year 3
- Year 4
- Year 5
- Year 6
- Year 7 or higher

2. Which best describes your situation?

- I began graduate school *within 5 months* of graduating with my undergraduate degree.
- After completing my undergraduate degree, I pursued other activities/jobs for *approximately one year* prior to starting graduate school.
- After completing my undergraduate degree, I pursued other activities/jobs for *approximately two years* prior to starting graduate school.
- After completing my undergraduate degree, I pursued other activities/jobs for *approximately three years* prior to starting graduate school.
- After completing my undergraduate degree, I pursued other activities/jobs for *four or more years* prior to starting graduate school.

3. Which graduate program are you enrolled in?

- Bioengineering
- Biological and Medical Informatics (BMI)
- Biomedical Sciences (BMS)
- Biophysics
- Chemistry and Chemical Biology (CCB)
- Neuroscience
- Pharmaceutical Sciences and Pharmacogenomics (PSPG)

- Tetrad – Biochemistry focus
- Tetrad – Cell Biology focus
- Tetrad – Developmental Biology focus
- Tetrad – Genetics focus
- Tetrad – focus not yet determined
- Other (please specify): _____

4. What is your gender?

- Female
- Male
- Other
- Decline to state

5. What is your ethnicity?

- American Indian or Alaskan Native
- Asian
- Black or African American
- Hispanic or Latino
- Pacific Islander
- White
- Decline to state
- Other (please specify): _____

Demographics of postdoctoral scholars

The questions below are a subset of all demographic questions asked in the survey distributed to postdoctoral scholars. These are the only questions that were used for data analysis in this study.

Have you already accepted an offer for employment following your current postdoctoral position?

- yes
- no

Please tell us about your current postdoctoral appointment.

How do you classify your research area?

- Basic/Laboratory Science Research
- Clinical Science Research
- Clinical/Translational Research
- Nursing Sciences Research
- Social/Behavioral Research
- Social Sciences: qualitative research
- Social Sciences: quantitative research
- Social Sciences: both qualitative and quantitative research
- Other (please specify below)

If you selected *other*, please specify here: _____

What is your position title?

- Postdoctoral scholar
- Research science series
- Specialist series
- Adjunct faculty series
- Clinical fellow
- I don't know
- Other (please specify below)

If you selected *other*, please specify here: _____

How many years have you been a trainee at UCSF?

- Less than 1 year
- Between 1 and 2 years
- Between 2 and 3 years
- Between 3 and 5 years
- Between 5 and 7 years
- 7 or more years

Not counting your current postdoctoral position, how many *previous* postdoctoral positions have you held?

- 0
- 1
- 2
- 3 or more
- prefer not to answer

How many total years of postdoctoral experience do you have?

What is your sex?

- female
- male
- alternative
- decline to state