

SREB

Evaluation Report

for the Southern Regional Education Board
State-Doctoral Scholars Program

Institute on Teaching and Mentoring, 2011-2016

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With funding from the National Science Foundation

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Executive Summary

This evaluation report provides outcome data for the Institute for Teaching and Mentoring offered by the Southern Regional Education Board (SREB) with support from the National Science Foundation (NSF) from 2011-2016. Data were collected via an online survey from participants who attended the Institute in at least one year while pursuing the Ph.D. In addition to data on the value of their experiences at the Institute, this report also shows the employment outcomes of Institute participants who had completed their degree programs. These data were compared against data from the nationwide Survey of Doctorate Recipients (SDR) from the same interval to determine whether patterns of success or perceptions of effective professional preparation were associated with Institute participation.

Key findings:

1. Institute participants overwhelmingly reported that their experiences at the Institute are “extremely important” to their academic and professional success.
2. Institute sessions designed to support completion of the dissertation were rated by both participants still enrolled in Ph.D. programs and alumni as holding the greatest value and contributing most substantially to their academic success.
3. Alumni reported that if they had the opportunity to repeat their graduate training, they “would definitely” attend the Institute at significantly greater rates than they would again pursue the Ph.D. in general, the Ph.D. in their chosen field of study, or select the same university at which to receive their degree. Note: This measure shows greater overall satisfaction with the Institute than with other facets of their doctoral education, but it does not necessarily mean students would not again pursue their Ph.Ds.
4. Alumni indicated that the Institute was at least as effective in preparing them to collaborate with colleagues, verbally communicate about their research, and communicate about their research with a variety of audiences as their Ph.D. programs were in providing them with those skills.
5. Institute alumni were significantly more likely than their SDR counterparts to hold employment at a 4-year college or university.
6. Female alumnae of the Institute were significantly more likely than female respondents to the SDR to indicate their current employment is closely related to their Ph.D. and that they currently hold a faculty position.
7. Black Institute alumni were significantly more likely than their SDR counterparts to have jobs for which their primary activity is basic research, traditionally considered the primary focus of training in Ph.D. programs.
8. Female Institute alumnae are significantly more likely than their SDR counterparts to have an annual income in three of the top four income brackets.
9. Black Institute alumni are significantly more likely than their SDR counterparts to have an annual income at each level of the top two-thirds of income categories.

Evaluation Report

Southern Regional Education Board and the Institute on Teaching and Mentoring, 2011-2016

Context

Since 1993, the nonprofit Southern Regional Education Board (SREB) has been the lead organization in planning and hosting the annual Institute for Teaching and Mentoring, in collaboration with its partners in the Compact for Faculty Diversity. The Institute offers workshops, recruitment, and networking opportunities to enhance the capacity of Ph.D. students from underrepresented backgrounds to enter and succeed in the professoriate. Most participants attend as members of doctoral scholar programs such as the SREB-State Doctoral Scholars Program and the Alliances for Graduate Education and the Professoriate (AGEP) program, funded by the National Science Foundation and the Alfred P. Sloan Minority Ph.D. program. Between 2011 and 2016, the Institute hosted 2,691 graduate students of color (n = 1,900 unique individuals), predominantly from Ph.D. programs in STEM disciplines.

Brief Methodology

As a supplement to its 2011-2016 AGEP award, SREB received funds from the National Science Foundation to conduct a comprehensive evaluation of the Institute's impacts. The evaluation began with a survey sent to all 2011-2016 Institute attendees who were enrolled as graduate students during at least one Institute (n=1,900). For participants whose survey invitations were returned as undeliverable, efforts were made to locate and contact them through web and social media searches. When updated contact information was obtained, survey invitations were resent to the addresses provided. Reminders to complete the survey were sent twice in biweekly intervals, and all respondents received a \$5 gift card as a participation incentive. Ultimately, 711 completed surveys were received, reflecting a 37.4% response rate. However, it was determined that some surveys were duplicates from the same individual or lacked responses to more than 50% of items. When duplicate surveys were received, the first submission was retained for analysis. Surveys with fewer than 50% of items responded to were excluded from analysis. Thus, the final data set consisted of **625 unique surveys**, reflecting a final response rate of **32.9%**.

Surveys were administered in a web-based format that included "branching" items as a function of participants' prior responses. The net effect of branching was that respondents still enrolled in Ph.D. programs (n=291) were not asked to respond to items on attained employment and post-graduation experiences. Likewise, respondents no longer enrolled in Ph.D. programs (n=334) were presented with fewer items related to their degree programs. For both groups, survey items elicited information in three general categories: (1) perceived value for and impact of experiences within the Institute, (2) academic and career outcomes, including degree completion, desired/attained type of employment, and assessments of the extent to which they were prepared by various experiences for their employment, and (3) demographic information, including race/ethnicity, gender, family education history, and current income bracket. Drawing on identifying information and survey responses, participants also were matched to their publication records in Elsevier's Scopus database to assess levels of scholarly productivity. Some names could not be disambiguated during the matching process (e.g., common name with

insufficient institutional or disciplinary information to be certain of correct match), so those cases were withheld from productivity analyses, yielding a subset of the sample (n=549).

Survey responses were analyzed in several ways. First, descriptive statistics were computed for all participants, and by discipline, race/ethnicity, and gender. For items completed by both current students and alumni, response patterns were compared to assess the extent to which perceived Institute outcomes might differ. For all appropriate survey items, participant responses were demographically matched and compared against national baseline data collected through the Survey of Doctorate Recipients (SDR; National Center for Educational Statistics, 2018) using data from 2012-2016 to avoid conflating differences in historical trends with differences between Institute participants and SDR respondents. Items were considered appropriate for comparison if identical or highly similar wording was used between the two surveys. Due to item response format (3- or 5-option Likert), most SDR comparisons were performed using a two-way chi-square (χ^2) test, with statistical significance examined for both the omnibus test and residuals within individual cells. In other words, the frequencies of response in each category were compared between the SDR data and the data collected from Institute attendees. Overall differences between the two samples were assessed across response categories using an omnibus test, and differences within categories were assessed through analysis of residual values. P-values less than 0.05 and chi-square values greater than 2.0 were considered to reflect differences not attributable to chance.

Demographics

Among respondents overall, 64% of participants identified as Black/African-American, 25% Hispanic/Latino, 7% American Indian/Alaska Native, 4% Asian, and 0.7% Native Hawaiian (see Figure 1). Further, 66% identified as female (see Figure 3), and 46% indicated they were in the first generation of their family to earn a 4-year degree (see Figure 3). On average, respondents attended the Institute 1.7 times (SD=0.9) from 2011-2016 (see Figure 4).

Figure 1. Institute Participants by Race/Ethnicity.

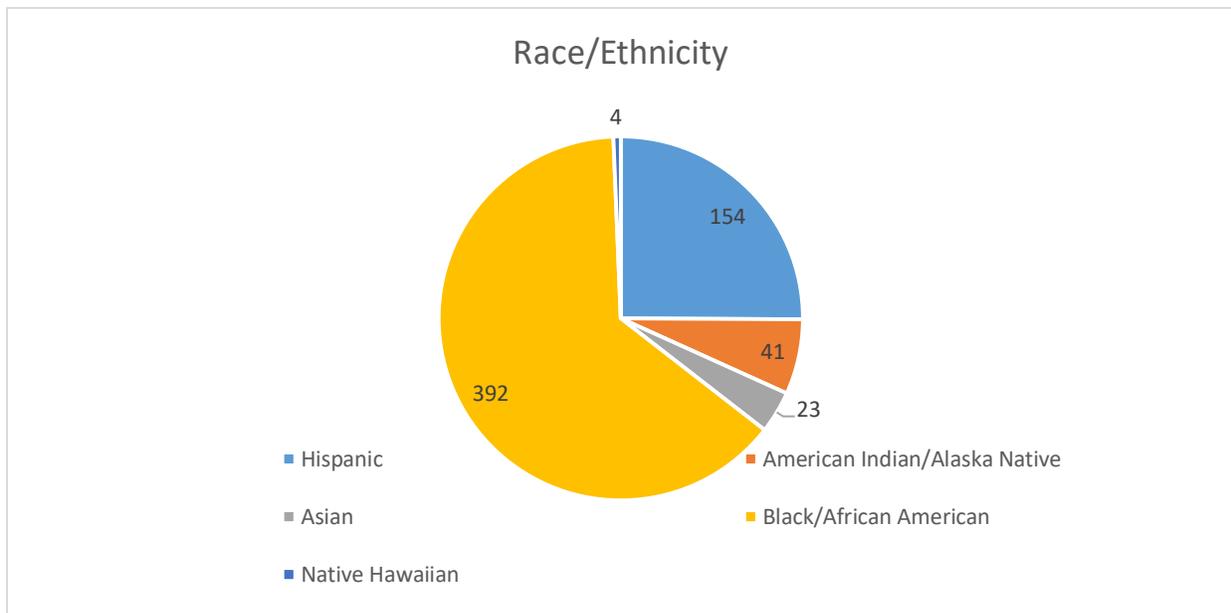


Figure 2. Institute Participants by Gender.

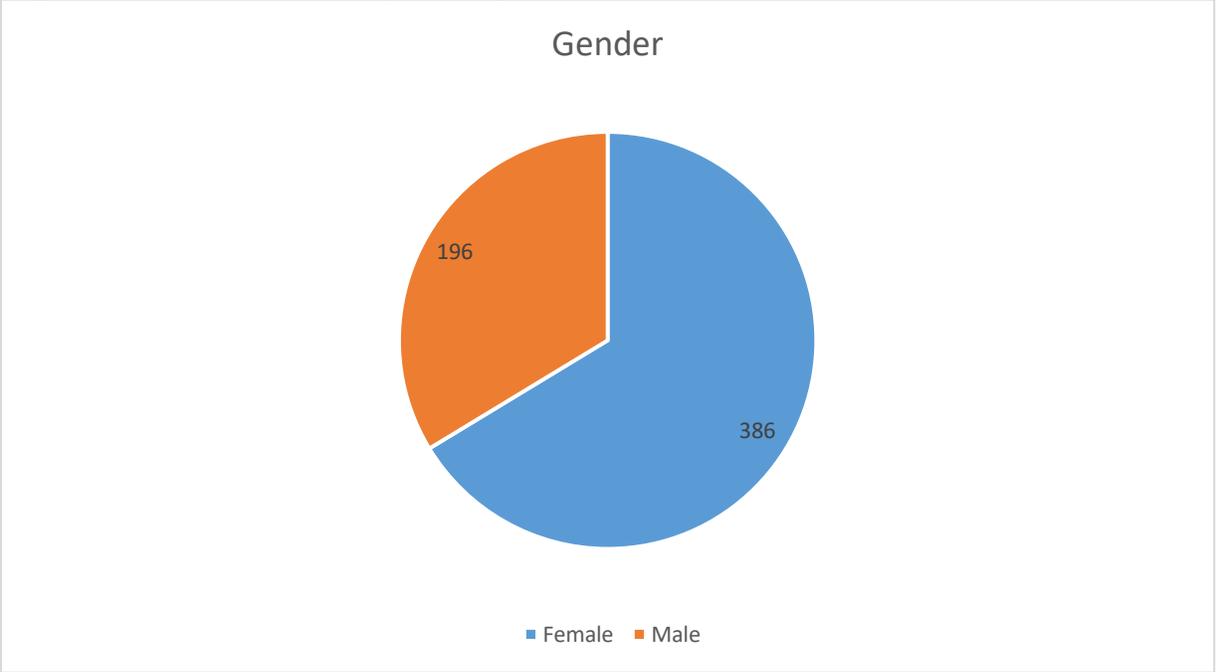


Figure 3. Institute Participants by First Generation Status.

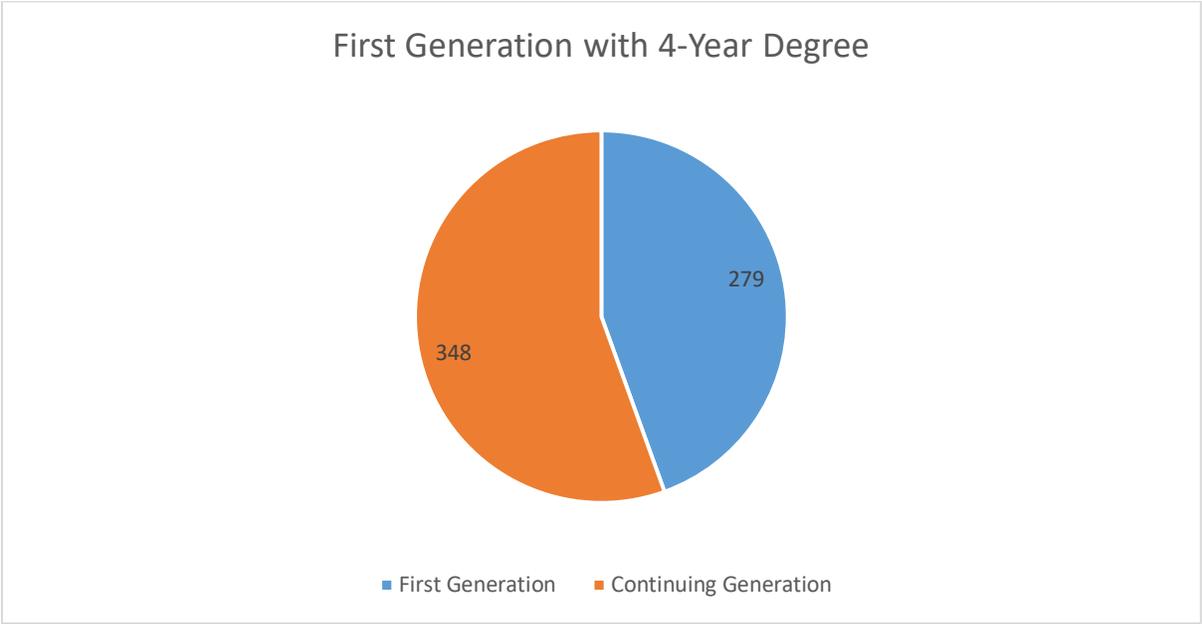
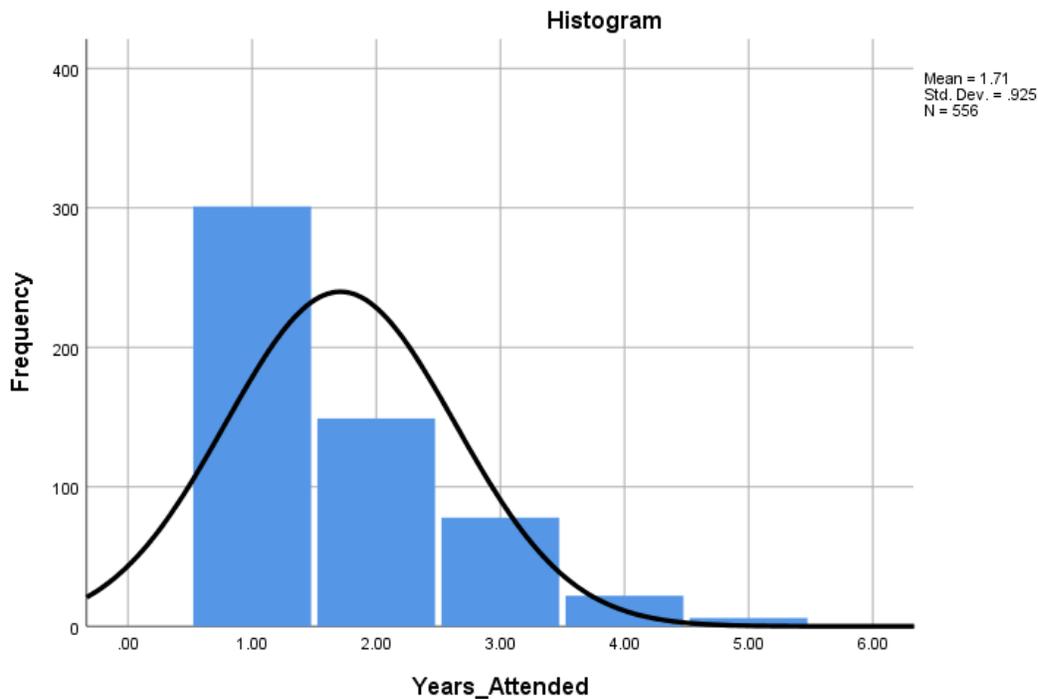


Figure 4. Distribution of Years Participants Attended the Institute.



Perceived Impacts

Respondents answered a series of items asking about their experiences during the Institute. These included questions about specific facets and their experience overall. Data are disaggregated by current student and alumni status. Below, following a summary of data from each group, responses on a subset are compared across groups.

Responses from Ph.D. Students

Respondents were asked to identify from a list of common session topics offered at the Institute from 2011-2016 those they remembered attending. For those that they indicated positively, they were asked to assess the extent to which they found them valuable and were confident in their ability to use the information from the session effectively. Table 1 shows the relevant session topics in order of attendees' decreasing frequency of recollection.

Table 1. Institute Sessions Recalled by Current Students

Session Topic	%	Count
Career options for the Ph.D.	7.71%	187
Developing your CV	7.38%	179
Mentoring relationships	6.60%	160
Communicating about your research	6.52%	158
Completing the dissertation	5.81%	141
Getting published	5.40%	131
Applying for your first job	5.15%	125
Managing stress and time	5.03%	122
Preparing for a career in higher education	4.37%	106
Issues for women of color	3.84%	93
Grant writing	3.59%	87
Teaching	3.51%	85
Postdoctoral experiences	3.09%	75
Getting funded	3.05%	74
Interdisciplinary research	2.89%	70
Conversations with the Elders	2.80%	68
Preparing for interviews	2.47%	60
Faculty work at different types of institutions	2.39%	58
Conflict resolution	1.94%	47
Academic integrity and ethics	1.81%	44
Financial planning	1.57%	38
Interacting with difficult colleagues	1.53%	37
NSF Fellowship Bootcamp	1.48%	36
Negotiating	1.40%	34
Student learning	1.24%	30
Opportunities with federal agencies	1.24%	30
Designing syllabi	1.07%	26
Outreach and service	1.07%	26
Intellectual property	0.87%	21
Starting a business	0.82%	20
Moving into administration	0.62%	15
Research systems and project management	0.58%	14
Statistics	0.58%	14
Academe and society	0.58%	14

Table 2 shows summaries of responses on the perceptions of value and utility for these sessions. Participants were asked to rate the extent to which they found these sessions valuable and important on a 1-5 Likert scale, with 1 indicating “Extremely,” 2 indicating “Very much,” 3 indicating “Moderately,” 4 indicating “Slightly,” and 5 indicating “Not at all” (i.e., lower scores mean higher value). Across all sessions, the mean rating was 1.8 (SD=0.15).

The session on Statistics ranked most favorably (mean=1.31), but only 13 respondents recalled attending it. The session on Completing the Dissertation ranked most favorably (mean=1.69) among sessions with more than 100 respondents recalling it. Designing Syllabi had the least favorable ranking (mean=2.04) but had relatively few respondents recall attending it (24). Managing Stress and Time had the least favorable ranking (mean=1.86) among sessions with more than 100 respondents recalling having attended it (n=119). Note that the least favorably ranked sessions still were most often “very much” valued by participants.

Table 2. Current Students’ Perceptions of Value and Utility for Institute Sessions

Session Topic	Min	Max	Mean	SD	Count
Statistics	1	2	1.31	0.46	13
Negotiating	1	3	1.5	0.66	32
Teaching	1	3	1.55	0.67	82
NSF Fellowship Bootcamp	1	3	1.64	0.81	33
Moving into administration	1	4	1.64	0.89	14
Issues for women of color	1	5	1.65	0.87	88
Faculty work at different types of institutions	1	4	1.65	0.86	55
Preparing for interviews	1	4	1.68	0.67	59
Completing the dissertation	1	4	1.69	0.84	134
Preparing for a career in higher education	1	4	1.69	0.75	103
Communicating about your research	1	5	1.71	0.81	153
Academe and society	1	4	1.71	0.88	14
Applying for your first job	1	5	1.72	0.87	120
Career options for the PhD	1	5	1.73	0.82	183
Conflict resolution	1	4	1.74	0.9	46
Student learning	1	3	1.74	0.8	27
Developing your CV	1	5	1.77	0.91	174
Grant writing	1	5	1.78	0.93	83
Academic integrity and ethics	1	4	1.79	0.8	42
Mentoring relationships	1	5	1.8	0.84	156
Getting published	1	4	1.8	0.84	127
Getting funded	1	4	1.8	0.82	70
Conversations with the Elders	1	4	1.8	0.9	65
Interdisciplinary research	1	5	1.83	0.88	66
Managing stress and time	1	5	1.86	1.05	119

Financial planning	1	4	1.89	0.98	37
Intellectual property	1	4	1.89	0.91	19
Starting a business	1	3	1.89	0.66	18
Postdoctoral experiences	1	5	1.9	0.94	70
Interacting with difficult colleagues	1	5	1.91	0.94	35
Opportunities with federal agencies	1	4	1.93	0.94	29
Research systems and project management	1	5	2	1.11	13
Designing syllabi	1	5	2.04	1.14	24
Outreach and service	1	3	2.04	0.81	23

Table 3 shows summaries of participants' perceptions of confidence in their ability to use the knowledge and skills from these sessions using the same 5-point Likert scale. Across all sessions, the mean rating was 1.9 (SD=0.14). The sessions on Teaching ranked most favorably (mean=1.63), but had a relatively lower number of individuals recalling it (n=81). The Developing Your CV session ranked most favorably (mean=1.76) among sessions with more than 100 respondents recalling it (n=171), indicating that attendees found the session effective in preparing them to use the knowledge and skills taught. Academe and Society had the least favorable ranking (mean=2.23) but only 13 respondents recalled attending it. Getting Published had the least favorable ranking (mean=2.00) of those sessions with more than 100 respondents recalling having attended it (n=126). Again, note that in the least favorably ranked sessions, participants overall "very much" (2) had confidence in their ability to use the knowledge they gained.

Table 3. Current Students' Confidence in Their Ability to Use Knowledge and Skills from Institute Sessions

Session Topic	Min	Max	Mean	SD	Count
Teaching	1	3	1.63	0.67	81
Preparing for interviews	1	3	1.64	0.71	58
Student learning	1	5	1.69	0.99	26
Faculty work at different types of institutions	1	4	1.74	0.75	54
Developing your CV	1	5	1.76	0.94	171
Academic integrity and ethics	1	4	1.8	0.86	41
Communicating about your research	1	4	1.83	0.86	152
Issues for women of color	1	5	1.83	0.83	87
Completing the dissertation	1	5	1.86	0.95	132
Applying for your first job	1	5	1.88	0.96	119
Preparing for a career in higher education	1	5	1.88	0.92	101
Intellectual property	1	4	1.89	0.87	18
Mentoring relationships	1	5	1.91	0.95	155
Managing stress and time	1	5	1.91	0.89	118
NSF Fellowship Bootcamp	1	4	1.91	0.91	32

Research systems and project management	1	3	1.92	0.86	12
Statistics	1	3	1.92	0.64	12
Conflict resolution	1	4	1.93	0.98	45
Negotiating	1	4	1.93	0.96	30
Career options for the PhD	1	5	1.94	0.92	181
Conversations with the Elders	1	5	1.94	0.98	64
Interdisciplinary research	1	4	1.94	0.92	64
Outreach and service	1	4	1.95	0.88	22
Designing syllabi	1	4	1.96	0.86	23
Getting published	1	5	2	0.9	126
Grant writing	1	5	2.01	1.02	84
Financial planning	1	5	2.03	1.01	36
Interacting with difficult colleagues	1	4	2.03	1.07	34
Opportunities with federal agencies	1	4	2.04	1.09	28
Moving into administration	1	4	2.08	1.07	13
Starting a business	1	3	2.13	0.78	16
Postdoctoral experiences	1	5	2.17	1.09	69
Getting funded	1	5	2.17	1.02	69
Academe and society	1	4	2.23	0.8	13

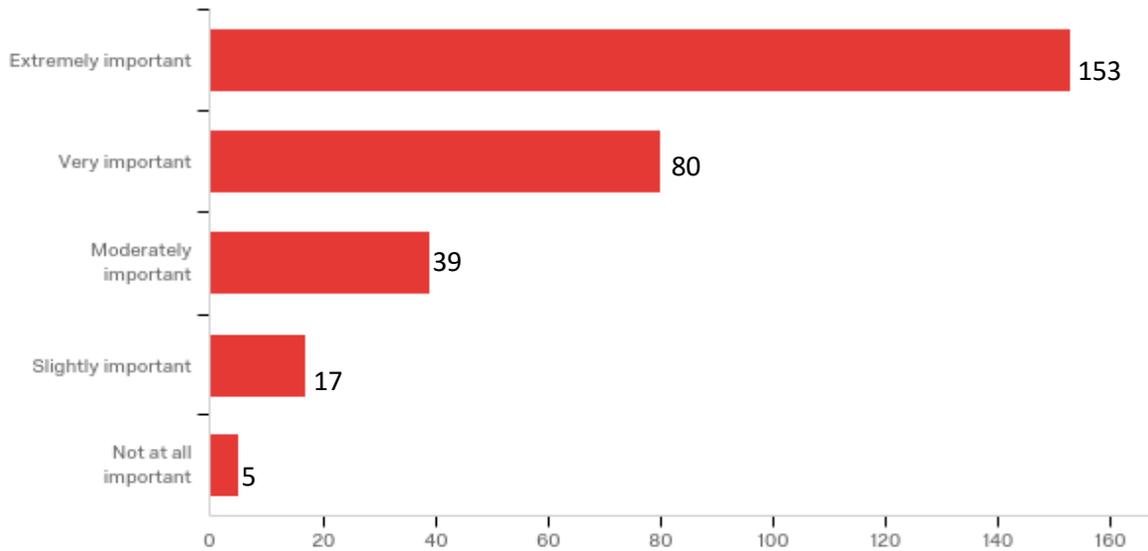
Table 4 shows summaries of participants' perceptions of the extent to which Institute sessions contributed to their professional and academic success, using the same 5-point Likert scale. Across all sessions, the mean rating was 2.0 (SD=0.18). The sessions in the NSF Fellowship Bootcamp ranked most favorably (mean=1.72), but only 32 individuals recalled attending it (n=32). Completing the Dissertation ranked most favorably (mean=1.83) among sessions with more than 100 respondents recalling it (n=134), indicating this session was consistently perceived by participants to be among the most influential in contributing to their success. Financial Planning had the least favorable ranking (mean=2.44) with less than 100 respondents (n=36). Career Options for the Ph.D. had the least favorable ranking (mean=2.15) among sessions with more than 100 respondents recalling it (n=181). Note that in the least favorably ranked sessions, most participants overall still felt the sessions "very much" contributed (2) to their success. However, variance in response was greater for this item (mean SD=1.0) compared to the estimates of perceived value (mean SD=0.85) and confidence (mean SD=0.91) shown in the preceding tables.

Table 4. Current Students' Perceptions of Contributions to Professional/Academic Success by Institute Sessions

Field	Min	Max	Mean	SD	Count
NSF Fellowship Bootcamp	1	4	1.72	0.87	32
Teaching	1	5	1.75	0.83	80
Statistics	1	3	1.75	0.72	12
Student learning	1	4	1.77	0.8	26
Completing the dissertation	1	5	1.83	0.98	134
Faculty work at different types of institutions	1	5	1.83	0.98	54
Issues for women of color	1	5	1.87	0.97	87
Communicating about your research	1	5	1.9	0.96	153
Preparing for interviews	1	4	1.91	0.86	58
Moving into administration	1	4	1.92	0.83	13
Preparing for a career in higher education	1	5	1.94	0.92	101
Managing stress and time	1	5	1.95	1.03	118
Conflict resolution	1	5	1.96	1.04	46
Designing syllabi	1	5	1.96	1.2	23
Grant writing	1	5	2.01	1.09	84
Developing your CV	1	5	2.03	1.04	174
Interdisciplinary research	1	5	2.03	1.06	66
Mentoring relationships	1	5	2.07	1.06	156
Getting published	1	5	2.08	1	126
Conversations with the Elders	1	5	2.08	1.19	65
Academic integrity and ethics	1	5	2.1	1.23	42
Negotiating	1	5	2.1	1.15	31
Interacting with difficult colleagues	1	5	2.12	1.05	34
Applying for your first job	1	5	2.13	1.12	120
Career options for the PhD	1	5	2.15	1.1	181
Research systems and project management	1	5	2.17	1.07	12
Getting funded	1	5	2.19	1.07	69
Intellectual property	1	4	2.22	0.85	18
Academe and society	1	4	2.23	1.05	13
Starting a business	1	4	2.24	1	17
Postdoctoral experiences	1	5	2.26	1.07	69
Outreach and service	1	5	2.27	1.14	22
Opportunities with federal agencies	1	5	2.29	1.1	28
Financial planning	1	5	2.44	1.38	36

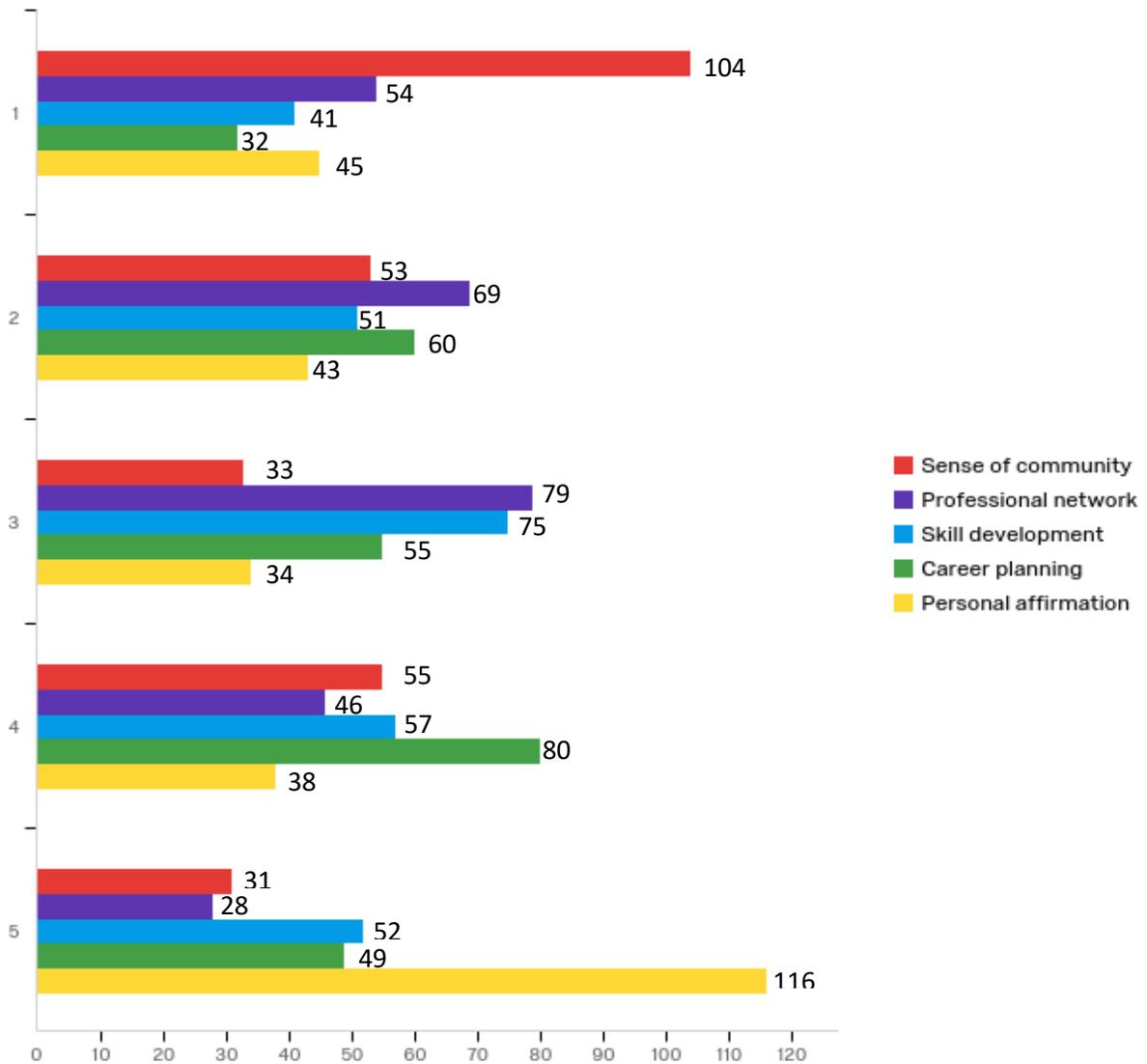
Participants also were asked to rate the extent to they felt attending the Institute was important to their academic/professional success. The mean response was 1.8 (SD=1.0) (i.e., “very much”). Figure 5 shows the distribution of these responses.

Figure 5. Distribution of Perceived Overall Importance of the Institute to Current Students’ Academic/Professional Success



Respondents were asked to rank the five kinds of value that participants found in the Institute, with the first position (1) indicating the most important to the individual and the last position (5) indicating the least important. “Sense of Community” was the most frequent first answer, and “Personal Affirmation” was most often selected last (see Figure 6).

Figure 6. Rank Order of Value Derived from the Institute by Current Students.



Responses from Alumni

Respondents were asked to identify from a list of common session topics offered at the Institute from 2011-2016, those that they remembered attending. For sessions they recalled, respondents were asked to assess the extent to which they found them valuable and were confident in their ability to utilize the information presented effectively. Table 5 shows the session topics in order of decreasing frequency of recollection.

Table 5. Institute Sessions Recalled by Alumni

Session	%	Count
Career options for the Ph.D.	6.92%	277
Applying for your first job	6.82%	273
Developing your CV	6.35%	254
Mentoring relationships	5.95%	238
Completing the dissertation	5.70%	228
Preparing for a career in higher education	5.20%	208
Communicating about your research	4.77%	191
Getting published	4.27%	171
Teaching	4.17%	167
Managing stress and time	4.15%	166
Preparing for interviews	3.77%	151
Faculty work at different types of institutions	3.57%	143
Issues for women of color	3.52%	141
Postdoctoral experiences	3.45%	138
Grant writing	3.27%	131
Academic integrity and ethics	2.82%	113
Negotiating	2.70%	108
Getting funded	2.50%	100
Interdisciplinary research	2.25%	90
Conflict resolution	2.25%	90
Opportunities with federal agencies	1.95%	78
Conversations with the Elders	1.92%	77
Interacting with difficult colleagues	1.67%	67
Financial planning	1.52%	61
Student learning	1.40%	56
Designing syllabi	1.32%	53
Outreach and service	1.10%	44
Moving into administration	0.95%	38
Academe and society	0.72%	29
Intellectual property	0.67%	27
NSF Fellowship Bootcamp	0.65%	26
Statistics	0.62%	25
Starting a business	0.52%	21
Research systems and project management	0.52%	21

Summaries of responses regarding perceptions of value and utility for these sessions are provided in Table 6. Participants were asked to rate the extent to which they found these sessions valuable and important on a 1-5 Likert scale, with 1 indicating “Extremely,” 2 indicating “Very much,” 3 indicating “Moderately,” 4 indicating “Slightly,” and 5 indicating “Not at all” (i.e., lower values reflect higher perceived value). Across all sessions, the mean rating was 1.7 (SD=0.14). The session on Communicating About Your Research ranked most favorably (mean=1.41; n=187). Financial Planning had the least favorable ranking (mean=2.07) with relatively few respondents (n=61). Getting Published had the least favorable ranking (mean=1.81) of those sessions with more than 100 respondents recalling it (n=167). It should be noted that the least favorably ranked sessions still were most often categorized as holding “very much” value for participants.

Table 6. Alumni Perceptions of Value and Utility for Institute Sessions

Field	Min	Max	Mean	SD	Count
Communicating about your research	1	3	1.41	0.56	187
Designing syllabi	1	4	1.47	0.7	51
Academe and society	1	3	1.48	0.68	29
Completing the dissertation	1	5	1.49	0.73	225
Preparing for interviews	1	3	1.51	0.64	148
Issues for women of color	1	4	1.51	0.7	138
Developing your CV	1	4	1.57	0.66	249
Conflict resolution	1	5	1.57	0.82	89
Mentoring relationships	1	5	1.58	0.72	236
Academic integrity and ethics	1	5	1.58	0.7	112
Negotiating	1	5	1.59	0.81	106
Student learning	1	5	1.59	0.82	56
Interdisciplinary research	1	4	1.61	0.66	90
Interacting with difficult colleagues	1	5	1.61	0.89	66
Faculty work at different types of institutions	1	5	1.62	0.78	139
Starting a business	1	3	1.62	0.79	21
Applying for your first job	1	5	1.63	0.85	267
Conversations with the Elders	1	3	1.63	0.7	76
Moving into administration	1	4	1.63	0.84	38
Intellectual property	1	3	1.63	0.62	27
Managing stress and time	1	4	1.64	0.79	163
Outreach and service	1	3	1.64	0.72	42
Teaching	1	5	1.65	0.79	165
Research systems and project management	1	3	1.65	0.65	20

Preparing for a career in higher education	1	5	1.66	0.8	205
Career options for the PhD	1	4	1.67	0.72	269
Postdoctoral experiences	1	5	1.7	0.84	134
Getting funded	1	5	1.72	0.91	98
NSF Fellowship Bootcamp	1	4	1.76	0.91	25
Getting published	1	4	1.81	0.85	167
Grant writing	1	5	1.81	0.95	127
Opportunities with federal agencies	1	5	1.88	0.89	75
Statistics	1	4	2	1.02	25
Financial planning	1	5	2.07	1.04	61

Summaries of participants' perceptions of confidence in their ability to use the knowledge and skills imparted during these sessions using the same 5-point Likert scale are provided in Table 7. Across all sessions, the mean rating was 1.7 (SD=0.18). The sessions on Academic Integrity and Ethics ranked most favorably (mean=1.40). Financial Planning had the least favorable ranking (mean=2.16) with relatively few respondents (n=61). Grant Writing had the least favorable ranking (mean=1.92) of those sessions with more than 100 respondents recalling it (n=128). It should be noted that the least favorably ranked sessions still reflected that participants held "very much" (2) confidence in the knowledge that they gained.

Table 7. Alumni Confidence in Their Ability to Use Knowledge and Skills from Institute Sessions

Session	Min	Max	Mean	SD	Count
Academic integrity and ethics	1	4	1.4	0.65	113
Completing the dissertation	1	5	1.41	0.61	225
Outreach and service	1	3	1.42	0.62	43
Communicating about your research	1	4	1.44	0.64	187
Interacting with difficult colleagues	1	5	1.46	0.79	65
Preparing for interviews	1	3	1.51	0.65	149
Research systems and project management	1	3	1.55	0.67	20
Developing your CV	1	4	1.56	0.68	248
Interdisciplinary research	1	4	1.58	0.76	89
Conversations with the Elders	1	5	1.58	0.84	73
Academe and society	1	3	1.59	0.62	29
Mentoring relationships	1	5	1.6	0.73	235
Student learning	1	5	1.6	0.82	55

Designing syllabi	1	5	1.6	0.9	52
Teaching	1	5	1.62	0.79	166
Conflict resolution	1	5	1.62	0.8	89
Issues for women of color	1	5	1.64	0.79	138
Managing stress and time	1	5	1.68	0.81	159
Moving into administration	1	4	1.68	0.83	38
Applying for your first job	1	5	1.69	0.85	266
Faculty work at different types of institutions	1	5	1.71	0.92	137
Career options for the PhD	1	5	1.72	0.81	271
Postdoctoral experiences	1	5	1.76	0.99	135
Getting published	1	4	1.77	0.84	167
Negotiating	1	5	1.78	0.87	107
NSF Fellowship Bootcamp	1	5	1.8	1.02	25
Intellectual property	1	4	1.81	0.86	27
Preparing for a career in higher education	1	5	1.82	0.94	206
Getting funded	1	5	1.83	0.95	100
Statistics	1	4	1.88	1.03	25
Grant writing	1	5	1.92	0.96	128
Starting a business	1	3	1.95	0.9	21
Opportunities with federal agencies	1	5	2.03	1.03	75
Financial planning	1	5	2.16	0.98	61

Summaries of participants' perceptions of the extent to which sessions contributed to their professional and academic success using the same 5-point Likert scale are provided Table 8. Across all sessions, the mean rating was 1.86 (SD=0.22). The sessions on the Completing the Dissertation ranked most favorably (mean=1.54; n=224). Financial Planning had the least favorable ranking (mean=2.38) with relatively few respondents (n=61). Postdoctoral Experiences had the least favorable ranking (mean=2.12) of those sessions with more than 100 respondents recalling it (n=132). It should be noted that the least favorably ranked sessions still reflected that participants felt their session participants contributed "very much" (2) to their success.

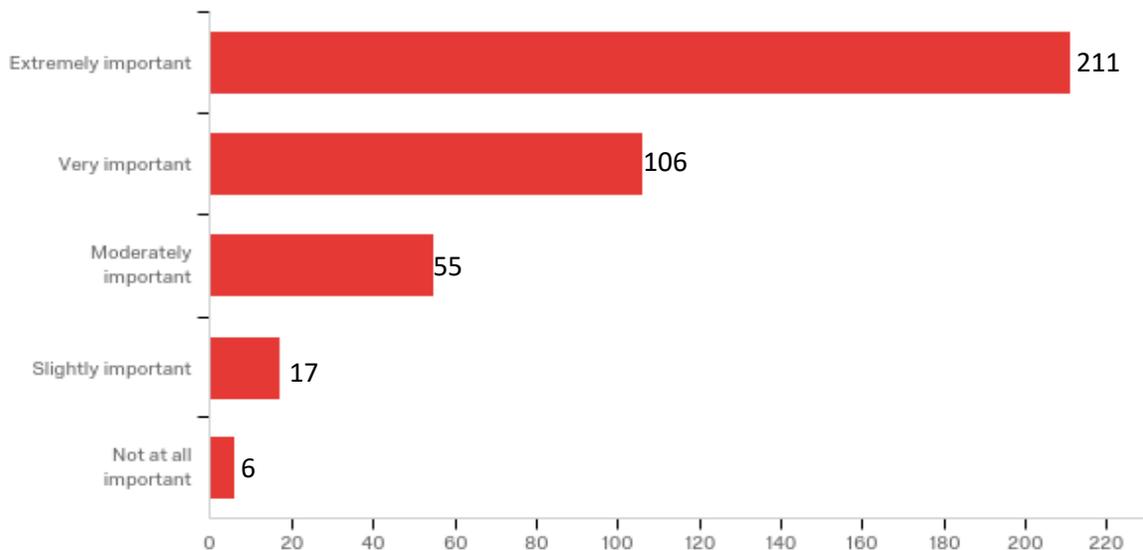
Table 8. Alumni Perceptions of Contributions to Professional/Academic Success by Institute Sessions

Field	Min	Max	Mean	SD	Count
Completing the dissertation	1	5	1.54	0.77	224
Communicating about your research	1	5	1.59	0.77	188
Academe and society	1	3	1.59	0.62	29
Issues for women of color	1	5	1.63	0.89	135
Outreach and service	1	3	1.63	0.68	43
Research systems and project management	1	3	1.65	0.79	20
Student learning	1	5	1.66	0.93	56
Preparing for interviews	1	5	1.67	0.89	148
Interacting with difficult colleagues	1	5	1.69	0.98	65
Managing stress and time	1	4	1.71	0.87	161
Mentoring relationships	1	5	1.72	0.83	234
Academic integrity and ethics	1	5	1.72	0.91	113
Developing your CV	1	5	1.75	0.86	247
Negotiating	1	5	1.75	0.97	106
Conflict resolution	1	5	1.76	0.97	90
Conversations with the Elders	1	5	1.77	0.96	73
Teaching	1	5	1.78	0.93	166
Interdisciplinary research	1	5	1.8	0.94	89
Intellectual property	1	5	1.85	1.04	27
Faculty work at different types of institutions	1	5	1.88	1.03	138
Getting funded	1	5	1.89	1.07	99
Applying for your first job	1	5	1.9	1.02	266
Grant writing	1	5	1.91	1	128
Moving into administration	1	5	1.92	1.02	37
Designing syllabi	1	5	1.94	1.12	50
Preparing for a career in higher education	1	5	1.95	1.08	205
Getting published	1	5	1.95	0.96	168
Career options for the PhD	1	5	1.98	1.02	271
Postdoctoral experiences	1	5	2.12	1.22	132
Opportunities with federal agencies	1	5	2.2	1.1	75
NSF Fellowship Bootcamp	1	5	2.24	1.21	25
Starting a business	1	5	2.29	1.08	21

Statistics	1	5	2.32	1.16	25
Financial planning	1	5	2.38	1.18	61

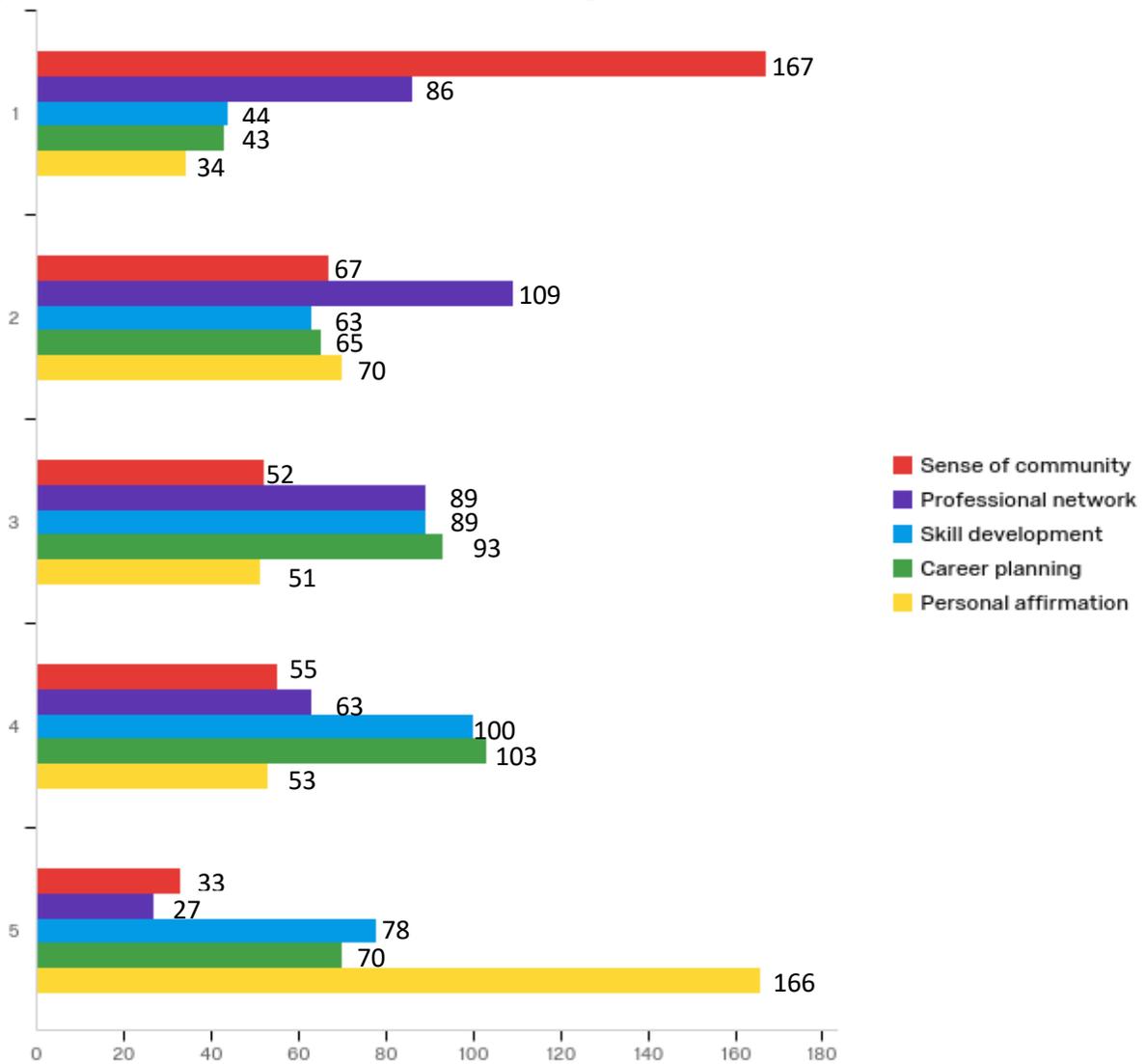
Participants were also asked to rate the extent to they felt attending the Institute was important to their academic/professional success. The mean response was 1.8 (SD=1.0) (i.e., “very much”). Figure 7 shows the distribution of responses to this survey question.

Figure 7. Participants’ Perceived Overall Importance of the Institute to Alumni Academic/Professional Success



Respondents also were asked to rank specific categories of value they found in attending the Institute. “Sense of Community” was the most frequent answer, and “Personal Affirmation” was ranked last among these categories (see Figure 8).

Figure 8. Value Derived from the Institute by Alumni



Nearly all alumni respondents reported having full-time employment (only 16 were unemployed). How much did the knowledge and skills attendees attributed to participation in the Institute help to prepare them for their current jobs, compared with the professional preparation provided by their Ph.D. programs?

As shown in Figures 9 and 10, more participants rated the Institute as preparing them “extremely well” for their current professional roles than their Ph.D. programs. Still, the majority of respondents indicated their Ph.D. programs prepared them “extremely well” (n=125) or “very well” (n=146) for their current positions (mean=2.07; SD=1.00) (see Figure 9). As shown in Figure 10, when asked how well the Institute improved their preparation for their current job, respondents also were highly positive: The majority of responses were “extremely well” (n=132) or “very well” (n=133).

Figure 9. How Well Did Your Ph.D. Program Prepare You for Your Current Job?

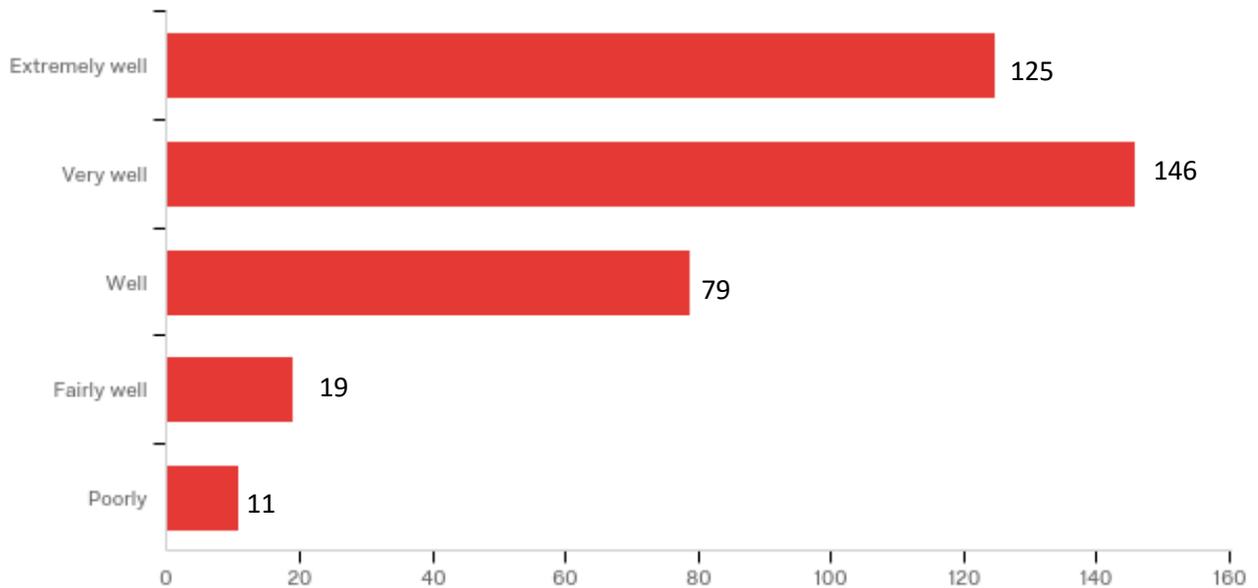
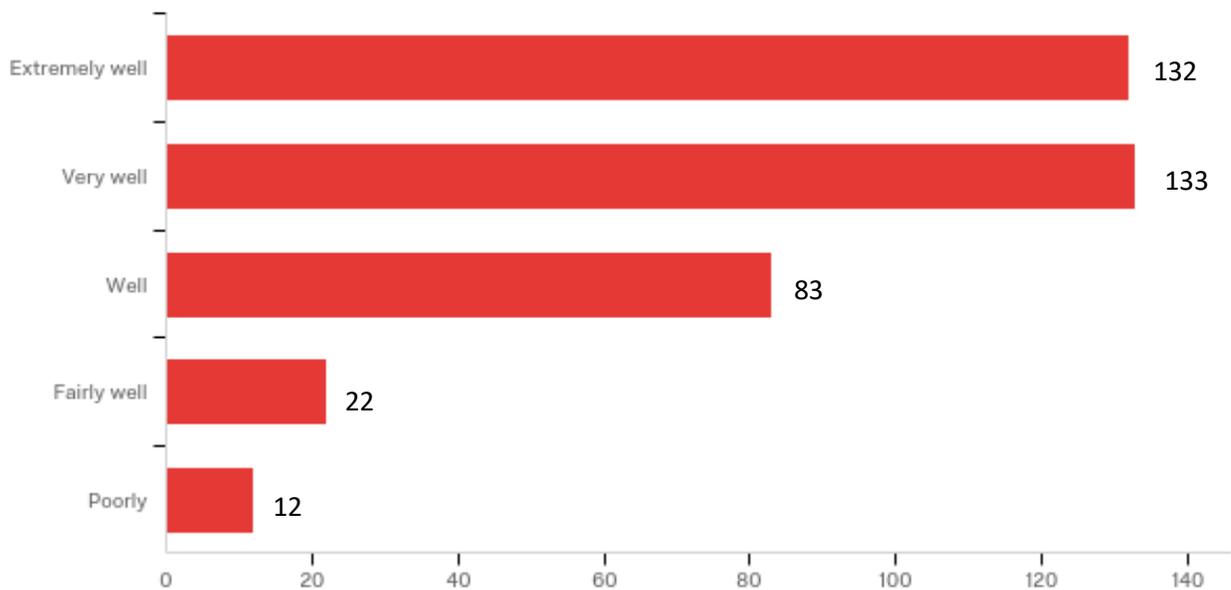
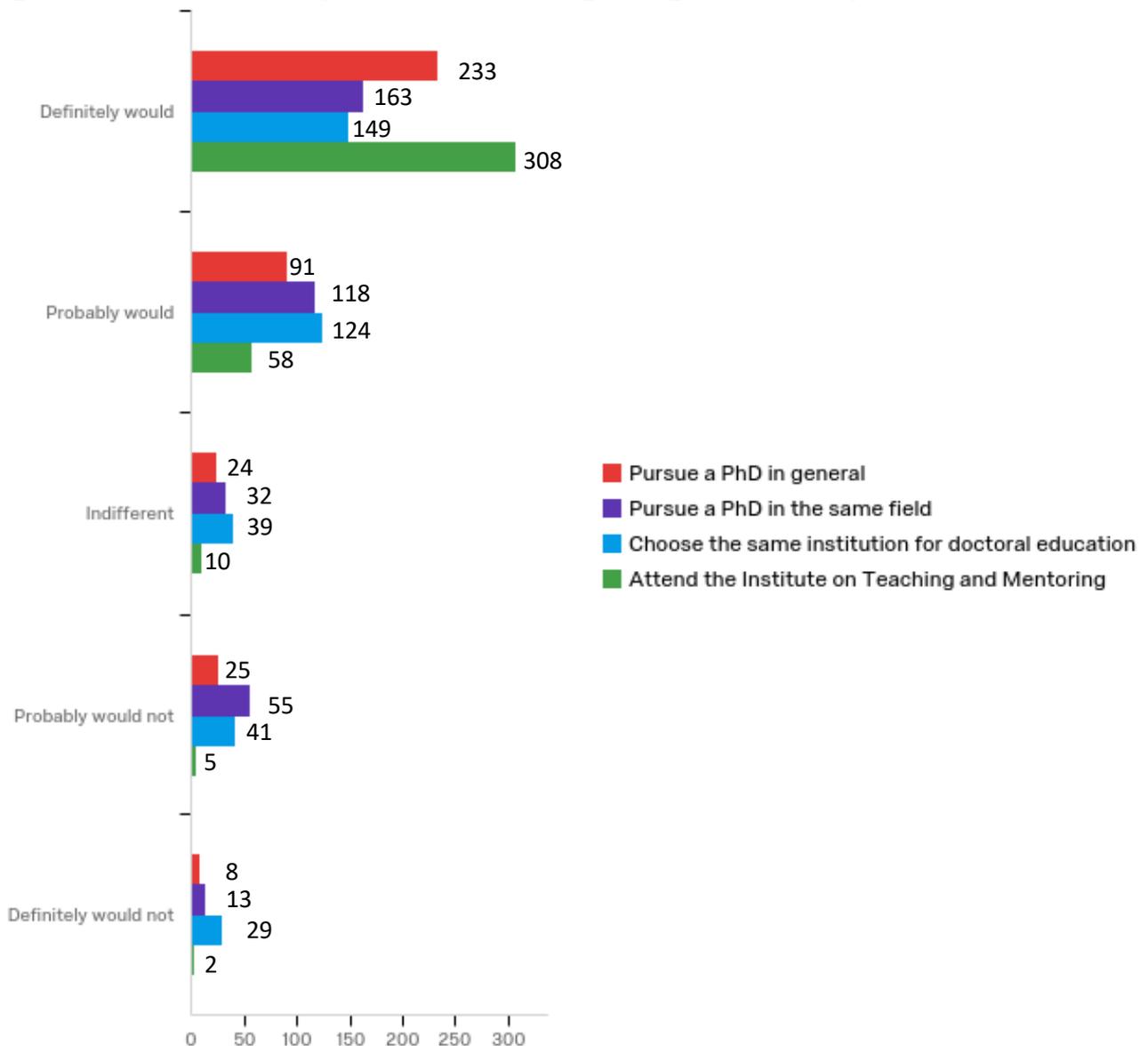


Figure 10. How Well Did the Institute Help Prepare You for Your Current Job?



Respondents were asked about their experiences since completing their Ph.D. programs and the extent to which they might make the same choices in their preparation if they had to start over. Specifically, they were asked whether they would take the following steps again: pursue a Ph.D. in general, pursue a Ph.D. in the same field, choose the same institution, and choose to attend the Institute. Figure 11 shows that respondents were more likely to select “Definitely would” for the Institute than any other aspect of their preparation. ($\chi^2=195.4$, $p<0.001$).

Figure 11. Alumni Retrospective Choices Regarding Doctoral Experiences.



Professional Preparation

To assess the extent to which Institute participation is associated with perception of preparation for employment attained following degree completion that may differ from national trends, data from alumni with degrees in STEM (science, technology, engineering, and mathematics) disciplines were compared against SDR data aggregated for the 2012-2016 period. SDR data for 2011 were not used, as Institute alumni who were not students for at least one year of the NSF award period were excluded from this study. The SDR survey asked participants to answer “yes” or “no” on whether their Ph.D. training prepared them for their current employment, but the Institute survey asked for responses on a 5-point Likert scale [“extremely well (1)” to “poorly (5)”]. To make the comparison, the Institute survey’s Likert range was reduced to two categories by pooling the 1 and 2 responses (mapping to “yes” in the SDR survey) and the 4 and 5

responses (mapping to “no” in the SDR survey). Values of 3 from the Institute survey were withheld from the analysis.

Institute respondents were asked to rate how well their Ph.D. program and their Institute participation, respectively, prepared them for their current job. Responses did not differ significantly between Ph.D. programs and Institute. However, Institute alumni reported that their participation in the Institute prepared them for their current employment significantly more frequently than SDR participants indicated that their Ph.D. programs prepared them for their current employment ($\chi^2=71.2$, $p<0.001$). This finding was the same across all gender and racial/ethnic subgroups, as shown in Table 9.

Table 9. Comparison of Institute Preparation for Current Employment Compared to Survey of Doctorate Recipient Baseline Data Regarding Ph.D. Preparation for Current Job

Subgroup	Institute “Yes” Count (Actual)	Expected Count	χ^2
Female	141	99.90	16.9
Male	62	43.55	7.8
Black	154	125.52	6.5
Hispanic	57	42.55	4.9

Participants also were asked to assess how well their Ph.D. programs and their experiences at the Institute respectively prepared them to apply specific knowledge, skills, attributes, and behaviors. These were: (1) applying research methodologies, tools, and techniques; (2) grant writing; (3) research ethics and scholarly integrity; (4) developing new ideas, processes, or products rooted in research; (5) critically analyzing and evaluating findings and results; (6) demonstrating a theoretical and practical understanding of their subject matter; (7) working constructively with colleagues; (8) influencing others; (9) communicating clearly and persuasively in writing; (10) communicating clearly and persuasively when speaking; and (11) communicating clearly and persuasively to a wide variety of audiences.

The profiles of responses for each skill are shown in Figures 12 and 13. Figure 12 shows respondents’ perceptions of their Ph.D. programs. Figure 13 shows their perceptions of learning outcomes from the Institute. A chi-square analysis contrasted the likelihood of each response level for each knowledge category between the Ph.D. programs and the Institute to assess the extent to which the Institute added value to the overall doctoral training experience in terms of specific learning outcomes for respondents. The results, summarized in Table 10, indicate that participants reported better preparation related to research skills (e.g., applying research methodologies, research ethics, and critically analyzing results), as expected. However, respondents indicated that they received equal preparation in working with colleagues and communicating clearly when speaking. Perceptions of grant writing skill preparation were mixed. Further, the Institute was rated as significantly more effective in preparing respondents to influence others and communicate clearly to a variety of audiences.

Table 10. Comparison of Ph.D. Programs vs. Institute Preparation for Developing Specific Skills

Skill	Source of Better Preparation	χ^2	p-value
Applying research methodologies, tools, and techniques appropriately	Ph.D. program	199.6	<0.001
Grant writing	Ph.D. program had more extreme responses; Institute had more moderate responses	11.6	0.021
Research ethics and scholarly integrity	Ph.D. program	49.7	<0.001
Developing new ideas, processes, or products, which are rooted in research	Ph.D. program	53.9	<0.001
Critically analyzing and evaluating findings and results	Ph.D. program	181.4	<0.001
Demonstrating a theoretical and practical understanding of your subject area and its wider research context	Ph.D. program	130.6	<0.001
Working constructively with colleagues, acknowledging their contribution	No Difference	3.77	0.44
Influencing others, providing direction and encouraging their contribution	Institute	25.7	<0.001
Communicating ideas clearly and persuasively in writing such as in journal articles, grant proposals, or reports	Ph.D. program	24.6	<0.001
Communicating ideas clearly and persuasively when speaking to others one-on-one or in small groups	No Difference	5.2	0.27
Communicating ideas clearly and persuasively to a variety of audiences who may not have technical backgrounds about your field of Ph.D.	Institute	13.4	0.02

Figure 12. Respondents' Perceptions of Their Preparation to Utilize Specific Skills Based on Their Ph.D. Training

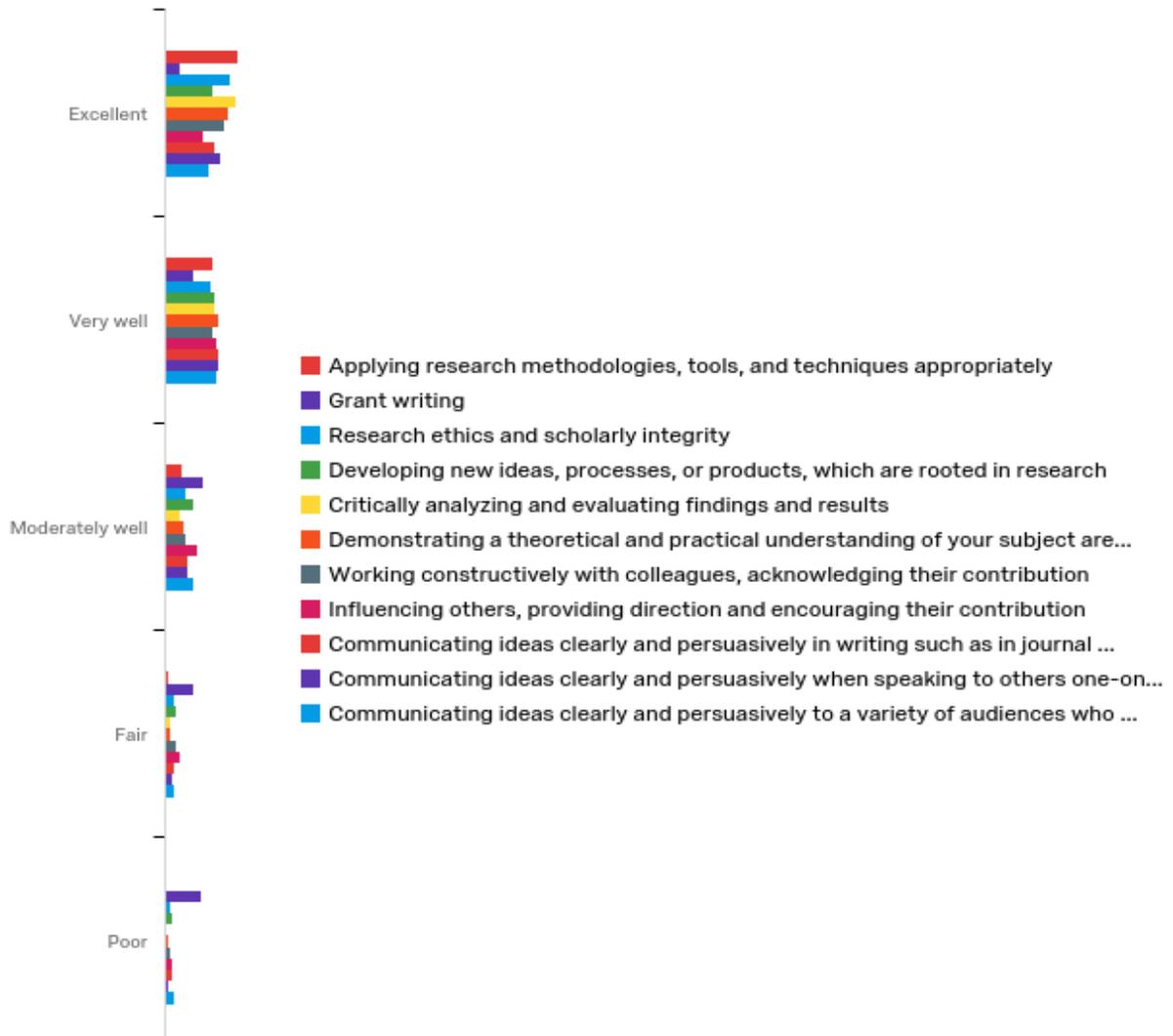
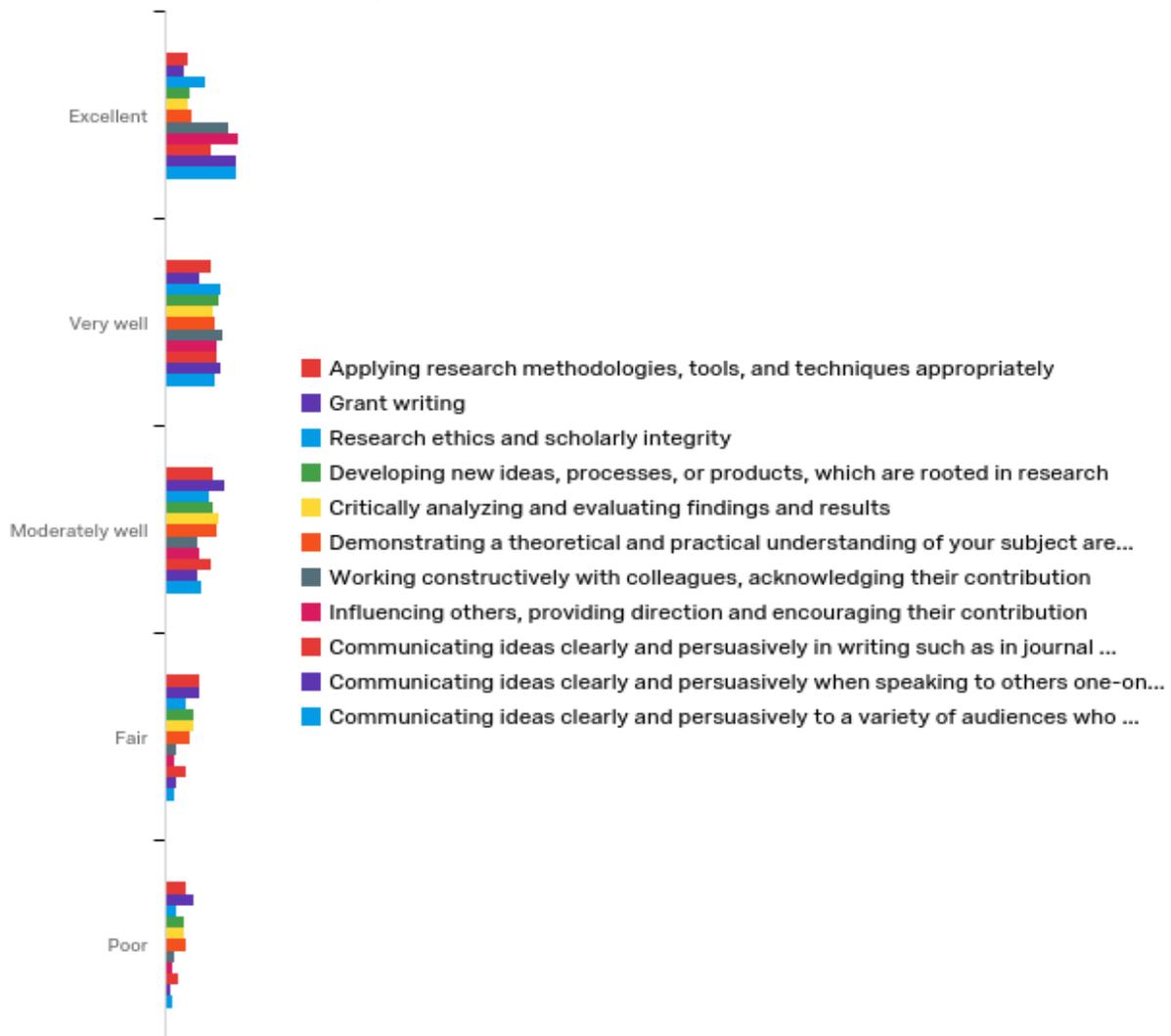


Figure 13. Respondents’ Perceptions of Their Preparation to Utilize Specific Skills Based on Their Institute Experiences



Comparative Analyses of Current Students vs. Alumni

The responses of current students and alumni are contrasted to determine if there are meaningful differences between the two groups. As survey responses are inherently perspectival, it is expected that those perspectives might differ as a function of relative position along a professional trajectory. Respondents’ needs and concerns are likely to differ as a function of whether they are engaged as a graduate student or a member of the workforce. Further, it is possible that some knowledge and skills addressed by the Institute may have more salience for those who are current, rather than prospective, members of the workforce.

The first comparison examined respondents’ differences in the value and usefulness of Institute sessions. Only three sessions yielded significant differences: Mentoring Relationships ($\chi^2=13.2$, $p=0.009$), Communicating about Your Research ($\chi^2=13.5$, $p=0.011$), and Developing Your CV

($\chi^2=12.3$, $p=0.015$). In each of these comparisons, the frequency differences of Likert-scale response categories (“Extremely [1]” to “Not at all” [5]) driving the significant outcomes were the “Moderately (3)” category. For all three, current students were disproportionately more likely to rate their perceived value for the session as moderate than their counterparts who had completed the Ph.D.

The second comparison examines respondents’ differences in their confidence to use the knowledge and skills they gained from the Institute sessions. Seven sessions yielded significant chi square tests indicating differences in value: Academic Integrity and Ethics ($\chi^2=10.8$, $p=0.029$), Career Options for the Ph.D. ($\chi^2=11.4$, $p=0.023$), Mentoring Relationships ($\chi^2=16.5$, $p=0.002$), Communicating about Your Research ($\chi^2=21.5$, $p<0.001$), Completing the Dissertation ($\chi^2=28.5$, $p<0.001$), Postdoctoral Experiences ($\chi^2=9.9$, $p=0.042$), and Interacting with Difficult Colleagues ($\chi^2=10.1$, $p=0.039$). In each of these comparisons, the frequency differences of Likert response categories (“Extremely [1]” to “Not at all” [5]) driving the significant outcomes were the “Moderately (3)” or “Slightly (4)” categories. For all of these, current students were disproportionately likely to rate their confidence in their ability to effectively use the knowledge and skills from the session as moderate than their counterparts who had completed their Ph.Ds. In some cases, alumni also were more likely to respond “Extremely (1)” confident. Such patterns are not surprising given the additional academic and professional successes of alumni (e.g., successful defense of dissertation, obtaining gainful employment).

The third comparison examines respondents’ differences in how much they felt Institute sessions have contributed to their academic and professional success. Seven sessions yielded significant chi square tests indicating differences in value: Career Options for the Ph.D. ($\chi^2=9.9$, $p=0.043$), Mentoring Relationships ($\chi^2=13.9$, $p=0.008$), Developing Your CV ($\chi^2=9.6$, $p=0.047$), Academic and Society ($\chi^2=11.8$, $p=0.019$), Communicating about Your Research ($\chi^2=16.2$, $p=0.003$), Completing the Dissertation ($\chi^2=11.0$, $p=0.027$), and Issues for Women of Color ($\chi^2=11.6$, $p=0.020$). In each of these comparisons, the frequency differences of Likert response categories (“Extremely [1]” to “Not at all” [5]) driving the significant outcomes was the “Moderately (3)” category. For all of these, current students were disproportionately likely to rate the session’s contribution to their success as moderate than their counterparts who had completed the Ph.D. This may be attributable to the fact that academic and professional successes are still in formative stages for students. In addition, for the Career Options for the Ph.D. and for Mentoring Relationships sessions, alumni were generally more likely to give positive ratings to the sessions’ contributions to their success (i.e., 1-2 range), which again is not surprising given the centrality of navigating early career employment and reliance on mentors’ recommendations in that process.

For the survey question asking about the overall importance of attending the Institute to their success, the response patterns of students and alumni did not differ significantly. Similarly, the item asking respondents to rank sources of value for the Institute did not differ between groups of respondents.

Alumni Professional Outcomes

To assess the extent to which Institute participation is associated with professional outcomes that may differ from national trends, data from alumni with degrees in STEM (science, technology, engineering, mathematics) disciplines were compared against data from the Survey of Doctorate Recipients (SDR), aggregated for the 2012-2016 period. SDR data for 2011 were not used, as alumni who were not students for at least one year of the NSF award period were excluded from the study. The construction of most items permitted direct comparison between collected survey data and SDR data based on high similarity or exact match of item wording and identical response scales. In some instances, the Institute survey's Likert range exceeded that of SDR (e.g., 5 response categories vs. 3 response categories). In those cases, the top two and bottom two categories were each pooled to provide positive, neutral, and negative responses in a 3-category format.

Comparisons are presented within and across several categories of the samples. The data for each item are compared overall, within gender and racial/ethnic categories, and within disciplinary categories. SDR demographic data were not provided for all variables (e.g., race/ethnicity), so not all disaggregated comparisons are presented for all items.

Employment Status

Current employment status overall differed between Institute alumni and the national baseline, with Institute respondents significantly more likely to be unemployed than SDR respondents ($\chi^2=15.4$, $p<0.001$). Total count of unemployed Institute alumni was 19, compared to an expected cell count of 8.3. Employment differences for Black Institute alumni were significant when compared to Black SDR respondents, but at a lower magnitude ($\chi^2=5.0$, $p=0.025$). Differences between Hispanic Institute alumni and the SDR baseline were not significant.

Employment Related to Degree

This item asked respondents to indicate whether their current job was “Closely related (1),” “Somewhat related (2),” or “Unrelated (3)” to their Ph.D. field of study. Overall, Institute respondents did not differ significantly from the SDR baseline. Likewise, there were no differences by race/ethnicity or field of study. However, there were differences by gender. Specifically, women attending the Institute were significantly more likely than women participating in the SDR survey to hold a position closely related to their Ph.D., and men attending the Institute were significantly less likely to do so than their SDR counterparts ($\chi^2=23.0$, $p<0.001$).

Employment Sector

Several items asked respondents to categorize their current employment in terms of sector and role. Employment sectors examined were: 4-year College/University (including medical schools and research institutions), 2-year Colleges, Business/Industry, Self-Employment, Non-Profit, Federal Government, State/Local Government, and Non-U.S. Government. Across these sectors, the distribution of Institute alumni differed significantly from the SDR baseline, with significantly more alumni entering the 4-year College/University and Non-U.S. Government sectors and significantly fewer entering the Business/Industry, Federal Government, and State/Local Government sectors ($\chi^2=1540.0$, $p<0.001$). Table 11 provides sector-specific actual

and expected counts for those with significant differences between Institute and SDR participants, along with chi-square values for each cell.

Table 11. Significant Employment Sector Differences between Institute Alumni and SDR Baseline

Sector	Institute Count (Actual)	Expected Count	χ^2
4-year College/University	163	120.89	14.7
Non-U.S. Government	126	36.18	222.9
Business/Industry	40	67.07	10.29
Federal Government	23	88.12	48.12
State/Local Government	10	34.69	17.58

In these sectors, there were also significant differences by gender between Institute alumni and SDR respondents overall. Female Institute alumnae were significantly *more likely* to work in the 4-year College/University sector than female SDR respondents, and male Institute alumni were *less likely* than their male SDR counterparts ($\chi^2=14.9$, $p<0.001$). Female Institute alumnae were also more likely to have entered the Business/Industry sector than their female SDR counterparts ($\chi^2=4.2$, $p=0.041$). Female Institute alumnae were significantly more likely to work in the Non-U.S. Government sector than female SDR respondents overall, and male Institute alumni were less likely than their male SDR counterparts ($\chi^2=18.9$, $p<0.001$).

For those respondents who entered the 4-year College/University sector, position type was analyzed by comparing Institute alumni and SDR respondents in the following categories: Faculty Member, Postdoctoral Researcher/Research Associate, Administrator, and Other Position. Overall, Institute participants were much more likely to be in the Postdoctoral Researcher/Research Associate and Administrator categories and less likely to be in the faculty category ($\chi^2=39.6$, $p<0.001$). Table 12 shows sector-specific actual and expected counts for those with significant differences between Institute and SDR participants, along with chi-square values for each cell.

Table 12. Significant Differences in Academic Employment between Institute Alumni and SDR Baseline

Position	Institute Count (Actual)	Expected Count	χ^2
Faculty Member	88	115.63	6.60
Postdoctoral Researcher/Research Associate	61	41.00	9.76
Administrator	13	3.80	22.26

In these positions, there were also significant differences by gender between Institute alumni and SDR respondents. Female Institute alumnae were significantly more likely to work in Other positions than female SDR respondents, and male Institute alumni were less likely than their male SDR counterparts to work in Other positions ($\chi^2=5.4$, $p=0.020$). Likewise, female Institute alumnae were significantly more likely to work in Faculty positions than female SDR

respondents, and male Institute alumni were less likely to work in Faculty positions than their male SDR counterparts ($\chi^2=9.1$, $p=0.003$).

Overall, Institute alumni were less likely to be in a tenured/tenure-line position than SDR respondents overall ($\chi^2=25.5$, $p<0.001$). This trend was consistent for both women ($\chi^2=14.1$, $p<0.001$) and men ($\chi^2=8.4$, $p=0.003$).

Employment Compensation

Institute alumni were asked to report their current annual income by selecting one of the following categories: Less than \$30,000, \$30,000-\$39,999, \$40,000-\$49,999, \$50,000-\$59,999, \$60,000-\$69,999, \$70,000-\$79,999, \$80,000-\$89,999, \$90,000-\$99,999, \$100,000-\$149,999, or \$150,000+. Chi square analyses were conducted for three groups: less than \$50,000 per year, \$50,000-\$89,999, and \$90,000 or more per year. Reported income differed significantly between Institute alumni and the SDR baseline respondents only for the \$90,000 or more group.

For respondents earning at least \$90,000 per year, the overall difference was significant, with $\chi^2=7.9$ and $p=0.019$. Institute participants were significantly more likely to indicate their income fell into the \$90,000-\$99,999 category (actual count=24; expected count=15.6; $\chi^2=5.2$) and significantly less likely to indicate their income fell into the \$150,000+ category (actual count=12; expected count=18.9; $\chi^2=2.5$). Full results are shown in Table 13.

Table 13. Differences in Employment Compensation between Institute Alumni and SDR Baseline

Employment Compensation	Institute Count (Actual)	Expected Count	χ^2
Less than \$20,000	10	10.1	NSD
\$20,000-\$29,999	5	6.0	NSD
\$30,000-\$39,999	8	9.3	NSD
\$40,000-\$49,999	34	31.6	NSD
\$50,000-\$59,999	55	54.0	NSD
\$60,000-\$69,999	53	46.4	NSD
\$70,000-\$79,999	38	43.2	NSD
\$80,000-\$89,999	34	36.4	NSD
\$90,000-\$99,999	24	15.2	5.16
\$100,000-\$149,999	32	33.9	NSD
\$150,000+	12	18.9	2.54

When compared within gender groups, the distribution of salary categories differed significantly between Institute alumni and SDR baseline respondents only in income categories of at least \$80,000. Female Institute alumnae reported income at significantly greater rates than the SDR baseline at the \$80,000-\$89,999, \$90,000-\$99,999, and the \$100,000-\$149,999 categories, as shown in Table 14.

Male Institute alumni reported income in the \$80,000-\$89,999, \$90,000-\$99,999, and \$100,000-\$149,999 categories at significantly lower rates than the SDR baseline, as shown in Table 15.

Table 14. Differences in Employment Compensation between Female Institute Alumnae and SDR Baseline

Employment Compensation	Institute Count (Actual)	Expected Count	χ^2
\$80,000-\$89,999	24	16.7	3.22
\$90,000-\$99,999	17	11	3.28
\$100,000-\$149,999	18	11.5	3.74
\$150,000+	7	5.6	NSD

Table 15. Differences in Employment Compensation between Male Institute Alumni and SDR Baseline

Employment Compensation	Institute Count (Actual)	Expected Count	χ^2
\$80,000-\$89,999	10	17.3	3.1
\$90,000-\$99,999	7	13	2.77
\$100,000-\$149,999	14	20.5	2.08
\$150,000+	5	6.4	NSD

When compared within racial/ethnic groups, the distribution of employment compensation differed significantly between Institute alumni and SDR baseline respondents. Both Black and Hispanic Institute alumni differed significantly from SDR respondents of the same race/ethnicity in all income categories at or above \$40,000, with the exception of the \$80,000-\$89,999 category ($8.5 \leq \chi^2 \leq 33.9$). Across all categories with significant differences, Black Institute alumni were more frequently represented than their Black counterparts among SDR respondents. In contrast, Hispanic Institute alumni were more frequently underrepresented than their Hispanic counterparts among SDR respondents. Specific counts and χ^2 values are shown in Table 16.

Table 16. Differences in Employment Compensation between Black and Hispanic Institute Alumni and SDR Baseline

Employment Compensation	Black Institute Alumni			Hispanic Institute Alumni		
	Institute Count (Actual)	Expected Count	χ^2	Institute Count (Actual)	Expected Count	χ^2
\$40,000-\$49,999	20	12.8	4.0	13	20.2	2.55
\$50,000-\$59,999	46	25.5	16.5	11	31.5	13.35
\$60,000-\$69,999	41	25.9	8.88	13	28.2	8.15
\$70,000-\$79,999	28	17.6	6.19	10	20.4	5.32

\$80,000-\$89,999	23	18	NSD	12	17	NSD
\$90,000-\$99,999	21	12.5	5.83	3	11.5	6.31
\$100,000-\$149,999	24	14.1	6.94	12	21.9	4.47
\$150,000+	10	4.8	5.55	1	6.2	4.34

Employment Activities

Survey respondents were asked to indicate their primary activity in their professional roles, regardless of employment sector. Seven response categories were offered: Basic research (study to gain scientific knowledge primarily for its own sake), Applied research (study to gain scientific knowledge to meet recognized need), Development (knowledge from research for the production of materials and devices), Management (projects or people), Professional services (healthcare, financial services, legal services, etc.), Teaching, and Other. Overall, Institute alumni and SDR respondents differed significantly in their employment activities ($\chi^2=36.4$, $p<0.001$). Table 17 shows the differences in primary job responsibilities, with χ^2 values reported when differences are statistically significant.

Table 17. Significant Differences in Employment Activity between Institute Alumni and SDR Baseline

Employment Activity	Institute Count (Actual)	Expected Count	χ^2
Basic research	101	115.32	1.78
Applied research	120	156.37	8.46
Development	68	41.79	16.43
Management	66	50.33	4.88
Other	25	17.49	3.23

When compared within gender groups, the distribution of primary employment activities also differed significantly between Institute alumni and SDR baseline respondents (Female: $\chi^2=26.2$, $p<0.001$; Male: $\chi^2=31.5$, $p<0.001$). Female Institute alumnae differed significantly from female SDR respondents in the categories of Applied Research and Development, with the proportion of female Institute alumnae significantly lower in Applied Research (Institute count=76, Expected count=93.57, $\chi^2=3.3$) and significantly higher in Development (Institute count=43, Expected count=22.13, $\chi^2=19.7$). Institute alumni differed significantly from male SDR respondents in the categories of Basic Research, Applied Research, Development, Management, and Other, with the proportion of Institute alumni significantly lower in Basic Research (Institute count=38, Expected count=46.24, $\chi^2=1.5$) and Applied Research (Institute count=44, Expected count=62.63, $\chi^2=5.5$). Male Institute respondents had significantly higher proportions than their SDR counterparts in Development (Institute count=25, Expected count=18.43, $\chi^2=2.3$), Management (Institute count=29, Expected count=17.18, $\chi^2=8.1$), and Other (Institute count=14, Expected count=5.53, $\chi^2=13.0$).

When compared within racial/ethnic groups, the distribution of primary employment activities differed significantly between Institute alumni and SDR baseline respondents (Black: $\chi^2=20.2$, $p=0.003$; Hispanic: $\chi^2=23.5$, $p=0.001$). Black Institute alumni differed significantly from Black SDR respondents in the categories of Basic Research, Applied Research, and Development with the proportion of Institute alumni significantly higher in Basic Research (Institute count=71, Expected count=57.93, $\chi^2=2.95$) and Development (Institute count=45, Expected count=32.63, $\chi^2=4.69$). Black Institute respondents had a significantly lower proportion than their SDR counterparts in Applied Research (Institute count=84, Expected count=101.54, $\chi^2=3.0$). In contrast, Hispanic Institute participants differed significantly from SDR respondents only in the Development category, with Institute alumni having a higher proportion of respondents (Institute count=26, Expected count=12.02, $\chi^2=16.26$).

Discussion of Findings

Overall, the findings presented in this report indicate that participants find great value in the Institute for Teaching and Mentoring, both as current students and in retrospect after completing the Ph.D. Alumni further identify areas in which they feel their professional preparation from the Institute met or exceeded the preparation from their doctoral programs. Current students and alumni both identify specific sessions as differentially valuable in contributing to their academic and professional success. However, they also are consistent in their prioritization of “sense of community” as the most important aspect of the Institute, followed by “professional network,” with skill development most commonly ranked third.

The most unique outcomes from this evaluation are those that compare the professional readiness and employment outcomes of Institute alumni against respondents to the SDR from the same years. These comparisons provide a clear picture of how Institute alumni fare in their professional endeavors following the completion of their doctorates.

While several important indicators suggest that Institute participants do not exceed the SDR’s baseline data, it is vital to consider the limitations of disaggregation. For example, it was not possible to disaggregate available data by race/ethnicity in all cases. When SDR did not enable such comparisons, analyses examine the success of Institute alumni who responded to the survey (77% Black, 32% Hispanic) against a sample that is predominantly White (52%; 7% Black; 10% Hispanic). Accordingly, findings of no significant difference overall or by gender in fact show that historic gaps in academic and employment success are closing for Institute participants. One such finding is that the rate of female Institute alumnae attaining faculty positions is greater than the baseline rate for SDR respondents. Beyond being a positive outcome in its own right, it indicates that women of color who attended the Institute are disproportionately successful in securing faculty positions compared to a majority-White sample. It should be noted, however, that these positions are less likely to be tenured or tenure-line than those belonging to female respondents in the SDR baseline sample.

Given that the express purpose of AGEP funding is to enhance the diversity of the professoriate, the finding (that the rate of female Institute alumnae attaining faculty positions is greater than the baseline rate for SDR respondents) is important. Likewise, Black Institute alumni hold positions in which the primary activity is basic research at a rate higher than their Black counterparts from the SDR sample. The same trend is evident for alumni whose employment primarily entails development (i.e., using knowledge of research to inform the production of materials or devices; SDR). However, Hispanic Institute alumni do not differ from their Hispanic counterparts in the SDR sample.

Appendix

Online Survey

Start of Block: Consent

Introduction/ Purpose Dr. David Feldon, lead researcher for Empirical Basis, LLC, is conducting a research study on behalf of the Southern Regional Education Board (SREB) to identify the impact of participation in the Institute on Teaching and Mentoring may have on the satisfaction and career trajectory of its participants. You have been asked to take part because you registered for the Institute at least once since 2011. There will be approximately 6,000 total participants in this research.

Procedures If you agree to be in this research study, you will be asked to complete an online survey with questions about your experiences with the Institute, your graduate education, and your career goals. The survey has been designed to take approximately 15 minutes. If you choose to participate, all information you provide will be held in complete confidence. When you submit the survey, your name and other identifying information will be replaced by a randomly assigned number to ensure the anonymity of the data. The only record linking your identity to your survey responses will be a master list that matches your name and contact information to the numeric identifier for the purposes of ensuring you receive payment for participating (see Benefits statement below). Dr. Feldon will be the only person to have access to this list at any time. Once data collection has been completed, the list will be destroyed, leaving no means to link your survey responses to you as an identifiable individual.

Risks Participation in this research is minimal risk. There is small risk of loss of confidentiality, but we will take steps to reduce this risk, as described previously and in the Confidentiality section.

Benefits You will receive no direct benefit from this research. However, further understanding how best to assist graduate students in their careers may potentially benefit you (either directly or indirectly) in the future. You will receive a \$5 gift card for participating.

Explanation & offer to answer questions If you have any questions or research-related problems, you may reach (PI) Dr. Feldon at (435) 363- 6989, or at dffeldon@gmail.com.

Payment/Compensation If you participate, you will receive a \$5 gift card via email as a token of appreciation for your participation in this study. You will receive the link to claim this gift card in the same email account that received the invitation to participate in the survey.

Voluntary nature of participation and right to withdraw without consequence Participation in this research is entirely voluntary. Whether you choose to participate or not, there is absolutely no impact on you or your interactions with SREB now or in the future. You may refuse to participate or withdraw at any time without consequence or loss of benefits. You may also refuse to answer any specific question within the survey without losing your incentive gift card. If you wish to withdraw from participation after submitting survey or coursework responses, contact Dr. Feldon at dffeldon@gmail.com, and your information will be withdrawn.

Confidentiality Research records will be kept confidential, consistent with federal and state regulations. Only the PI will have access to identifiable data which will be stored in an encrypted

and password-protected format. To protect your privacy, personal, identifiable information will be removed from study documents and replaced with a study identifier as described above. Identifying information will be destroyed immediately following the end of data collection.

IRB Approval Statement The Institutional Review Board for the protection of human participants at Solutions IRB has approved this research study.

Q56 Please confirm in sentence form that you understand the nature of the survey and participation incentive.

Q57 Do you consent to participate in this survey?

Yes (17)

No (18)

End of Block: Consent

Start of Block: Default Question Block

Q1 Are you currently enrolled as a Ph.D. student?

Yes (1)

No (2)

Q42 What year did you begin your Ph.D. program?

Display This Question If Are you currently enrolled as a Ph.D. student? = No

Q2 Please tell us why you are not currently enrolled.

- Graduated with my Ph.D. (1)
- Graduated with my Master's degree and did not earn the Ph.D. (2)
- Decided to leave my program and not complete a degree (15)
- Currently on personal/medical leave and plan to return (16)
- Other (17)

Display This Question If:

Please tell us why you are not currently enrolled. = *Graduated with my Ph.D.*

Or Please tell us why you are not currently enrolled. = *Graduated with my Master's degree and did not earn the Ph.D.*

Q44 What is the name of the Ph.D. program from which you graduated?

Display This Question If:

Please tell us why you are not currently enrolled. = *Decided to leave my program and not complete a degree*

Or Please tell us why you are not currently enrolled. = *Currently on personal/medical leave and plan to return*

Q47 What is the name of the Ph.D. program in which you were enrolled?

Display This Question If:

Please tell us why you are not currently enrolled. = *Decided to leave my program and not complete a degree*

Or Please tell us why you are not currently enrolled. = *Currently on personal/medical leave and plan to return*

Q46 Which college or university did you attend to earn your Ph.D.?

Display This Question If:

Please tell us why you are not currently enrolled. = *Graduated with my Ph.D.*

Or Please tell us why you are not currently enrolled. = *Graduated with my Master's degree and did not earn the Ph.D.*

Q45 From which college or university did you graduate?

Display This Question If:

Please tell us why you are not currently enrolled. = *Graduated with my Ph.D.*

Or Please tell us why you are not currently enrolled. = *Graduated with my Master's degree and did not earn the Ph.D.*

Q3 In what year did you earn your graduate degree?

Display This Question If:

Please tell us why you are not currently enrolled. = *Decided to leave my program and not complete a degree*

Or Please tell us why you are not currently enrolled. = *Currently on personal/medical leave and plan to return*

Q4 What was the year of the last semester you were enrolled as a Ph.D. student?

Display This Question If: Are you currently enrolled as a Ph.D. student? = No

Q39 Are you currently employed for pay (hourly, salaried, fee-for-service, or profit share)?

- Yes (1)
 - No (2)
-

Display This Question If Are you currently employed for pay (hourly, salaried, fee-for-service, or profit share)? = No

Q41 Why are you not currently working?

- Retired (1)
 - On layoff/Terminated from a job (2)
 - Student (3)
 - Family responsibilities (4)
 - Chronic illness or permanent disability (5)
 - Suitable job not available (6)
 - Did not need or want to work (7)
 - Other (8)
-

Q50 Please indicate which of the following categories best describes your area(s) of study/research (you may select more than one).

- Life Sciences (1)
- Social Sciences and Humanities (2)
- Physical Sciences, Engineering, and Mathematics (3)
- Health Science (4)
- Other (please specify in next item) (5)

Display This Question If: Please indicate which of the following categories best describes your area(s) of study/research ... = *Life Sciences*

Q51 Within the life sciences, which area(s) best describe your research (you may select more than one)?

- Agricultural and Biological Sciences (1)
- Biochemistry, Genetics, and Molecular Biology (2)
- Immunology and Microbiology (3)
- Neuroscience (4)
- Pharmacology, Toxicology, and Pharmaceuticals (5)

Display This Question If: Please indicate which of the following categories best describes your area(s) of study/research ... = *Social Sciences and Humanities*

Q52 Within the social sciences, which area(s) best describe your research (you may select more than one)?

- Arts and Humanities (1)
- Business, Management, and Accounting (2)
- Decision Sciences (3)
- Economics, Econometrics, and Finance (4)
- Psychology (5)
- Social Sciences (6)

Display This Question If: Please indicate which of the following categories best describes your area(s) of study/research ... = *Physical Sciences, Engineering, and Mathematics*

Q53 Within the physical sciences, which area(s) best describe your research (you may select more than one)?

- Chemical Engineering (1)
- Chemistry (2)
- Computer Science (3)
- Earth and Planetary Science (4)
- Energy (5)
- Engineering (6)
- Environmental Science (7)
- Materials Science (8)
- Mathematics (9)
- Physics and Astronomy (10)

Display This Question If:
Please indicate which of the following categories best describes your area(s) of study/research ...
= *Health Science*

Q54 Within the health sciences, which area(s) best describe your research (you may select more than one)?

Medicine (1)

Nursing (2)

Veterinary (3)

Dentistry (4)

Health Professions (5)

Display This Question If: Please indicate which of the following categories best describes your area(s) of study/research ... = Other (please specify in next item)

Q55 Please specify the field(s) that best describe your research but did not fall under the categories offered.

End of Block: Default Question Block

Start of Block: Block 1

Q5 What is the name of the Ph.D. program in which you are enrolled?

Q6 What is the name of the college or university at which you are enrolled?

Q7 Indicate how desirable the following work activities are for your first job immediately following your PhD graduation.

	Desirable (1) (1)	Somewhat Desirable (2) (2)	Indifferent (3) (3)	Somewhat Not Desirable (4) (4)	Not Desirable (5) (5)
Basic research-- study directed toward gaining knowledge primarily for its own sake (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applied research-- study directed toward gaining knowledge to meet a recognized need (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development-- using knowledge gained from research for the production of materials, devices, and other products (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing or supervising people or projects (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional services (e.g., health care, counseling, student affairs & advising, financial services, legal services) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Indicate your preference for the following employment sectors for your first job immediately upon earning your Ph.D.

	Preferred (1) (1)	Somewhat Preferred (2) (2)	Indifferent (3) (3)	Somewhat Not Preferred (4) (4)	Not Preferred (5) (5)
Research university (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master's/Regional university (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Liberal arts college (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community or two-year college (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preschool, elementary, middle, secondary or school system (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
US federal/national government (including military) (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
US state or local government (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-US government (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not-for-profit organization or NGO (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business/For-profit company (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-employed (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9 How important will the following factors be to your decision to select your first job immediately following your PhD graduation?

	Extremely Important (1) (1)	Very Important (2) (2)	Important (3) (3)	Somewhat Important (4) (4)	Not Important (5) (5)
Salary (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benefits (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job security (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job location (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity for advancement (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual challenge (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Level of responsibility (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Degree of independence (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contribution to society (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work-life balance (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 1

Start of Block: Block 3

Q16 We would like to ask some questions about the jobs you have held since leaving graduate school. We are interested in any job, including postdoctoral appointments, residencies, fellowships, and internships.

Q18 In the following questions, we ask about your principal job and employer, that is, the employer for the job at which you work the most hours.

Q20 How closely is this job related to the subject matter of your Ph.D.?

- Closely related (1)
- Somewhat related (2)
- Not related at all (3)

Display This Question If: How closely is this job related to the subject matter of your Ph.D.? = Not related at all

Q19 How important were the following factors in making a decision to work in a job not closely related to the field of your PhD?

	Extremely Important (1) (1)	Very Important (2) (2)	Important (3) (3)	Somewhat Important (4) (4)	Not Important (5) (5)
Pay (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotion opportunities (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working conditions (e.g., hours, equipment, working environment) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job location (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change in career (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional interests (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family-related reasons (e.g., children, spouse's employment) (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job in doctoral field no available (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some other reason (please specify) (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21 During a typical week, at this position, how many hours do you work?

Q22 Which one of the following best describes your employment arrangement for this job?

- Regular employment (1)
- Temporary-Project-based employment (2)
- Temporary/Fixed-term employment (3)
- Tenure-track/ -eligible (4)
- Tenured (5)
- Self-employment (6)

Q23 Which one of the following best describes the sector of your employer for this job?

- Research university (1)
- Master's/Regional university (2)
- Liberal arts college (3)
- Community or two-year college (4)
- College or University system (5)
- Preschool, elementary, middle, secondary school or school system (6)
- US federal government (including military) (7)
- US state or local government (8)
- Non-US government (9)
- Not-for-profit organization or NGO (10)
- Business/For-profit company (11)

Display This Question If:

Which one of the following best describes the sector of your employer for this job? = *Research university*

Or Which one of the following best describes the sector of your employer for this job? =
Master's/Regional university

Or Which one of the following best describes the sector of your employer for this job? = *Liberal arts college*

Or Which one of the following best describes the sector of your employer for this job? = *Community or two-year college*

Or Which one of the following best describes the sector of your employer for this job? = *College or University system*

Q24 Which of the following best describes this job?

- Administrator (1)
 - Faculty member (2)
 - Non-faculty researcher (3)
 - Postdoctoral researcher/associate (4)
 - Other staff position (5)
-

Display This Question If:

Which one of the following best describes the sector of your employer for this job? = *Preschool, elementary, middle, secondary school or school system*

Q25 Which of the following best describes this job?

- Administrator (1)
 - Classroom teacher (2)
 - Other staff position (3)
-

Display This Question If:

Which one of the following best describes the sector of your employer for this job? = *US federal government (including military)*

Or Which one of the following best describes the sector of your employer for this job? = *US state or local government*

Or Which one of the following best describes the sector of your employer for this job? = *Non-US government*

Q26 Which of the following best describes this position?

- Civilian, career or contract (1)
 - Civilian, political appointee or elected official (2)
 - Military, non-civilian (3)
-

Q27 In what year did you start this position?

Q28 What is your title for this position?

Q29 In this job, what are your primary and secondary work activities?

	Primary (1) (1)	Secondary (2) (2)	Not Applicable (3)
Basic research--study directed toward gaining knowledge primarily for its own sake (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applied research--study directed toward gaining knowledge to meet a recognized need (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development--using knowledge gained from research for the production of materials, devices (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing or supervising people or projects (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional services (e.g., health care, counseling, student affairs & advising, financial services, legal services) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30 How important are each of the following attributes/skills in successfully performing your work in this job?

	Extremely important (1)	Very important (2)	Important (3)	Somewhat important (4)	Not important (5)
Persistence (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiative (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Self-control (3)	<input type="radio"/>				
Attention to detail (4)	<input type="radio"/>				
Achievement/effort (5)	<input type="radio"/>				
Analytical thinking (6)	<input type="radio"/>				
Independence (7)	<input type="radio"/>				
Innovation (8)	<input type="radio"/>				
Stress tolerance (9)	<input type="radio"/>				
Adaptability/flexibility (10)	<input type="radio"/>				
Dependability (11)	<input type="radio"/>				
Integrity (12)	<input type="radio"/>				
Leadership (13)	<input type="radio"/>				
Cooperation (14)	<input type="radio"/>				
Concern for others (15)	<input type="radio"/>				
Social orientation (16)	<input type="radio"/>				

Q31 How well did your Ph.D. program prepare you for this job?

- Extremely well (1)
 - Very well (2)
 - Well (3)
 - Fairly well (4)
 - Poorly (5)
-

Q32 How well did the Institute on Teaching and Mentoring expand your preparation for this job?

- Extremely well (1)
 - Very well (2)
 - Well (3)
 - Fairly well (4)
 - Poorly (5)
-

Q33 How many other jobs do you currently hold?

Q35 Given the perspective that you have gained since completing your Ph.D., if you had to start again, how likely is it that you would do the following?

	Definitely would (1)	Probably would (2)	Indifferent (3)	Probably would not (4)	Definitely would not (5)
Pursue a PhD in general (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pursue a PhD in the same field (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choose the same institution for doctoral education (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attend the Institute on Teaching and Mentoring (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q36 How well did your Ph.D. program prepare you in the following knowledge, attributes, and behaviors?

	Excellent (1)	Very well (2)	Moderately well (3)	Fair (4)	Poor (5)
Applying research methodologies, tools, and techniques appropriately (1)	<input type="radio"/>				
Grant writing (2)	<input type="radio"/>				
Research ethics and scholarly integrity (3)	<input type="radio"/>				

Developing new ideas, processes, or products, which are rooted in research (4)

Critically analyzing and evaluating findings and results (5)

Demonstrating a theoretical and practical understanding of your subject area and its wider research context (6)

Working constructively with colleagues, acknowledging their contribution (7)

Influencing others, providing direction and encouraging their contribution (8)

Communicating ideas clearly and persuasively in writing such as in journal articles, grant proposals, or reports (9)

Communicating ideas clearly and persuasively when speaking to others one-on-one or in

small groups (10) Communicating ideas clearly and persuasively to a variety of audiences who may not have technical backgrounds about your field of Ph.D. (11)	<input type="radio"/>				
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Q37 How well did the Institute on Teaching and Mentoring help you develop the following knowledge, attributes, and behaviors?

	Excellent (1)	Very well (2)	Moderately well (3)	Fair (4)	Poor (5)
Applying research methodologies, tools, and techniques appropriately (1)	<input type="radio"/>				
Grant writing (2)	<input type="radio"/>				
Research ethics and scholarly integrity (3)	<input type="radio"/>				
Developing new ideas, processes, or products, which are rooted in research (4)	<input type="radio"/>				
Critically analyzing and evaluating findings and results (5)	<input type="radio"/>				
Demonstrating a theoretical and practical	<input type="radio"/>				

understanding of your subject area and its wider research context (6)

Working constructively with colleagues, acknowledging their contribution (7)

Influencing others, providing direction and encouraging their contribution (8)

Communicating ideas clearly and persuasively in writing such as in journal articles, grant proposals, or reports (9)

Communicating ideas clearly and persuasively when speaking to others one-on-one or in small groups (10)

Communicating ideas clearly and persuasively to a variety of audiences who may not have technical backgrounds about your field of Ph.D. (11)

Q48 Over the years, the Institute on Teaching and Mentoring has offered many different sessions. Some of the most common session topics are listed below. Please check the boxes of any that you recall attending.

- Career options for the PhD (1)
- Conversations with the Elders (2)
- Academic integrity and ethics (3)
- Interdisciplinary research (4)
- Applying for your first job (5)
- Starting a business (6)
- Mentoring relationships (7)
- Conflict resolution (8)
- Developing your CV (9)
- Communicating about your research (10)
- Designing syllabi (11)
- Student learning (12)
- Outreach and service (13)
- Preparing for a career in higher education (14)
- Postdoctoral experiences (15)
- Completing the dissertation (16)
- Faculty work at different types of institutions (17)

- Opportunities with federal agencies (18)
- Financial planning (19)
- Preparing for interviews (20)
- Research systems and project management (21)
- Getting published (22)
- Statistics (23)
- Interacting with difficult colleagues (24)
- Managing stress and time (25)
- Academe and society (26)
- NSF Fellowship Bootcamp (27)
- Negotiating (28)
- Intellectual property (29)
- Getting funded (30)
- Teaching (31)
- Moving into administration (32)
- Grant writing (33)
- Issues for women of color (34)

Carry Forward Selected Choices from "Over the years, the Institute on Teaching and Mentoring has offered many different sessions. Some of the most common session topics are listed below. Please check the boxes of any that you recall attending."

Q85 To what extent do you find the information you received in each of the sessions you attended useful and important?

	Extremely (1)	Very much (2)	Moderately (3)	Slightly (4)	Not at all (5)
Career options for the PhD (x1)	<input type="radio"/>				
Conversations with the Elders (x2)	<input type="radio"/>				
Academic integrity and ethics (x3)	<input type="radio"/>				
Interdisciplinary research (x4)	<input type="radio"/>				
Applying for your first job (x5)	<input type="radio"/>				
Starting a business (x6)	<input type="radio"/>				
Mentoring relationships (x7)	<input type="radio"/>				
Conflict resolution (x8)	<input type="radio"/>				
Developing your CV (x9)	<input type="radio"/>				
Communicating about your research (x10)	<input type="radio"/>				
Designing syllabi (x11)	<input type="radio"/>				

Student learning (x12)	<input type="radio"/>				
Outreach and service (x13)	<input type="radio"/>				
Preparing for a career in higher education (x14)	<input type="radio"/>				
Postdoctoral experiences (x15)	<input type="radio"/>				
Completing the dissertation (x16)	<input type="radio"/>				
Faculty work at different types of institutions (x17)	<input type="radio"/>				
Opportunities with federal agencies (x18)	<input type="radio"/>				
Financial planning (x19)	<input type="radio"/>				
Preparing for interviews (x20)	<input type="radio"/>				
Research systems and project management (x21)	<input type="radio"/>				
Getting published (x22)	<input type="radio"/>				
Statistics (x23)	<input type="radio"/>				
Interacting with difficult colleagues (x24)	<input type="radio"/>				
Managing stress and time (x25)	<input type="radio"/>				

Academe and society (x26)	<input type="radio"/>				
NSF Fellowship Bootcamp (x27)	<input type="radio"/>				
Negotiating (x28)	<input type="radio"/>				
Intellectual property (x29)	<input type="radio"/>				
Getting funded (x30)	<input type="radio"/>				
Teaching (x31)	<input type="radio"/>				
Moving into administration (x32)	<input type="radio"/>				
Grant writing (x33)	<input type="radio"/>				
Issues for women of color (x34)	<input type="radio"/>				

Carry Forward Selected Choices from "Over the years, the Institute on Teaching and Mentoring has offered many different sessions. Some of the most common session topics are listed below. Please check the boxes of any that you recall attending."

Q86 To what extent are you confident in your ability to use the information you received in each of the sessions you attended?

	Extremely (1)	Very much (2)	Moderately (3)	Slightly (4)	Not at all (5)
Career options for the PhD (x1)	<input type="radio"/>				
Conversations with the Elders (x2)	<input type="radio"/>				
Academic integrity and ethics (x3)	<input type="radio"/>				
Interdisciplinary research (x4)	<input type="radio"/>				
Applying for your first job (x5)	<input type="radio"/>				
Starting a business (x6)	<input type="radio"/>				
Mentoring relationships (x7)	<input type="radio"/>				
Conflict resolution (x8)	<input type="radio"/>				
Developing your CV (x9)	<input type="radio"/>				
Communicating about your research (x10)	<input type="radio"/>				
Designing syllabi (x11)	<input type="radio"/>				
Student learning (x12)	<input type="radio"/>				

Outreach and service (x13)	<input type="radio"/>				
Preparing for a career in higher education (x14)	<input type="radio"/>				
Postdoctoral experiences (x15)	<input type="radio"/>				
Completing the dissertation (x16)	<input type="radio"/>				
Faculty work at different types of institutions (x17)	<input type="radio"/>				
Opportunities with federal agencies (x18)	<input type="radio"/>				
Financial planning (x19)	<input type="radio"/>				
Preparing for interviews (x20)	<input type="radio"/>				
Research systems and project management (x21)	<input type="radio"/>				
Getting published (x22)	<input type="radio"/>				
Statistics (x23)	<input type="radio"/>				
Interacting with difficult colleagues (x24)	<input type="radio"/>				
Managing stress and time (x25)	<input type="radio"/>				
Academe and society (x26)	<input type="radio"/>				

NSF Fellowship Bootcamp (x27)	<input type="radio"/>				
Negotiating (x28)	<input type="radio"/>				
Intellectual property (x29)	<input type="radio"/>				
Getting funded (x30)	<input type="radio"/>				
Teaching (x31)	<input type="radio"/>				
Moving into administration (x32)	<input type="radio"/>				
Grant writing (x33)	<input type="radio"/>				
Issues for women of color (x34)	<input type="radio"/>				

Carry Forward Selected Choices from "Over the years, the Institute on Teaching and Mentoring has offered many different sessions. Some of the most common session topics are listed below. Please check the boxes of any that you recall attending."

Q83 To what extent do you feel each of the following sessions has positively influenced your professional/academic success?

	Extremely important (1)	Very important (2)	Moderately important (3)	Slightly important (4)	Not at all important (5)
Career options for the PhD (x1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conversations with the Elders (x2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Academic integrity and ethics (x3)	<input type="radio"/>				
Interdisciplinary research (x4)	<input type="radio"/>				
Applying for your first job (x5)	<input type="radio"/>				
Starting a business (x6)	<input type="radio"/>				
Mentoring relationships (x7)	<input type="radio"/>				
Conflict resolution (x8)	<input type="radio"/>				
Developing your CV (x9)	<input type="radio"/>				
Communicating about your research (x10)	<input type="radio"/>				
Designing syllabi (x11)	<input type="radio"/>				
Student learning (x12)	<input type="radio"/>				
Outreach and service (x13)	<input type="radio"/>				
Preparing for a career in higher education (x14)	<input type="radio"/>				
Postdoctoral experiences (x15)	<input type="radio"/>				
Completing the dissertation (x16)	<input type="radio"/>				
Faculty work at different types	<input type="radio"/>				

of institutions (x17)					
Opportunities with federal agencies (x18)	<input type="radio"/>				
Financial planning (x19)	<input type="radio"/>				
Preparing for interviews (x20)	<input type="radio"/>				
Research systems and project management (x21)	<input type="radio"/>				
Getting published (x22)	<input type="radio"/>				
Statistics (x23)	<input type="radio"/>				
Interacting with difficult colleagues (x24)	<input type="radio"/>				
Managing stress and time (x25)	<input type="radio"/>				
Academe and society (x26)	<input type="radio"/>				
NSF Fellowship Bootcamp (x27)	<input type="radio"/>				
Negotiating (x28)	<input type="radio"/>				
Intellectual property (x29)	<input type="radio"/>				
Getting funded (x30)	<input type="radio"/>				
Teaching (x31)	<input type="radio"/>				

Moving into administration (x32)	<input type="radio"/>				
Grant writing (x33)	<input type="radio"/>				
Issues for women of color (x34)	<input type="radio"/>				

Q87 Overall, to what extent do you feel that attending the Institute on Teaching and Mentoring has been important to your academic/professional success?

- Extremely important (1)
- Very important (2)
- Moderately important (3)
- Slightly important (4)
- Not at all important (5)

Q88 People may find different kinds of value in attending the Institute. Please rank the following in order of importance to you (1=most important, 5=least important):

- _____ Sense of community (1)
- _____ Professional network (2)
- _____ Skill development (3)
- _____ Career planning (4)
- _____ Personal affirmation (5)

End of Block: Institute

Start of Block: Demographics

Q38 Please indicate the range that best estimates your income from all sources (including income from work, investments, alimony, etc.) prior to taxes and deductions for this calendar year.

- Don't know (1)
 - Less than \$20,000 (2)
 - \$20,000-\$29,999 (3)
 - \$30,000-\$39,999 (4)
 - \$40,000-\$49,999 (5)
 - \$50,000-\$59,999 (6)
 - \$60,000-\$69,999 (7)
 - \$70,000-\$79,999 (8)
 - \$80,000-\$89,999 (9)
 - \$90,000-\$99,999 (10)
 - \$100,000-\$149,999 (11)
 - \$150,000 or more (12)
-

Q10 Do you identify as:

- Male (1)
 - Female (2)
 - Other (3)
-

Q11 What is your citizenship status?

- US citizen (1)
 - Permanent US resident ("Green Card") (2)
 - Temporary resident (non-US citizen) (3)
-

Q12 Are you Hispanic or Latino?

- Yes (1)
 - No (2)
-

Q13 What is your racial background? (Select all that apply.)

- American Indian/Alaska Native (1)
 - Native Hawaiian or other Pacific Islander (2)
 - Asian (3)
 - Black or African American (4)
 - White (5)
-

Q14 What is the year of your birth?

Q15 What is the highest level of educational attainment of your parents?

	Father	Mother
	Answer 1 (1)	Answer 1 (1)
No formal schooling (1)	<input type="radio"/>	<input type="radio"/>
Less than high school graduate (2)	<input type="radio"/>	<input type="radio"/>
High school graduate/GED (3)	<input type="radio"/>	<input type="radio"/>
Some college (4)	<input type="radio"/>	<input type="radio"/>
Associate's degree (5)	<input type="radio"/>	<input type="radio"/>
Bachelor's degree (6)	<input type="radio"/>	<input type="radio"/>
Master's degree (MA, MS, MSW, etc.) (7)	<input type="radio"/>	<input type="radio"/>
Professional degree (MD, DDS, JD, etc.) (8)	<input type="radio"/>	<input type="radio"/>
Doctoral degree (Ph.D., Ed.D., etc.) (9)	<input type="radio"/>	<input type="radio"/>
Not applicable/unknown (10)	<input type="radio"/>	<input type="radio"/>

Q59 Thank you for completing the survey. You will receive an email from SREB with details on how to access your gift card in the next 2-3 weeks.