Summary of Results from AGEP-NC Doctoral Student Survey

of Department Practices and Climate

Fall 2020 - Department of Statistics

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# Highlights, Teasers, and Areas for Attention

Statistics Department

This survey was sent in October 2020 to 121 doctoral students who had completed at least one year in the Statistics Ph.D. program.

1. Great response rate – 75% (91/121) of students responded.
2. Students rate their relationship with their advisor very highly – 93% rated it as either Good or Excellent
3. Students rate their relationships with other grad students highly – 88% rated them as either Good or Excellent
4. Students report getting lots of guidance on research from their advisors, but not much experience teaching or mentoring or getting training on teaching.
5. Students don’t report much experience giving presentations at conferences or in seminars
6. 21% of students report lack of adequate funding for living expenses
7. 13% of students report difficulty getting courses they want
8. In the free comments section, students identified finding a research topic, learning how to do research and time management/workload as their biggest challenges. They most often identified working with their advisor and taking courses as their biggest sources of growth experiences.

Diversity (5 AGEP-NC departments pooled to protect confidentiality)

1. 40% of URM students rate the department environment for minority students as poor or satisfactory.
2. 74% of URM students rate their relationship with their advisor as Good or Excellent, compared to 89% of other students.
3. 35% of URM student report lack of adequate funding for living expenses
4. 20% of URM students do not feel safe voicing their opinions to their advisors.

# Response rates

* Statistics Doctoral Students who had completed at least one year of doctoral program: 91/121 (75%)

# Student Views of the Statistics Department

Most positive responses:

* 90% of respondents agree or strongly agree that the department is a welcoming place to learn and work.
* 88% rate their relationships with other students as good or excellent.

Things faculty should know:

* 21% of respondents reported that they do not have adequate funding for living expenses.
* 13% disagreed or strongly disagreed that the courses they need are available.

Overall, 81% of respondents would recommend the department to other students.

# Doctoral Student Advising

* 47%, 46% of students report excellent or good relationship with advisor, respectively.

# Experiences provided to graduate students by faculty mentors

(Mean is in parentheses: 1=Frequently, 2=Occasionally, 3=Seldom, 4=Never)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Faculty Responses  n=27 | Graduate Student Responses,  Time in Program = 1 to 3 years  n=43 | Graduate Student Responses, Time in Program >3 years  n=50 |
| Frequently Mean: 0-1.5 | * Giving them guidance in Conducting research (1.33) * Giving them career advice (1.33) * Helping them author or co-author a paper on their research (1.50) | * Receiving guidance in conducting research (1.39) | * Receiving guidance in conducting research (1.38) |
| Occasionally  Mean: 1.51-2.50 | * Facilitating the presentation of their research at this university (1.88) * Facilitating the presentation of their research at a regional or national conference (1.92) * Giving them personal advice (2.15) * Introducing them to faculty in their research area from other institutions (2.19) | * Receiving career advice from my advisor (1.98) * Receiving personal advice from my advisor (2.19) * Receiving career advice from another university faculty or staff member (2.50) | * Receiving career advice from my advisor (1.88) * Authoring or co-authoring a paper on my research (2.17) * Receiving personal advice from my advisor (2.23) * Teaching a semester-long course or recitation (2.44) * Being introduced by my advisor to faculty in my research area from other institutions (2.50) |
| Seldom or Never  Mean: 2.51-4 | * Encouraging them to attend a workshop or course on teaching (2.85) * Encouraging them to teach a semester-long course or recitation (3.00) * Assigning them to mentor an undergraduate student (3.27) * Inviting them to fill in for me or another instructor in a session of a class or recitation (3.38) | * Receiving personal advice from another university faculty or staff member (2.83) * Being introduced by my advisor to faculty in my research area from other institutions (2.83) * Authoring or co-authoring a paper on my research (2.88) * Teaching a semester-long course or recitation (3.00) * Attending a workshop or course on teaching (3.00) * Mentoring an undergraduate student (3.02) * Presenting my research at regional or national conferences (3.38) * Presenting my research at seminars at my university (3.43) * Filling in for an instructor in a session of a class or recitation (3.49) | * Presenting my research at regional or national conferences (2.58) * Receiving career advice from another university faculty or staff member (2.58) * Receiving personal advice from another university faculty or staff member (2.60) * Presenting my research at seminars at my university (2.69) * Filling in for an instructor in a session of a class or recitation (2.73) * Attending a workshop or course on teaching (2.79) * Mentoring an undergraduate student (2.79) |

# Diversity

## Views in the Statistics Department

## Faculty and student ratings of the Statistics department environment for minority students and women

## Five departments: Student ratings of department environment by URM status (Applied Ecology, Biochemistry, Chemistry, Poultry Science, Statistics)

Note: There are too few Black/African American, Native American, Latinx and Pacific Islander (URM, or underrepresented minority) students to report their results separately for each department. Results of select survey questions for all five AGEP-NC Cohort I departments are pooled together in the following charts. For comparison, the responses for Statistics students, not broken out by race/ethnicity, are also provided.

Response rate for 5 departments:

* URM: 20/35=57%
* Other: 168/223 = 75%

n=20 URM students, n=168 other students

# Statistics students’ answers to free text questions

## What are the biggest challenges you personally face in completing your degree program?

Themes from free text responses with some sample comments (Note: some comments have been split into more than one category):

* Research process, knowing how to do research, finding a research topic, writing papers: 18
  + “It is challenging to find new research idea.”
  + “I feel the biggest long-term challenge will be publishing research at a level that qualifies me for an academic position.”
* Workload; Time management; Balancing work, courses, research: 16
  + “I believe it should be the work life balance. There are pressure for publication and on the other hand I need to balance my life and health.”
  + “I think it's the time conflict between being a TA and doing research. Being a TA (especially for undergrad classes with up to 70 students) can very time consuming.”
  + “During the first two years, the course workload is a bit heavy and there was not much time left for exploring different areas of research.”
  + “Currently, taking classes and doing research at the same time is a lot.”
* Stress, motivation, lack of confidence, burn out: 10
  + “Mental and psychological aspect, anxiety and depression.”
  + “Rediscovering the desire and drive to work hard each and every day, especially having to work from home.”
  + “The lack of personal time for mental health recovery.”
* COVID-19: 5
  + “The virtual meeting is not a good way to communicate the idea and calculation especially for some theoretical research.”
* Money for living expenses, student fees: 4
  + “The living expenses and having to take an extra job a few hours a week for the money.”
* Limit of 4/5 years of funding: 4
  + “Funding. I have a TAship up to 4 years, but I'm not confident I'll be able to finish my degree within that time.”
* Personal and family health issues: 3
* Qualifying exam: 2
* Uncertainty and lack of structure: 2
  + “Uncertainty. Doctoral program takes long time to finish.”
* Passive or busy advisors: 2
* Lack of support from faculty other than advisor: 1
* Lack of attention to cultural issues: 1
* Condescending faculty member: 1
* Visa/immigration issues: 1
* Computing resources: 1
* No problems!: 2

“Time-I wish I have more time. :)”

## When you think back on your graduate program at this point, what were one or two important growth experiences you had and why were they important?

Themes from the free text responses and some sample comments (Note: some comments have been split into more than one category):

* Meetings with advisor and coursework: 14
  + “Learning how to research from my advisors. I met with a faculty member, that I had previously interacted with, to ask about her career. She then went out of her way to introduce me to and get me meetings with people working in the field that I am interested in.”
* Learning about areas of Statistics; industry collaborations; internships: 8
  + “Finding an application that I enjoyed and then working on the paper.”
  + “The other would be participating in an internship, as it gave me good perspective on my skills and interests.
  + “Internship experience; showed me that I have the skills to learn new things on my own.
* Failing an exam, getting a bad grade: 5
  + “Failing an exam the first semester. It was a wake up call.”
  + “I failed the first test of a core class and had to remain motivated to learn the master the rest of the material for a subpar grade. It was a lesson in making the best of an unfortunate situation and in personal preparation.”
* Networking and interactions with others: 5
  + “Meeting weekly with fellow students for structure and accountability.”
* Basic exam, prelim exam: 4
  + “Passing the basic exam; showed me I could make up for my deficiencies with hard work.”
* Asking for help; recalibrating idea of success: 4
  + “Learning not to compare my progress and abilities with others'.”
  + “ask for help from classmates”
  + “Learning to be ok with not being at the top of the class. I learned to re-prioritize life and academic goals and I learned to redefine success in a more reasonable way. Learning to be comfortable with my field’s academic literature has also been a huge growth step and one of the main goals I wanted to accomplish in graduate school.”
* No growth experiences: 4
* Attending a conference: 3
  + “The preparation for and attendance of the Women in Statistics and Data Science Conference in 2019 provided mentoring from three wonderful faculty members and networking with female statisticians from across the country. This experience helped me decide to finish the PhD.”
* Independent work: 3
  + “Learning how to adjust without the same cultural support community that I had in my undergraduate studies, because I won't always be in a situation where I have that support.”
* Making a change: 2
  + “Changing advisors, as my previous advisor was at best disrespectful of students' time and at worst outright disrespectful.”
* Teaching a class: 2
  + “One of the growth comes from my teaching assistant career. I learn how to be consistent with my research when there are busy TA tasks. I learn to work hard, to be kind to students and all other people and learn to take the responsibility.”

## Do you have any other comments about your graduate program or experiences?

Themes from the free text and some sample comments (Note: some comments have been split into more than one category):

* Department environment is positive: 8
  + “Overall I think NCSU statistics is a great program for its students- in terms of course quality, research, and how the school cares about the wellbeing of its students.”
* Exams are difficult, need to help students start research, courses sometimes not available in areas of interest: 6
  + “Too many people get forced out of the program. Way too many classes, exams and prelims. Feel like research is highly hindered because of all of the other requirements.”
* Student/faculty relations – positive: 3
* Student/faculty relations – need improvement: 3
* Program is disappointing: 3
* Need to improve department communication with graduate students: 3
* Lack of funding, high fees: 2
  + “I only wish the funding situation was better for international PhD students.”
* Isolation during pandemic: 1
  + “Perhaps due to the Covid-19, I feel isolated when doing research. I think I need some opportunities to cooperate with someone in a group to inspire each other. I will feel more comfortable when I can share ideas with some team members instead of dealing on my own.”
* Lack of diversity: 1

“People in the department are all friendly. The workload is kind of heavy.”

“Stressful and tired, but hopefully they (courses and exams) are worthwhile.”