How Do Departments Support Their Underrepresented Minority Doctoral Students? Are They Doing Enough?

Introduction

For many years there has been concern about the status of underrepresented minorities (URMs) in graduate education and their underrepresentation in the professoriate. More than 30 years ago, broadening the participation of URMs in STEM fields was made a national priority [1]. Still the underrepresentation has persisted, aided in part by obstacles at every level of higher education [2]. Numerous attempts have been made to address the concerns, including efforts to improve mentoring practices [3] [4] [5].

There are many resources on effective mentoring and specifically effective mentoring of students across differing races and ethnicities. One particularly helpful model by Johnson lists eighteen functional mentoring competencies that can help clarify the specific things mentors can do to help their mentees [6]. Two clusters of competencies are particularly relevant for the study discussed in this paper. One cluster includes clarifying performance expectations, actively teaching and training, and providing feedback on performance. A second cluster involves helping mentees gain visibility for their work and encouraging the formation of mentoring networks. In addition, URM graduate students have challenges and obstacles including isolation, stress, and stereotype threat that require specific strategies to address. Key strategies for mentoring across race include (among others) recognizing stereotypes and appreciating individual differences, manifesting diversity-promoting attitudes and behaviors, increasing cross-cultural competence, and promoting secondary mentorships [6].

Beginning in 1999, the National Science Foundation has sponsored the Alliances for Graduate Education and the Professoriate (AGEP) program to increase the number of URMs receiving PhDs and the number of URMs entering the professoriate, with effective mentoring being a primary focus of AGEP-funded projects [1]. Three public universities including one HBCU are currently carrying out a five-year AGEP project to develop and pilot-test a model program whose mission is to facilitate the movement into faculty positions of URM STEM doctoral candidates who are US citizens. The program will help department faculty increase their understanding of the issues facing underrepresented minorities in doctoral programs, identify and remedy departmental practices that may be hindering URM student success, and examine and improve their own mentoring practices. The theoretical framework of the model is the Kezar and Eckel model of change for colleges and universities, which proposes five core elements: supportive senior administration, collaborative leadership, robust project design, faculty development, and visible actions [7].

At the heart of the project are the *Fellows*, usually tenured faculty members in participating STEM departments who share a strong interest in URM student success, with contributions also being made by other departmental faculty members, department chairs, and department graduate program coordinators (*collaborative leadership*). The Fellows function as change agents, helping faculty in their departments to better understand the experiences of URM students and facilitating the development of a written plan for making changes in department policies and practices to improve URM doctoral student success. They also implement initiatives funded by the grant, e.g. training faculty in mentoring graduate students, bringing in external speakers and

sending faculty members to conferences relevant to URM graduate student success, etc. (*robust design, visible actions*).

A *cohort* comprises the Fellows along with all other faculty and doctoral students in the Fellows' departments at a single university. Each cohort remains actively engaged in the program for two years. Participating departments have committed to releasing the Fellows from other service activities so that they may focus on the project during their two-year terms (*robust design*). Over the life of the project, six cohorts—two at each participating university—will be assembled and surveyed at the beginning and end of the department's two-year participation in the project. More detail about the project, the change model on which it is based, and specific readings discussed by the Fellows can be found in [8].

Fellows meet about seven times per year on their home campuses to discuss short readings on topics relevant to URM graduate student success, such as mentoring, publishing, and cultural issues. Results of baseline surveys of faculty and students described in this paper are provided to Fellows to be shared in the department discussions (*faculty development*). The Fellows periodically meet with their department chairs and graduate program coordinators and lead discussions with faculty in their home departments to share information generated at those sessions (*faculty development*). In addition, the Fellows, chairs, program coordinators, deans, and provosts from each participating institution attend program-wide meetings twice a year at which they learn from the experiences of their counterparts at the other two universities (*supportive senior administration, faculty development*).

Why the project's focus on the department level? Since URM students spend most of their time in their departments as they take classes, attend seminars, conduct research, and interact informally with department faculty, staff, and other graduate students, the climate they experience and the support they receive can have a major impact on their success. In addition, changes in a department can last well beyond the end of a grant. When interventions address students directly, once they graduate there may be no lasting changes that result from the program. On the other hand, when faculty attitudes and mentoring practices change, the changes can last and continue to help students succeed long after the grant expires (*robust design*).

In this paper, we describe the baseline surveys and the results from their administration to the first cohort of faculty and students at one university. The results to be reported shed light on the following questions:

1. What mentoring practices do faculty report using with graduate students? What mentoring practices do graduate students report receiving? Are there differences in those perceptions?
2. What is the quality of the department environment for URM students? Do perceptions of the environment differ between faculty, URM students, and non-URM students?

Methods

To initiate the gathering of baseline information during the first year of the project, the first cohort of six STEM departments at one of the universities, was surveyed online using Qualtrics. There were separate surveys for faculty and doctoral students who had completed at least one year of their program. Students in their first year were not included because most were heavily

involved with coursework and had not yet been paired with a research advisor or faculty mentor, and so would have been unable to answer many of the survey questions.

Both surveys were developed as a part of the project's formative evaluation process for monitoring progress toward the changes the project is intended to effect. Since the surveys were designed for evaluation, the university's Institutional Review Board exempted them from review and did not restrict their publication. The student survey was pilot tested with graduate students at three universities as a part of a 2013 National Science Foundation project to examine the mentoring experiences of graduate students in Materials Science and Engineering. Changes were made to the survey to specifically address the project goals.

The model program objectives are to improve the URM students' doctoral program completion rates and to increase the number of graduates who go into faculty positions. The student survey (Appendix A) includes items that shed light on the students' experiences and attitudes likely to affect those outcomes, such as "I understand what my faculty advisor expects of me" and "My department is a welcoming place to learn and work." Items in Questions 1-3 measure the kinds of mentoring and advising experiences students are having as well as their perceptions of levels of department support. In Questions 4 and 5, students are asked about their confidence that they will complete their degree program and career plans after they graduate. Open-ended questions about challenges the students are facing and growth experiences they have had serve to inform department administrators and faculty members about things the department is doing well and areas for improvement.

The faculty survey (Appendix B) asks faculty members to (a) rate their level of confidence in their advising and mentoring graduate students generally and specifically those in cultural groups different from their own (Questions 1-2); (b) indicate the frequency and kinds of experiences they typically provide their graduate students, such as helping them author or co-author papers on their research or assigning them to mentor undergraduate researchers (Question 3); (c) characterize the importance to the department of increasing the number of its URM students and their retention to degree completion, and outline what specific actions have been taken to each of those ends (Questions 4-8); (d) rate the degree to which they believe URM doctoral students find their department to be a welcoming and supportive environment (Question 9); (e) describe what they consider the most important things faculty can do to support the growth and eventual career success of their graduate students (Question 10).

Analysis of the survey data began with a compilation of descriptive statistics for each survey with all respondents combined. Responses to the question about the frequency and kinds of experiences of (1) faculty and (2) students with 3 or more years in their graduate program were then compared and subjected to two-tailed t-tests for populations with unequal variances. The goal was to see how closely the faculty and student perceptions of the students' experiences matched. Student responses to all of the questions were broken out by whether the students identified themselves as URM or non-URM in their survey. If they selected one of the NSF-defined URM categories (Black/African, Hispanic/Latinx, Native American, or Pacific Islander), they were included in the URM group. Since the number of URM students was small (n=16), questions where there appeared to be a difference between the responses of the URM and non-URM students were highlighted using descriptive statistics and Fisher's Exact Test to determine whether the distributions differed and the level of significance of the difference. In addition,

URM student and faculty perceptions of the climate in the department for URM students were compared.

Open-ended questions were included in both surveys but were not analyzed for this paper. Analyses of the responses will be part of future work once additional cohorts have been surveyed.

Results

The survey was left open for three weeks and three reminder emails were sent to non-respondents. Table 1 shows the response rates and demographic data for the faculty and student respondents.

Seventy-nine of 337 faculty members surveyed responded for a response rate of 23%. Rates varied from department to department, with the three smallest departments having the highest response rates (40%, 50%, and 57%) and the two lowest rates (14% and 22%) coming from large programs. One hundred three out of 356 doctoral students responded for a response rate of 29%. As with the faculty, the response rates varied widely by department from a high of 82% in a small department with fewer than 15 graduate students to 23% in the largest department with over 100 graduate students.

Table 1. Response Rates of Faculty and Doctoral Students.

	Survey links sent	Responses	Response rate
Faculty-Dept. 1	45	10	22%
Faculty-Dept. 2	20	8	40%
Faculty-Dept. 3	196	27	14%
Faculty-Dept. 4	24	12	50%
Faculty-Dept. 5	14	8	57%
Faculty-Dept. 6	38	14	37%
All Faculty combined	**337**	**79**	**23%**
Students-Dept. 1	32	8	25%
Students-Dept. 2	11	9	82%
Students-Dept. 3	51	21	41%
Students-Dept. 4	99	25	25%
Students-Dept. 5	31	10	32%
Students-Dept. 6	132	30	23%
All Students combined	**356**	**103**	**29%**

The students were asked to identify their race and ethnicity, which some declined to do and others selected multiple categories. The results, which are shown in Table 2, were not distributed to the department cohort to preserve the students' confidentiality. The faculty were not asked demographic questions in their survey.

Table 2. Race and ethnicity data of student respondents.

Race/Ethnicity (multiple categories could be selected)	Percentage of total	Number
Asian	21%	21
Black/African	5%	5
Caucasian/White	52%	53
Hispanic/Latinx	10%	10
Native American	1%	1
Pacific Islander	1%	1
Other	2%	2
I prefer not to answer.	9%	9
Total		**102**

Table 3 reports the genders of students responding to the survey. They were given the choice of male, female, other, or I prefer not to say.

Table 3. Genders of student respondents.

Gender	Percentage of total	Number
Female	61%	60
Male	38%	37
Other	0%	0
I prefer not to say.	1%	1
Total	**100%**	**98**

Table 4 reports the results from preliminary analyses of identical or closely related questions in the student and faculty surveys. In one of those questions, respondents were asked to estimate the frequency with which they provided (faculty) or experienced (students) each of several selected mentoring and advising practices. The possible responses were 1 (frequently), 2 (occasionally), 3 (seldom), and 4 (never). For this question, we only included responses from graduate students (URM and non-URM) who had been in their programs for three or more years (n=48), since most students with fewer than three years would not have experienced very many of these mentoring activities because of their primary focus on classes and preliminary examinations. The mean response values for faculty and graduate students were compared via t-test to gauge the levels of significance of the differences reported. Table 4 shows the results.

Students reported significantly lower frequencies than faculty for eight of the eleven mentoring practices and a greater frequency for only one practice—encouraging students to teach a semester-long course or recitation. There were no significant differences in the frequencies reported by faculty and students of inviting students to substitute-teach a session of a class or recitation and assigning a student to mentor an undergraduate student. A possible limitation in interpretation of these results is that the faculty responding to the survey are not necessarily the same individuals serving as advisors or mentors to the students who responded.

Table 4. Faculty and student perceptions of mentoring and advising.

Activity	Faculty (n=78)		Doctoral students ≥ 3 yrs in program (n=48)		
	Mean$_a$	SD	Mean$_b$	SD	t-stat
Student getting guidance in conducting research	1.07	0.31	1.56	0.57	5.34***
Student presenting research at home university	1.40	0.66	2.21	1.03	9.21***
Student presenting research at national or regional conference	1.51	0.76	1.98	0.89	2.96**
Student authoring or co-authoring a paper on research	1.27	0.65	2.06	1.03	4.73***
Student being introduced to faculty in their research area at other universities	1.71	0.78	2.31	1.11	3.26**
Student substitute-teaching a session of a class or recitation	2.77	1.00	2.88	0.97	0.58
Student being encouraged to teach a semester-long course or recitation	3.12	0.96	2.63	1.12	-2.50*
Student being encouraged to attend a workshop or course on teaching	2.34	0.99	2.79	1.12	2.31*
Student being assigned to mentor an undergraduate student	2.16	1.13	2.08	1.17	-0.39
Student getting career advice	1.17	0.46	2.29	1.08	6.84***
Student getting personal advice	2.12	0.80	2.50	1.11	2.04*

a1 = frequently did or arranged, 4 = never did or arranged

b1 = frequently experienced, 4 = never experienced

*p < .05   **p < .01   ***p < .001

An additional item to note in Table 4 is that the three practices with the lowest frequencies (higher mean=lower frequency) reported by faculty and students are those having to do with teaching: encouraging students to teach a course or recitation, substitute-teach a session of a class or recitation, and attend a workshop or course on teaching. The highest frequency items are those related to conducting, presenting, and publishing research.

In another survey question, faculty members were asked "Do you think under-represented minority graduate students find your department to be a welcoming and supportive environment?" and in a related question, the students were asked to rate their level of agreement with the statement "My department is a welcoming place to learn and work." Responses were 1 (definitely welcoming), 2 (welcoming), 3 (neither welcoming nor unwelcoming), 4 (unwelcoming), and 5 (definitely unwelcoming). Faculty ratings of the climate for URM students had a mean of 2.12 while URM students rated it lower with a mean of 2.37. The distributions of the two response sets are shown in Figure 1.
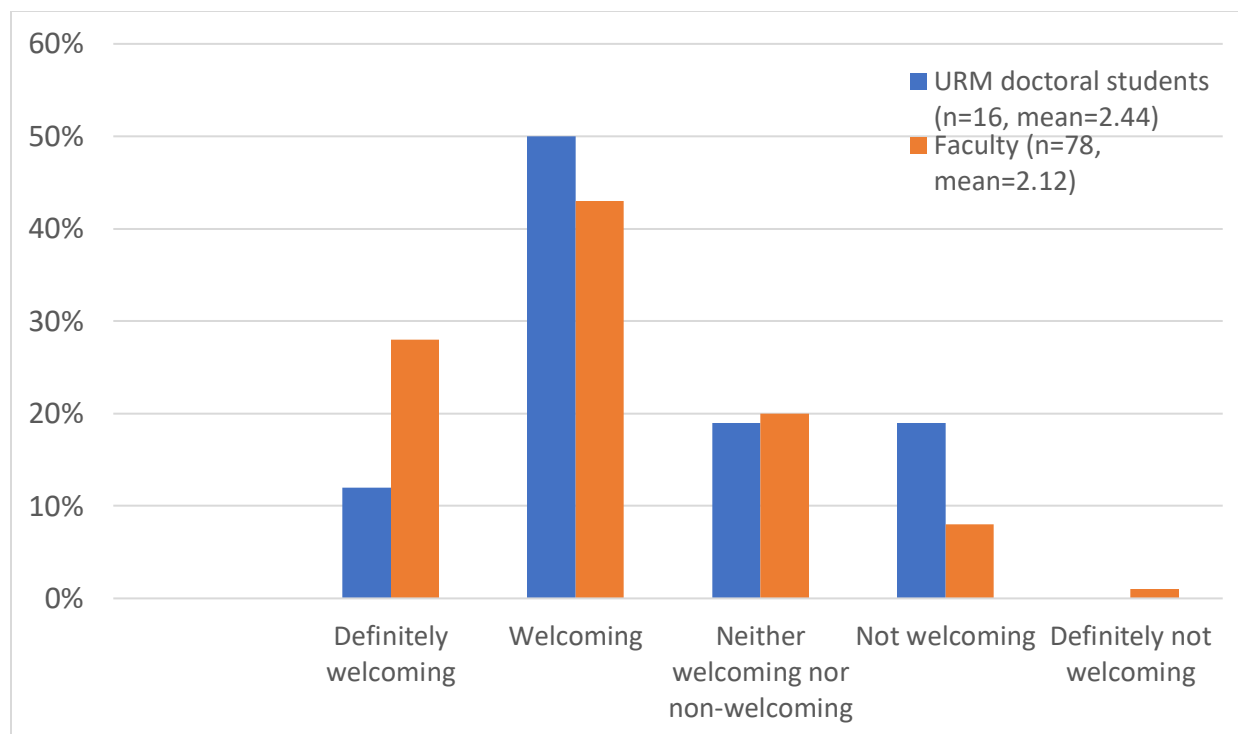
Figure 1. Faculty and URM student perceptions of department climate for URM students

While 62% of the students and 71% of the faculty members responded that the department was a welcoming or definitely welcoming place, more than twice the percentage of faculty members chose definitely welcoming, and 19% of the students and only 9% of the faculty members selected not welcoming or definitely not welcoming.

Further analysis of the student survey was done by comparing the responses to a number of questions of the URM students (n=16) with those of the non-URM students (n=86). The responses to most questions showed no noteworthy differences, but significant differences were found for questions regarding the students' (1) perceptions of the department climate for URM students, (2) sense of safety in voicing their feelings to their advisors, and (3) relationships with other graduate students.

The students were asked to rate their department climate for URM students on a scale of 1 (excellent), 2 (good), 3 (satisfactory), and 4 (poor). The results are shown in Figure 2, along with the faculty's extreme climate ratings ("definitely welcoming" and "unwelcoming/definitely unwelcoming") shown in Figure 1. (The intermediate ratings "welcoming" and "neither welcoming nor non-welcoming" on Figure 1 do not correspond to the intermediate ratings "good" and "satisfactory" on Figure 2 .)

"Excellent" ratings were given to the climate by 12% of the URM students, 24% of the non-URM students, and 28% of the faculty respondents, and "Poor" ratings were given by 25% of the URM students, 3% of the non-URM students, and 9% of the faculty respondents. The distribution of responses was significantly different for URM students than for non-URM students (Fisher's Exact Test, p-value=.007). The differences in the extreme perceptions (excellent and poor) between URM students and both the non-URM students and the faculty are

dramatic. On the other hand, the extreme responses of the non-URM students and the faculty are comparable.
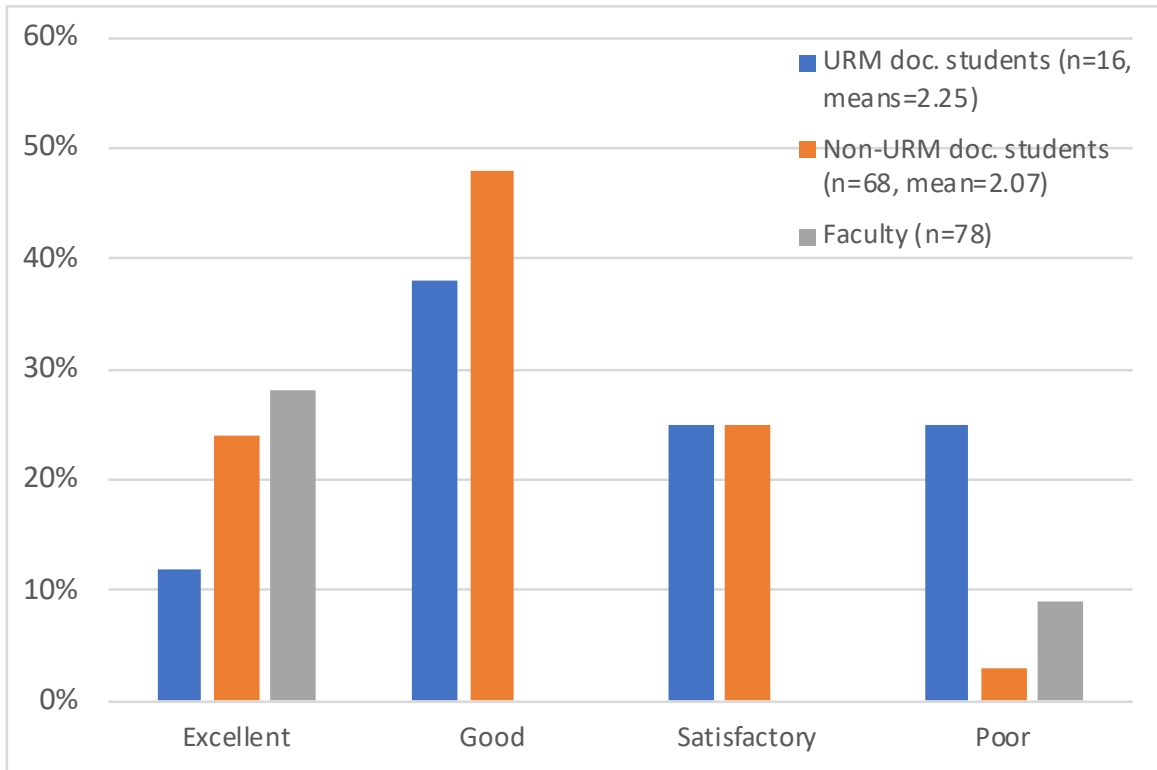

Figure 2. URM and non-URM student perceptions of department climate for URM students.

The students were also asked to rate their agreement with the statement "I feel safe voicing my feelings to my advisor" on a scale of 1 (strong agreement), 2 (agreement), 3 (neither agree nor disagree), 4 (disagree), and 5 (strongly disagree). The means are 2.38 for URM and 2.09 for non-URM students. The distributions of responses are shown in Figure 3. 31% of the URM students disagreed with the statement and only 14% of the non-URM students disagreed or strongly disagreed with it. The distributions differ significantly (Fisher's Exact Test, p-value=.05). Again, the means are not dramatically different but the distribution of responses vividly highlights the between-group differences.

Finally, the students were asked to rate their relationships with other graduate students. Building strong relationships with other students may be an indicator of how well students feel they fit in within their department. The results on a scale of 1 (excellent), 2 (good), 3 (satisfactory), and 4 (poor) are shown in Figure 4. Half of URM students rated their relationships with other graduate students as just "satisfactory," compared with 18% of other students. The distribution of these responses differed significantly between URM and other respondents (Fishers Exact Test p-value=.08).
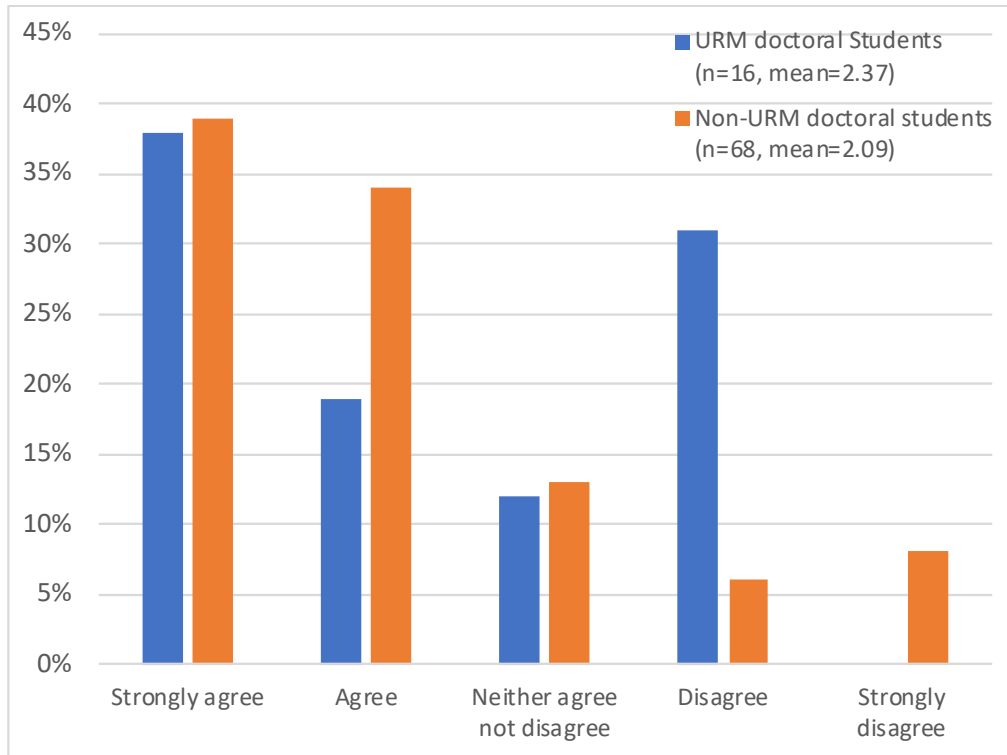
Figure 3. URM and non-URM student ratings of the statement, "I feel safe voicing my feelings to my advisor."
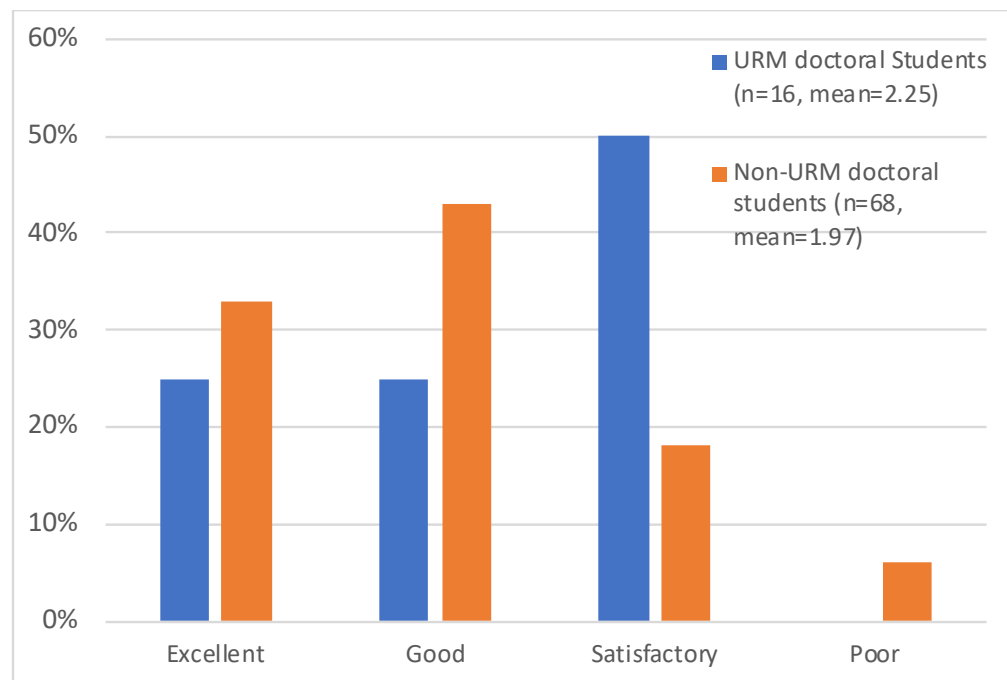

Figure 4. URM and non-URM student ratings of their relationships with other graduate students

Half of the URM students and only 24% of the non-URM students rated their relationships as "satisfactory" or "poor."

Discussion

In this section, we return to the original questions guiding the survey analysis.

1. What mentoring practices do faculty report using with graduate students? What mentoring practices do graduate students report receiving? Are there differences in those perceptions?

It is clear from these preliminary results that faculty and students responding to the survey have different views of the frequency of mentoring activities. Faculty generally believe they are doing more mentoring than the graduate students perceive. Even in estimating the frequency of guidance given in conducting research, for example, faculty believe they frequently give guidance while students feel that guidance is more occasional.

In addition, the survey data show how little preparation is given to students for the teaching and mentoring function of an academic career. This finding is supported by research showing that graduate students feel unprepared for the teaching required for an academic career [8]. If the goal of an increase in the number of URM faculty members is to be reached, more care should go into thinking about how we're preparing URM students to take that path.

2. What is the quality of the department environment for URM students? Do perceptions of the environment differ between faculty, URM students, and non-URM students?

The survey data show that faculty and non-URM students view the environment for URM students similarly to each other and much more positively than URM students view it, which is troubling. The findings that URM students do not feel as safe voicing their feelings to their advisors as non-URM students do is also troubling and points to the need to enhance faculty understanding of culturally sensitive mentoring. Beyond relationships between faculty and URM students, the finding that URM students rate their relationships with other graduate students lower than non-URM students points to greater social isolation among URM students, a result that echoes the findings in [9]. The work in that reference highlights the social isolation that frequently occurs as a result of being underrepresented in a graduate program. It will be interesting to see if different results are obtained when the study is extended to an HBCU as planned.

Future work

Besides the analyses reported in this paper, open-ended comments of student and faculty respondents will be subjected to qualitative analysis; information will be gathered regarding faculty priorities for admitting URM students to doctoral programs and supporting them to completion of their degrees; and comparisons will be made between policies and faculty and student perceptions at the HBCU and at the two predominantly white institutions in the study.

A limitation of this preliminary study is the relatively small number of URM students (n=16). It will be important to re-examine the findings once there are more URM students in the survey population, which there will be when the remaining five cohorts are surveyed.

There are no doubt differences in the experiences of students who are and are not international, but there is no way to identify URM students who were international students in the first version of the survey. Some of the results reported in this paper may be less clear because those two groups were not disaggregated. For the remaining five cohorts, the survey will include a question in the demographic information section to clearly identify the international students.

Future work on the project will involve the gathering and analysis of much more data. The baseline surveys will be administered to 5 more cohorts of faculty and students at the three participating institutions over the next two years, and follow-up surveys will be administered at the conclusion of each department's two-year involvement in the project. Altogether there will be baseline and follow-up surveys for faculty and doctoral students in approximately 36 departments of the three participating universities. The results of these surveys should provide data to evaluate the program's effectiveness in improving mentoring practices and will shed light on whether the changes are robust enough to be seen in the faculty- and student-reported practices. These data along with other measures of the program's effectiveness will be disseminated in future conferences and journal papers.

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Appendix A: Survey of Doctoral Students

Select the applicable response.

____   I have been in my current graduate program three years or less.

____   I have been in my current graduate program more than three years.

1. Specify your level of agreement with the following statements: (Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree)
   a. The courses I need for my studies are available.
   b. The resources I need for my research are available.
   c. I have adequate funding for living expenses.
   d. I am aware of places or people to go to if I am faced with a problem or issue in the department.
   e. I understand what my faculty advisor expects of me.
   f. I am satisfied with the quality and quantity of feedback I receive from my advisor.
   g. My advisor respects my opinions and contributions.
   h. I feel safe voicing my feelings to my advisor.
   i. My department is a welcoming place to learn and work.
   j. I trust the people in the department who make decisions that affect me.
   k. I feel reasonably accommodated when my personal and professional responsibilities are in conflict.
   l. My department emphasizes the importance of demographic (racial, gender, religious, and ethnic) diversity.
   m. I would recommend this department to other students or postdocs.

2. Rate the following aspects of your graduate school experience as Excellent, Good, Satisfactory, Poor or N/A:

   ____ Quality of my coursework

   ____ Opportunities to do high quality research

   ____ My relationship with my advisor

   ____ My relationships with faculty other than my advisor

   ____ My relationships with other graduate students

   ____ Environment in the department for minority students

   ____ Environment in the department for women students

   ____ Opportunities to build a strong professional network

3. Indicate the frequency with which you have had the following experiences in your current graduate program? (Frequently, occasionally, seldom, never).

___ Receiving guidance in conducting research

___ Presenting my research at seminars at my university

___ Presenting my research at a regional or national conference

___ Authoring or co-authoring a paper on my research

___ Being introduced to faculty in my research area from other institutions

___ Filling in for an instructor in a session of a class or recitation

___ Teaching a semester-long course or recitation

___ Attending a workshop or course on teaching

___ Mentoring an undergraduate student

___ Receiving career advice from my advisor

___ Receiving personal advice from my advisor

___ Receiving career advice from another university faculty or staff member

___ Receiving personal advice from another university faculty or staff member

4. How confident are you that you will complete your current degree program? (very confident, confident, somewhat confident, not confident)

5. What are your career plans after you graduate?

___ Seek employment in industry or government

___ Seek employment in academia

___ Seek employment in industry or government and then in academia

___ Seek a postdoc and then employment in industry or government

___ Seek a postdoc and then employment in academia

___ Other (please specify) _____

6. What are the biggest challenges you personally face in completing your graduate program?

7. When you think back on your graduate program and research at this point, what were one or two important growth experiences you had and why were they important? Please do not use names in your descriptions.

8. Do you have any other comments about your graduate program or experiences? Please do not use names in your answer.

Demographic information: Answers to these questions will NOT be reported to your department or used to identify you in any way. The data will be combined with many other departments to help us better understand the graduate student experience of different groups. You may decline to answer these questions.

I identify my ethnicity as

(Select all that apply)

__ Asian

___ Black/African

___ Caucasian

___ Hispanic/Latinx

___ Native American

___ Pacific Islander

___ I prefer not to answer.

My gender is

___ Male

___ Female

___ Other: _____

___ I prefer not to say.

Appendix B: Survey of Faculty

1. How confident are you generally in advising / mentoring graduate students?
   a. Very confident
   b. Confident
   c. Somewhat confident
   d. Not confident

2. How confident are you in advising / mentoring graduate students who are members of cultural groups different from your own? (i.e. race, ethnicity, religion, etc.)
   a. Very confident
   b. Confident
   c. Somewhat confident
   d. Not confident

3. Think of graduate students you have advised or mentored. Indicate the frequency with which you provided the following experiences over the course of working with them? (Frequently, occasionally, seldom, never).

___Giving them guidance in conducting research

___Facilitating the presentation of their research at seminars at this university

___Facilitating the presentation of their research at a regional or national conference

___Helping them author or co-author a paper on their research

___ Introducing them to faculty in their research area from other institutions

___ Inviting them to fill in for me or another instructor in a session of a class or recitation

___Encouraging them to teach a semester-long lecture course or recitation

___Encouraging them to attend a workshop or course on teaching

___Assigning them to mentor an undergraduate student

___Giving them career advice

___Giving them personal advice

4. How would you rate the priority of <u>your department</u> for increasing the number of under-represented minority (URM) graduate students?
    a. High priority
    b. Medium priority
    c. Low priority
    d. Not a priority at all
    e. I don't know

5. How would you characterize what your department has done to increase the number of URM graduate students?
    a. My department has taken demonstrable action toward increasing the number of URM graduate students. (Please describe the actions taken in a text box.)
    b. My department has defined this as a formal goal but has not taken demonstrable action to address it.
    c. My department has decided that it should not be a goal.
    d. To the best of my knowledge, my department has never considered or discussed whether it is a goal.
    e. I don't know

6. To what extent are the following factors considered when deciding which applicants to accept into your graduate program? (This question will be a matrix asking faculty to rate the extent they think their department considers each item and the extent they think each item *should* be considered. The choices will be to a great extent, to a moderate extent, to a slight extent, not at all, I don't know.)
    a. The potential of the applicant to complete the graduate degree
    b. The potential of the applicant to make rapid progress and be productive in research
    c. The potential of the applicant to help the department win and renew grants
    d. Increasing the number of URM graduate students

7. How would you rate the priority of <u>your department</u> for retaining URM graduate students to the completion of their degrees?
    a. High priority
    b. Medium priority
    c. Low priority
    d. Not a priority at all
    e. I don't know

8. How would you characterize what your department has done to retain URM graduate students to the completion of their degrees?
    a. My department has taken demonstrable action toward retaining URM graduate students to the completion of their degrees. (Please describe the actions taken in a text box.)
    b. My department has defined this as a formal goal but has not taken demonstrable action to address it.
    c. My department has decided that it should not be a goal.
    d. To the best of my knowledge, my department has never considered or discussed whether it is a goal.
    e. I don't know

9. Do you think under-represented minority graduate students find your department to be a welcoming and supportive environment?
    a. Definitely yes
    b. Probably yes
    c. Might or might not
    d. Probably not
    e. Definitely not

10. In your opinion, what are the two or three most important things faculty members can do to support the growth and eventual career success of their graduate student advisees?