University of Colorado **Boulder**

Graduate Student Social Climate Survey 2014
Report on Differences by Gender, Sexual Orientation, and Race/Ethnicity
CU Boulder Office of Institutional Equity and Compliance

Contents

Overview 2
Summary 3
Overall Social Climate 5
Social Climate: Differences by Gender (binary) 8
Social Climate: Differences by Sexual Orientation 9
Social Climate: Differences by Race/Ethnicity 11
Statistical Analysis: Retention at CU Boulder 13
Statistical Analyses: Factors Associated with "Choosing CU Again" 13
Recommendations 17

Overview

The Graduate Student Social Climate Survey was administered by the Institutional Research staff in the CU Boulder Office of Planning, Budget & Analysis (now the Office of Data Analytics) in fall 2014. 4328 graduate students were invited to participate. The response rate for master's and doctoral students was 38% and 36%, respectively.

This report specifically examines demographic differences in the results by gender (binary), sexual orientation (GLBQ+/Straight/No Answer), and race/ethnicity (White, Asian-American, the combined group of under-represented minorities [Black/African American, Latinx, American Indian/Native American, and Native Hawaiian/Pacific Islander], International, and Unknown) and focuses on survey findings that point to opportunities for improvement in the social climate for graduate students at CU Boulder.

The majority of survey questions were measured on a 6-point scale. The findings presented in this report focus on the percentage of responses in the top two categories (5 and 6). This approach to organizing the data makes it easier to detect improvements going forward:

1–Strongly disagree	2	3	4	5	6-Strongly agree

The total number of respondents in each group appears at the top of each column of the data tables presented in Appendices A-G. The number of respondents who answered an individual question appears next to each frequency result. Frequency percentages are calculated based on the number of participants who answered the question, not on the total number of students from each group who responded to the survey. For each survey question, the number of respondents who answered varies greatly depending on the nature of the question. Participants had the option to skip questions or to answer "Don't know/Not applicable." This is most evident for questions that asked about the experiences of marginalized groups and about department support, like travel funds for conferences, which might not be relevant for many graduate/professional students.

In addition, structural equation modeling was performed to better understand which aspects of the climate survey, when considered together, would best predict students' responses to the question, "If you were to start your graduate career again, would you select this same university?" The factors included in the models were: *Derogatory Faculty* and *Derogatory Student Comments*, *Program Climate*, *Program Support*, *Program Character*, and *Sense of Belonging*. The model was run for female and for male students (doctoral and master's combined), master's students only, and PhD students only.

Summary

- A majority of graduate survey participants report experiencing a positive social climate at CU Boulder.
- Differences between demographic groups:
    - Compared to men, higher proportions of women report witnessing sexist comments from other grad students and faculty, characterize their departments as being more sexist, and report experiencing hostile treatment. Women are also less likely to agree that CU is a supportive place for students from underrepresented groups. Women in doctoral programs are more likely to report that they have felt they were treated awkwardly by faculty because of some aspect of their social identity and more likely to report having been marginalized or excluded from a work group/lab due to some aspect of their social identity.
    - Compared to Straight students, both master's and doctoral GLBQ+ students report experiencing a more negative social climate in the great majority of climate-related survey questions.
    - Compared to the other race/ethnicity groups, PhD students from the combined category of under-represented groups (URG) report feeling considerably less welcome and comfortable at CU, and less valued and respected in their program. PhD URG students also characterize their programs as more racist, are more likely to report being treated awkwardly by other students and by faculty because of an aspect of their social identity, and more likely to report being excluded or marginalized from lab or group work.
    - Using institutional records data that track student enrollment, for each student who completed the climate survey, we matched their enrollment/graduation information with their demographic information and survey responses. Analyses showed that there are no statistically significant differences in retention between women and men, or across the five race/ethnicity groups. However, GLBQ+ students are statistically significantly more likely than Straight students to have withdrawn from the university, without completing a degree, between the time of the survey in fall 2014 and March 2017.
    - Findings from the structural equation model analyses show that having a sense of belonging at CU Boulder is the strongest predictor of responses to the question, "If you were to start your graduate career again, would you select this same university?" This was true for women, men, master's students, and PhD students. For female graduate students and for master's students, the composite variable of six questions that assessed students' receipt of accurate information about the availability of funding, training, and support and amount of student fees prior to starting graduate school was also a significant predictor of choosing CU Boulder again. For male graduate students, having experienced hostile treatment was a significant negative predictor of choosing CU again.

Recommendations

- Address graduate students' *Sense of Belonging* at CU Boulder (feeling welcome at CU, as well as feeling welcome, valued, and respected in their program) directly by continuing to support/expand new student orientation programs. Also, continue helping students make connections with each other through orientation programming and through the graduate student peer mentoring program. In response to the survey question, "*If you could change one thing about the climate in your program/department to make it more successful/fulfilling, what would it be*?," survey respondents frequently mentioned they were looking for opportunities to connect with other graduate students outside of their programs.
- Based on findings from the structural equation model analyses, consider focusing on improvements to *Program Climate* (6 target areas, see pg. 14) and *Program Support* (5 target areas, see pg. 14) to foster students' *Sense of Belonging* at CU.
- Continue progress on providing students with accurate information about funding, training, etc. prior to starting at CU.
- Educate graduate students about the Ombuds Office as a *confidential*, impartial resource for managing and resolving conflicts with faculty and other graduate students.
- Educate graduate students on appointment about the Faculty Relations office as a resource for informal advice, coaching, and mediation, managing and resolving conflicts with faculty, and learning skills in how to hold difficult conversations.
- Use focus groups to investigate reasons why even though the majority of survey participants report experiencing a positive social climate at CU Boulder, if given the opportunity, the majority would not "definitely" choose CU again.
- Provide comprehensive training for graduate students and faculty on discrimination and harassment policy and on the skills needed to create a more civil, respectful, and supportive climate.
- Use survey and focus group findings to identify 3-5 key benchmarks for improvements and develop an action plan with Graduate School, college/program, and department level interventions, as appropriate. Incorporate summary findings pertaining to groups such as GLBQ+ and graduate students from under-represented groups in developing the action plan.
- In preparation for future administrations of the survey, review the survey instrument for inclusivity and expand to collect information about:
    - Experiences of students who are parents
    - Experiences of students who are pregnant or considering having a child
    - Protected class discrimination and harassment

Overall Social Climate

The majority of master's and doctoral students who participated in the survey *agree* or *strongly agree* that they feel welcome at CU Boulder (71% of both groups), and welcome in their graduate program (72% of both groups). The majority of graduate students at both levels also feel valued and respected in their graduate program (62-66%). On these measures of "Sense of Belonging" at CU Boulder, master's and PhD students had very similar response patterns.

Master's students

During the current semester, have you felt…?	*Strongly disagree*	*Disagree*	*Somewhat disagree*	*Somewhat agree*	*Agree*	*Strongly agree*
Welcome at CU-Boulder (like you belong here)	1%	4%	5%	20%	49%	22%
Welcome in your graduate program (like you belong there)	2%	4%	7%	15%	40%	32%
Valued in your graduate program	3%	5%	8%	22%	35%	27%

How strongly do you agree with the following statement:	*Strongly disagree*	*Disagree*	*Somewhat disagree*	*Somewhat agree*	*Agree*	*Strongly agree*
Valued in your graduate program	3%	4%	9%	21%	39%	24%

PhD students

During the current semester, have you felt…?	***Strongly disagree***	***Disagree***	***Somewhat disagree***	***Somewhat agree***	***Agree***	***Strongly agree***
Welcome at CU-Boulder (like you belong here)	1%	2%	6%	19%	47%	24%
Welcome in your graduate program (like you belong there)	3%	2%	5%	18%	38%	34%
Valued in your graduate program	2%	4%	8%	22%	38%	27%

How strongly do you agree with the following statement:	***Strongly disagree***	***Disagree***	***Somewhat disagree***	***Somewhat agree***	***Agree***	***Strongly agree***
I feel like I am a respected member of my graduate program	2%	3%	8%	21%	40%	26%

Other measures indicate that the social climate is generally more positive for master's students than for doctoral students. This is evident in the comparison of the percentage of respondents who *agree* or *strongly agree* with the following questions (**see Appendix A**):

- I feel like a respected member of the CU community — PhD 53% — Master's 61%
- Overall, the social climate of my program is positive — PhD 65% — Master's 75%
- Students in my program are treated with respect by faculty — PhD 69% — Master's 83%
- Faculty members create a supportive environment — PhD 65% — Master's 78%
- Faculty members demonstrate respect for others — PhD 68% — Master's 83%
- Faculty members behave in ways that humiliate/intimidate — PhD 28% — Master's 19%

In characterizing their graduate program based on their personal experiences, a majority (>70%) of both master's and doctoral students see their program as friendly, civil, and respectful, as well as not sexist, not racist, and not homophobic. A majority (>70%) also agree that their program is accommodating of people with disabilities, and accepting of transgender people, diverse religious beliefs, and diverse national origins. Although a majority were still in agreement, lower percentages of students at both levels perceive acceptance of diverse political opinions in their programs.

Participants were asked if they had witnessed *other graduate students* in their program make derogatory or insulting comments about people who are members of a range of identity groups. Fewer than 10% of students reported witnessing comments directed at most groups. The percentages were greater than 10% for people with a particular religious/spiritual affiliation or belief. Frequency of witnessing derogatory comments made by other graduate students was highest for comments against women (master's 14% and PhD 18%) and people with conservative political beliefs (master's 23% and PhD 32%).

Participants were also asked if they had witnessed *a faculty member* in their program make derogatory or insulting comments about people from a range of identity groups. Again, reports of witnessing these types of comments were rare. The percentages of students witnessing derogatory comments made by faculty were highest for comments about women (master's 5% and PhD 10%) and about people with conservative political beliefs (master's 10% and PhD 15%)

A majority of respondents at both levels have positive perceptions about program support. Three-quarters agree/strongly agree that faculty encourage their professional development and also that they receive appropriate recognition for their work, such as author order. More than two-thirds also agree/strongly agree that their department or advisor provides the necessary support to help them graduate on time. However, only slightly more than half agree/strongly agree that there is someone they can speak to if they have a conflict with their advisor.

When asked whether they would choose CU Boulder if they were to start their graduate career over, 43% of master's students and 37% of PhD students answered, "definitely" on a 4-point scale (definitely, probably, probably not, and definitely not.) A similar percentage of master's students (42%) answered "definitely" when asked if they would choose their advisor again. Whereas, a higher percentage of PhD students (48%) indicated that they would "definitely" choose their advisor again.

Survey participants were asked about their experiences being harassed and witnessing other students being harassed while at CU. This was defined as "behavior that is offensive, intimidating, or hostile and sufficiently serious to interfere with the ability to work or learn." These behaviors

included: unwanted/threatened physical contact, unwanted romantic/sexual comments, shouting, profanity, or excessive criticism, hostile email, denial of access to resources like career opportunities, threats to academic status, undermining/impeding academic work/research, threats to employments status, and making negative comments about you to others. Nine percent of master's students and 15% of PhD students reported having experienced one or more of these types of behaviors. Graduate students were also asked about the impact of these behaviors on their ability to do their work and persist at the university. A detailed analysis of these data has been prepared by the Institutional Research staff in the CU Boulder Office of Data Analytics.

Under the CU system discrimination and harassment policy, harassment is defined as verbal, written, or physical conduct related to a person's protected class identity that unreasonably interferes with an individual's work or academic performance or creates an intimidating or hostile work, living, or educational environment. Sexual harassment is defined as unwelcome conduct of a sexual nature, including unwelcome sexual advances, requests for sexual favors and other verbal, non-verbal, or physical conduct of a sexual nature. In this survey, the term "harassment" comprised a range of behaviors that may not qualify as protected class discrimination or harassment policy violations depending on the circumstances. Nevertheless, these behaviors contribute to a negative climate. To prevent confusion, the list of "harassing" behaviors that were asked about in the survey will be referred to in this report as "hostile treatment."

Social Climate: Differences by Gender (binary)

Survey participants were asked which gender they identified with: female, male, transgender man, transgender women, genderqueer, prefer not to state, and write-in response option. Because the great majority of respondents identified as female or male, there were not enough participants to analyze the data using the gender categories listed in the survey. Therefore, we used the binary gender categories (woman and man) available in system records to analyze the data for gender effects.

Master's Students

At the master's level, a similar majority percentage of women and men *agree* or *strongly agree* that they feel welcomed at CU Boulder and in their graduate program (>65%), feel valued and respected in their graduate program (>63%), and agree that the overall climate in their graduate program is positive (>73%) (**see Appendix B**). Lower percentages of women than men agree/strongly agree that CU Boulder is a supportive place for students from underrepresented or marginalized groups (51% vs. 68% of men). Also, fewer women agree/strongly agree that their program is not sexist (77% vs. 87% of men).

With respect to witnessing other graduate students make derogatory or insulting comments about certain identity groups, a higher percentage of master's women reported witnessing negative comments about women (18% vs. 10% of men). More women than men also reported witnessing negative comments by faculty members about women (7% vs. 2% of men) and more women than men reported having been the target of hostile treatment (13% vs. 6% of men).

When asked whether they would choose CU Boulder again if they were to start their graduate career over, similar percentages of master's women and men reported that they "definitely" would (43% women, 44% men), but when asked if they would select the same advisor, a higher percentage of women reported that they would "definitely" choose the same advisor (46% vs. 38% of men).

Doctoral Students

Among PhD students, slightly lower percentages of women, compared with men, agree/strongly agree that they feel welcome at CU Boulder, welcome in their graduate program (like they belong), or valued in their graduate program (**see Appendix C**). A substantially lower proportion of women agree/strongly agree that CU is a supportive place for students from underrepresented or marginalized groups (36% vs. 51% of men). There was a similar disparity between women and men when evaluating their graduate program as a supportive place for students from marginalized groups (55% vs. 65% of men). Fewer PhD women agree that their program is not sexist (66% vs.

75% of men). Women in doctoral programs are more likely to report that they have felt they were treated awkwardly by faculty because of some aspect of their social identity (32% vs. 17% of men) and more likely to report having been marginalized or excluded from a work group/lab for some aspect of their social identity (19% vs. 11% of men).

With respect to witnessing other graduate students make derogatory or insulting comments about certain identity groups, a higher percentage of PhD women have witnessed negative comments about women (22% vs. 13% of men). More women than men also reported witnessing negative comments by faculty members about women (13% vs. 6% of men). Fewer women students agree that their department/advisor provides the support needed to graduate in a timely manner (66% vs. 72%). Finally, 20% of female PhD students report having been the target of hostile treatment, as compared to 10% of male PhD students.

Social Climate: Differences by Sexual Orientation

Survey participants were asked about their sexual orientation. Response options included: bisexual, gay, heterosexual, lesbian, queer, questioning, prefer not to state, and write-in response option. Respondents also had the option of not answering the question. After reviewing the comments section for the "other" category which included multiple mentions of pansexuality, participants were categorized into three sexual orientation groups: GLBQ+, Straight, and No Answer. Gender identity was assessed by a different survey question. Survey participants who identified as gender diverse, including transgender man, transgender woman, genderqueer/gender non-conforming, prefer not to answer, or who gave a write-in response are represented in all three sexual orientation categories (GLBQ+, Straight, and No Answer).

<u>Master's Students</u>

Among master's students, GLBQ+ survey respondents report having a substantially less positive social climate experience. This is evident in their responses to nearly every question (**see Appendix D**).

Fewer GLBQ+ master's students, compared to Straight students, agree/strongly agree that they feel welcome at CU Boulder (53% vs. 75%), feel welcome in their graduate program (62% vs. 76%), or feel like a respected member of their graduate program (56% vs. 67%). GLBQ+ master's students are also less likely to agree/strongly agree that the social climate in their program is positive (59% vs. 78% for Straight students). Fewer than half (45%) of GLBQ+ master's students agree that CU Boulder is a supportive place for students from under-represented/marginalized groups (vs. 61% of Straight students), and 61% agree that their graduate program is supportive for students from these groups (vs. 74% of Straight students). Also, as compared to Straight students, substantially

lower percentages of GLBQ+ master's students agree that their program is friendly (60% vs. 81%), civil (72% vs. 90%), respectful (45% vs. 88%), or not homophobic (73% vs. 93%).

A much higher percentage of GLBQ+ master's students than Straight students report witnessing derogatory comments made by other graduate students about racial/ethnic minorities, women, men, GLB people, people from other countries, non-native English speakers, and people with a particular religious/spiritual belief. Much higher proportions of GLBQ+ master's students, compared with Straight students, report being treated awkwardly by faculty because of some aspect of their social identity (35% and 12%, respectively) and being excluded from a lab or other work group due to their social identity (24% and 8%, respectively). With respect to program support, lower percentages of GLBQ+ students agree that faculty encourage their professional development (64% vs. 76% of Straight), that their advisor/department provides the support needed to help them graduate in a timely manner (59% vs. 73% of Straight), or that they receive appropriate recognition for their work in journal articles or conference papers (61% vs. 81% of Straight). Finally, a higher percentage of master's GLBQ+ students report having experience hostile treatment (24%, as compared to 6% for Straight students).

Doctoral Students

Among PhD students who participated in the survey, the pattern of differences between GLBQ+ and Straight students is essentially the same except the gap between the two groups is not quite as wide. This is due to the fact that Straight PhD students report a less positive social climate experience compared to Straight master's level students. Lower percentages of PhD GLBQ+ students, compared to Straight students, agree/strongly agree that they feel welcome at CU Boulder (62% vs. 70%), feel welcome in their graduate program (67% vs. 71%), or feel like a respected member of their graduate program (57% vs. 63%) (**see Appendix E**). Only 34% of GLBQ+ PhD participants agree/strongly agree that CU Boulder is a supportive place for students from under-represented/marginalized groups (vs. 45% of Straight students), and only 52% agree/strongly agree that their graduate program is supportive for students from these groups (vs. 62% of Straight students). Higher proportions of GLBQ+ PhD students, compared with their Straight peers, characterize their graduate programs negatively on dimensions of friendliness, civility, and respect. Compared to Straight students, substantially lower percentages of GLBQ+ PhD students agree that their program is not sexist (61% vs. 73%), not racist (66% vs. 83%), and not homophobic (74% vs. 91%). Like GLBQ+ master's students, GLBQ+ PhD students report being treated awkwardly by faculty because of their social identity (41% vs. 21% of Straight students) and 26% indicated they had been excluded/marginalized from a lab or other group work due to their social identity (compared to 14% of Straight students). Among PhD students, the percentages of GLBQ+ and Straight students who report experiencing hostile treatment are 20% and 13%, respectively.

Social Climate: Differences by Race/Ethnicity

Using system records data, we categorized survey participants into seven race/ethnicity categories: White, African-American/Black, Latinx, Asian-American, Native American, Pacific Islander, and Unknown. International students comprise their own category, making 8 race/ethnicity categories in total. Because of the small number of students in several groups, we tested to see if certain groups were similar enough in their pattern of responding that they could be combined into a single category. The tests showed that African-American/Black, Latinx, Native American, and Pacific Islander students could be combined into one group (Under-Represented Groups or URG) (n=165). The five race/ethnicity categories used in the analysis are White, Asian-American, URG, International, and Unknown.

Master's Students

For master's students who participated in the survey, a majority in all five race/ethnicity groups agree or strongly agree that they feel welcome at CU Boulder, feel welcome and valued in their graduate program, and rate the social climate of their program as positive (**see Appendix F**). Only about half of students in each group agree/strongly agree that CU is a supportive place for marginalized groups, with the exception of International students (75% agree/strongly agree). A large majority of master's students in all race/ethnicity groups agree/strongly agree that faculty members in their programs demonstrate respect for others in the program through personal actions and behaviors, and that faculty members create a supportive working and learning environment for graduate students. Across groups there is also a high level of agreement that students in their graduate programs are treated with respect by faculty.

Substantially more International students agree that their graduate program is accepting of diverse political opinions (94%), as compared to Whites 71%, Asian-Americans 75%, URG 78%, and Unknown 65%. Higher proportions of URG (16%) and International (14%) master's students report having been excluded or marginalized from a lab or other work group due to their social identity (as compared to Whites 9%, Asian-Americans 8%, and Unknown 8%). More International master's students than students in other groups report having witnessed other graduate students make derogatory comments towards people from other countries and non-native English speakers. A much greater percentage of Asian-American students report witnessing negative comments made by other graduate students towards racial/ethnic minorities (29% vs. <12% for other groups). A noticeably lower percentage of international students agree that (63%) that faculty members encourage their professional development, as compared to other race/ethnicity groups (>78%). Lower percentages of both International and URG students (64%) agree that the department/advisor provides the support needed to graduate on time, as compared to Whites (75%) and Asian-American (87%) students. Reports of experiencing hostile treatment were lowest

for International master's students (5%) and ranged from 10-14% for the other race/ethnicity groups.

Doctoral Students

For PhD students who responded to the survey, there was a large discrepancy between URG students and students in the other race/ethnicity groups with respect to perceptions of the social climate (**see Appendix G**). Only 44% of PhD URG students agree/strongly agree that they feel welcome at CU Boulder (compared to >70% for the other groups) and only 57% feel welcome in their graduate program (compared to >70% for the other groups). Fewer than half of URG students feel like a respected member of the CU community (38%), compared to Whites (52%), Asian-Americans (58%), and International students (63%); nor do they feel respected in their graduate program (47%), as compared to Whites (63%), Asian-Americans (56%), and International students (71%). Twenty-nine percent of PhD URG students report that they have been excluded or marginalized from a lab or group work due to an aspect of their social identity, compared to <17% for other groups.

Reports of witnessing another graduate student make derogatory comments about racial/ethnic minorities, GLB people, and people with a particular religious/spiritual belief are highest for URG PhD students. Reports of witnessing other graduate students making derogatory comments about people from other countries are highest for PhD International students (18%). Reports of witnessing derogatory comments made by faculty about women were highest for PhD URG students (16%). A higher proportion of URG PhD students (25%) report witnessing derogatory faculty comments about people with conservative political beliefs, as compared to other groups (range of 5-18%). More than a quarter of PhD students in all race/ethnicity groups agree/strongly agree that faculty behave in ways that humiliate or intimidate graduate students. A higher percentage of URG PhD students report experiencing hostile treatment (31%) as compared to White (15%), Asian-American (18%), and International students (6%). Finally, about one-third of White, Asian-American, and URG students would "definitely" choose CU again if they had the opportunity to start over, as compared to 46% of International students.

Statistical Analysis: Retention at CU Boulder

Institutional Research reviewed system records data to determine the enrollment/graduation status of survey participants as of March 2017. We then matched enrollment/graduation information with survey respondents' demographic information and survey responses. Of the 1603 master's and doctoral students who took the survey, 1526 were still enrolled at CU Boulder or had finished their degree, and 77 were no longer attending CU Boulder. There were no statistically significant differences in retention between women and men, or across the five race/ethnicity groups. However, the chi-square test of independence performed to examine the relationship between sexual orientation and retention showed that the relationship between these variables was significant, X^2 (1, N = 1603) = 7.11, $p < .01$; GLBQ+ students are twice as likely as Straight students to have withdrawn from the university without completing a degree between the time of the survey in fall 2014 and March 2017 when this analysis was conducted (withdrawal rate=4% for Straight vs. 8% for GLBQ+ graduate students).

Statistical Analyses: Factors Associated with "Choosing CU Again"

In order to use the survey data to identify areas for intervention that could lead to improvement in the graduate student experience, we employed several statistical techniques. Using our theory-based expectations, as well as the results of an exploratory factor analysis, we were able to identify six distinct factors/themes using items from the graduate climate survey:

- *Derogatory Faculty Comments (% answering "yes")*
    - During the current semester, have you witnessed faculty members make derogatory comments about:
        - Race/ethnicity
        - Women
        - Gay, lesbian, or bisexual people
        - People from another country
        - Non-English speakers

- *Derogatory Student Comments (% answering "yes")*
    - During the current semester, have you witnessed other graduate students in my program make derogatory comments about:
        - Race/ethnicity
        - Women
        - Gay, lesbian, or bisexual people

        - People from another country
        - Non-English speakers

- *Program Character*
    - Students' characterizations of the program: Rate your graduate program on the following characteristics:
        - Racist (1)/not racist (6)
        - Sexist (1)/not sexist (6)
        - Homophobic (1)/not homophobic (6)
        - Not accepting (1)/accepting of trans people (6)
        - Not accepting (1)/accepting of diverse national origins (6)
        - Not accommodating (1)/accommodating of people with disabilities (6)

- *Program Climate (1=strongly disagree, 6=strongly agree)*
    - Overall, the intellectual climate of my graduate program is positive
    - Overall, the social climate of my graduate program is positive
    - Students in my graduate program are treated with respect by faculty
    - Faculty members in my program demonstrate respect for others in the program through personal actions and behavior
    - Faculty members in my program create a supportive working and learning environment for graduate students
    - Faculty members in my program treat students fairly

- *Program Support (1=strongly disagree, 6=strongly agree)*
    - My department provides me with the necessary support to graduate in a timely manner
    - My department provides travel support to attend/present at conferences
    - There is someone I can speak to if I have a conflict with my advisor
    - In articles/conference papers, I receive appropriate recognition for my work
    - Faculty encourage my professional development

- *Sense of Belonging (1=strongly disagree, 6=strongly agree)*
    - I feel welcome at CU Boulder (like I belong here)
    - I feel welcome in my graduate program (like I belong there)
    - I feel valued in my graduate program
    - I am a respected member of my graduate program

We mathematically combined the questions in each theme to create composite scores and used these six composite variables to test the relationships among themes and to test each theme's predictive value for explaining students' responses to the question, "If you were to start your graduate career again, would you select this same university?" (*Would Choose CU Again).* This question was measured on a 4-point scale: 1=definitely not, 2=probably not, 3=probably, 4=definitely. We chose this question because it provides a measure of a student's sense of connection to the graduate program, institution, and community.

We also took into account whether a student reported experiencing "hostile treatment" from administrators, faculty, staff, or other graduate students (yes/no). This was defined as "behavior that is offensive, intimidating, or hostile and sufficiently serious to interfere with the ability to work or learn." Finally, we constructed a "failed expectations" variable by summing the number of "no" responses that each participant gave to a set of six items that assessed whether, prior to starting at CU, students had received accurate information about: availability of funding for the academic year, availability of funding in summer, the cost of student fees, whether the student would receive annual evaluations of their academic progress, the availability of training in how to teach, and the availability of instruction/guidance in preparing publications.

We developed a hypothesis about how these themes were related and then tested the hypothesis in a structural equation model. A full description of the structural equation model analyses, results, and figures can be found in **Appendix H**. We tested the model for the:

- Combined data of master's and PhD students looking at women and men separately (Models 1 and 2)
- Combined data of women and men, looking at master's and PhD students separately (Models 3 and 4)

<u>*Would Choose CU Again* Analysis by Gender (see Models 1 and 2):</u>

Results for the analyses for women and men are similar and each model accounts for approximately one-third of the variance in the outcome variable, *Would Choose CU Again* (35% women, 32% men).

Discussion:

- Although *Derogatory Comments* by both students and faculty are significantly negatively related to *Program Character* ($p<.001$), this relationship is slightly stronger for women suggesting that derogatory comments play a bigger role in shaping women's characterization of their program in terms of program's orientation to marginalized and under-represented groups.

- For both men and women, *Program Climate and Program Support* are strong positive predictors of students' *Sense of Belonging* at CU (p<.001).
- In turn, *Program Charact*er and *Sense of Belonging* are both significant positive predictors of *Would Choose CU Again*.
    - *Program Character* is a stronger predictor of *Would Choose CU Again* for women (p<.001) than for men (p<.01)
    - *Sense of Belonging* is a stronger predictor of *Would Choose CU Again* than *Program Character*. This is true for both men and women and there is no gender difference in the strength of the relationship (p<.001).
- Although the proportion of women participants who reported experiencing *Hostile Treatment* (including unwanted physical contact, shouting, profanity, hostile email, denial of access to resources, and threats to employment status) at CU Boulder was twice as large as the proportion of men who did so, *Hostile Treatment* was a significant negative predictor of *Choosing CU Again* for men (p<.01) but not for women.
- There was a significant negative relationship for women between *Failed Expectations* and the likelihood of choosing CU again (p=.01), but this was not true for men.

<u>*Choosing CU Again* Analysis by Master's/PhD (see Models 3 and 4):</u>

Results for the analyses for Master's and PhD students are consistent with those seen for the gender analyses. Each model accounts for approximately one-third of the variance in the outcome variable, *Would Choose CU Again* (30% master's, 36% PhD).

Discussion:

- The *Derogatory Student Comments* factor is significantly negatively related to *Program Character* (p<.001) for both master's and PhD students; however, this relationship is stronger for master's students.
- *Derogatory Faculty Comments* is a strong negative predictor of *Program Character* for PhD students (p<.001), but the relationship between the two factors is much weaker for master's students (p<.05).
    - For master's students, negative comments made by other students have more impact than do negative faculty comments in influencing the way they characterize their program and its orientation to people from marginalized and under-represented groups. For PhD students, derogatory faculty and student comments are both strong negative predictors of *Program Character* (p<.001), with negative faculty comments mattering slightly more even though these comments are relatively rare.

- For both master's and PhD students, *Program Climate and Program Support* are strong positive predictors of students' *Sense of Belonging* at CU ($p<.001$).
- In turn, *Program Charact*er and *Sense of Belonging* are both significant positive predictors of *Would Choose CU Again* for both master's and PhD students.
    - *Sense of Belonging* is a stronger predictor of *Would Choose CU Again* than *Program Character*.
- *Hostile Treatment* does not significantly predict *Choosing CU Again* for either master's or PhD students.
- There was a significant relationship for master's students between *Failed Expectations* and the likelihood of choosing CU again ($p<.05$).

Recommendations

- Address graduate students' *Sense of Belonging* at CU Boulder (feeling welcome at CU, as well as feeling welcome, valued, and respected in their program) directly by continuing to support/expand new student orientation programs. Also, continue helping students make connections with each other through orientation programming and through the graduate student peer mentoring program. In response to the survey question, "*If you could change one thing about the climate in your program/department to make it more successful/fulfilling, what would it be?*," survey respondents frequently mentioned they were looking for opportunities to connect with other graduate students outside of their programs.
- Based on findings from the structural equation model analyses, consider focusing on improvements to *Program Climate* (6 target areas, see pg. 14) and *Program Support* (5 target areas, see pg. 14) to foster students' *Sense of Belonging* at CU.
- Continue progress on providing students with accurate information about funding, training, etc. prior to starting at CU.
- Educate graduate students about the Ombuds Office as a *confidential*, impartial resource for managing and resolving conflicts with faculty and other graduate students.
- Educate graduate students on appointment about the Faculty Relations office as a resource for informal advice, coaching, and mediation, managing and resolving conflicts with faculty, and learning skills in how to hold difficult conversations.
- Use focus groups to investigate reasons why even though the majority of survey participants report experiencing a positive social climate at CU Boulder, if given the opportunity, the majority would not "definitely" choose CU again.
- Provide comprehensive training for graduate students and faculty on discrimination and harassment policy and on the skills needed to create a more civil, respectful, and supportive climate.

- Use survey and focus group findings to identify 3-5 key benchmarks for improvements and develop an action plan with Graduate School, college/program, and department level interventions, as appropriate. Incorporate summary findings pertaining to groups such as GLBQ+ and graduate students from under-represented groups in developing the action plan.
- In preparation for future administrations of the survey, review the survey instrument for inclusivity and expand to collect information about:
    - Experiences of students who are parents
    - Experiences of students who are pregnant or considering having a child
    - Protected class discrimination and harassment