

2004-2013 UPDATE: ADVANCEMENT OF WOMEN THROUGH THE ACADEMIC RANKS OF
THE COLUMBIA UNIVERSITY GRADUATE SCHOOL OF ARTS AND SCIENCES: WHERE ARE
THE LEAKS IN THE PIPELINE?

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Table of Contents

Executive Summary	3
1. Introduction	6
2. Data and Report Approach.....	8
3. Observations	9
Undergraduate Students.....	9
Graduate Students	9
Untenured – Tenure Track Faculty	10
Tenured Faculty.....	10
Long-term Trends on the Tenured and Tenure-Track Faculty	10
Promotions to Tenure and Tenured Hires.....	11
Faculty Pipeline Averages	12
Underrepresented Minority Data	12
Department-level Changes & Growth in Tenured Faculty	12
Division Level Growth.....	13
Department Level Growth.....	13
4. Statistical Analysis.....	14
STATISTICAL RESULTS	14
Hiring – Untenured Faculty (Tenure-Track).....	14
Hiring – Tenured Faculty	14
Hiring - Trends	15
Promotion to Tenure	15
Resignations – Untenured Faculty (up to 5 years of service)	15
Resignations – Tenured Faculty	15
5. Conclusions.....	16
PIPELINE TRENDS.....	16
LINK OF DIVERSITY TO GROWTH AND FOCUSED ATTENTION	16
CLEAR LEAKS IN THE PIPELINE	17
ISSUES TO ADDRESS MOVING FORWARD	17
6. Recommendations	18
DATA NEEDS.....	18
HIRING PRACTICES.....	18
RETENTION AND RECRUITMENT	19
EXPANDING PIPELINE STUDIES	19
7. References.....	21
8. Tables	23
9. Figures	35
Appendix : Statistical Analyses	46

Executive Summary

The Columbia University Arts and Sciences faculty strive for excellence in all that they do from educating the next generation of undergraduate students and advising graduate students to conducting research, writing, and other scholarship. Excellence is best obtained through a diversity of perspectives, opinions and approaches toward a common goal. As such, faculty diversity is critical to attaining the best scholarship in research endeavors, as well as to providing the student body with the best education and with role models who reflect student diversity.

This report provides a review of one facet of diversity on campus: the progress of women through the academic pipeline within Arts and Sciences at Columbia University, during the 10-year period of 2004-2013 (ending with academic year 2013-2014). The work here follows the [original pipeline study](#) presented in 2001, with updated data added in 2004. While diversity of many types is important – and while Columbia should be attentive to building a faculty that is reflective of the gender, race/ethnicity and other characteristics of the world it seeks to educate and study – this report focuses specifically on gender diversity because of its genesis in the *Commission on the Status of Women*, a subcommittee of the Columbia University Senate, whose mandate is to examine the status, equity, and opportunities available at Columbia to women.¹

The data show that during the first half of the decade the representation of women, particularly at the untenured level, improved significantly. This coincided with both the start of a period when attention and resources were focused on improving the ratio of women faculty within Arts and Sciences at Columbia, and a period of growth for the faculty of Arts and Sciences in general. However, as diversity efforts broadened and Arts and Sciences growth slowed, the situation returned to ‘business as usual’, and tenure-track ratios fell to at or near the levels at the start of the decade, led largely by a decline in Natural Sciences.

The progress in the tenure-track ranks during the early part of the decade demonstrates that the women are there in the pipeline, and that the situation can be addressed quite quickly if resources are available, department willingness is there, and the leadership is focused on these goals. However, the lack of progress in more recent years suggests that the converse is also true: without dedicated resources, willingness, and leadership in this area, Columbia will lose ground.

¹ While our study does not focus on diversity in terms of underrepresented minorities, we include those data, and think that many of the steps proposed herein will be applicable to improving diversity on many levels.

As with the previous report, the underrepresentation of women is most pronounced in the Natural Sciences, still quite pronounced in the Social Sciences (at the tenured level), but less problematic in the Humanities. At present rate of growth, the Natural Sciences will not reach parity until near the turn of the next century. Ratios of the graduate student body are within 10% of parity within all divisions, and have been for at least a decade. Thus the talent pool exists, and more should be done to attract and retain the top scholars of both genders.

Two particularly concerning leaks in the pipeline were identified. The first is that women appear to be leaving Social Sciences positions immediately prior to going up for tenure at a rate strongly disproportionate to men. Second, while the numbers are small, it also appears that women are more likely to leave, once tenured, across all three divisions.

Arts and Sciences, and the departments therein, must re-focus on recruiting and retaining top faculty members who are women at both the untenured and tenured levels. This responsibility lies functionally within departments, but also requires leadership at all levels within Arts and Sciences, as well as resources from Arts and Sciences and from Columbia at large. In addition, the negative impact of zero or limited growth of faculty numbers on the improvements in diversity of faculty should be considered.

Several recommendations are made to address the trends that appear in the data examined for this study:

- The University must be more systematic in collecting data so that less work needs to be put into extracting data, and more work can go into analyzing it. Additionally we recommend that more data be collected in terms of surveys within Arts and Sciences: 1) an MIT-style survey of women's committee and teaching workload, offices, lab space, salary and other similar points of comparison relative to male colleagues, and 2) an initial and follow-up 'quality of life' web-based survey, particularly targeting women faculty, both junior and senior, to try to establish why some groups are leaving at greater rate than their male colleagues, and to highlight aspects that may be working well. Further, as highlighted in the previous pipeline report, we recommend that the university consider conducting, and making openly available, pipeline studies for other schools at Columbia, in particular schools where women are known to be underrepresented, such as the Engineering School and the Business School.²

² One of the biggest challenges in completing this study, and in understanding root causes was lack of access to adequate data. As a result, our study is less comprehensive than the previous study, particularly in the area of hiring and departures. We recommend that the university invest more resources in collection and analysis of institutional data. This requires leadership from Columbia to commit to studying the issue.

- There must be a continued focus on diversity in hiring to recover to the diversity of untenured hiring rates from the early to middle part of this survey period, and hopefully improve on the diversity of external hires into the tenure ranks. Specifically, we recommend 1) that special attention be paid to hiring in Natural Sciences and Social Sciences, 2) that a tenured faculty member point-person within Arts and Sciences be appointed to track progress and help engage departments in diversity hiring opportunities, 3) that information on available resources for diversity hires is more broadly disseminated, and 4) that there is improved flexibility in hires through diversity resources, including timing of funds and a broader scope of use of funds.
- The disproportionate departure of women from the tenured ranks, in addition to the overall pipeline issues, suggests that attention to and dissemination of current research and relevant best practices happen in a more systematic fashion in order to allow for those involved in recruitment, and retention of faculty to be attentive to issues that may unintentionally discriminate against women.

1. Introduction

In 2001, Columbia's *Commission on the Status of Women* conducted the first pipeline study at Columbia, looking at data from 1990-2000, with an updated analysis in 2004, to track the progress of women through the Columbia University pipeline from undergraduate to tenured professor ([Commission on Status of Women, 2001; 2004](#)). That study concluded that progress toward equity was slow, and provided specific recommendations to help improve the rate of progress.

Some of the recommendations from the original pipeline report were followed and others appear not to have been – however, it was hard to even get data on what data is collected and where, and what processes are in place. Importantly, in 2004, a new office was created, led by Professor Jean Howard (George Delacorte Professor in the Humanities and currently Chair of the English Department) as the first Vice-Provost for Diversity, and followed in 2007 by Professor Geraldine Downey who led the office until 2009. In 2010 Professor Andrew Davidson was appointed to lead the Office of the Vice Provost for Academic Planning, which extended and replaced the work of the Office of the Vice Provost for Diversity. Some significant progress toward improving the pipeline has been made in the last decade, in large part because of this office, but progress at the tenured level is still slow.

The literature on the slow progress of women through the academic pipeline is substantial and there are an increasing number of studies that demonstrate how women are subjected to bias in evaluation of their accomplishments, particularly in the sciences (e.g. Valian, 1998; Steinpres et al. 1999; Trix & Psenka, 2003; Davies et al., 2005; Madera et al, 2009; Moss-Racusin et al, 2012; Reuben et al., 2014). This includes bias in obtaining funding (Brouns, 2000; RAND, 2005), differences in how letters of reference are written that negatively impact women (Trix & Psenka, 2003; Madera et al., 2009), lower salaries (Shen, 2013) that don't progress as fast as men (Valian, 2005), and in one study, the conclusion that women had to have 2.5 times more publications than men to achieve the same rating on scientific competence (Wenneras and Wold, 1997). It should be noted that both men and women have been shown to hold such unconscious biases (e.g. Steinpres et al. 1999; Moss-Racusin et al, 2012). In some areas of Natural Sciences that include field work, it has been shown that an alarming proportion of women have been subjected to sexual harassment (~71%) and even assault (~26%) during field work, most often by male colleagues who were senior to them (Clancy et al., 2014). Given these challenges, it is perhaps not surprising that women often leave the academic track at rates disproportionate to men.

The data presented here provide no information on causes for the slow progress of women toward the tenured ranks at Columbia, nor for any specific leaks in the pipeline where women become less well represented as seniority increases. At the tenured ranks progress will necessarily be most slow, since that represents the longest period of residence within one rank, and those ranks are still populated by a generation that was hired at a time when few women entered academia, especially in the sciences. However, the steady drop in women from undergraduate to graduate to tenure-track professor is happening despite

strong representation of women in the preceding ranks for longer than the duration of the residence in any given rank, bar tenured professor. Therefore it can be concluded that those leaks at the more junior level are not simply a result of past policies or practices that have since been reformed.

In [1999](#) & [2002](#) studies by the women tenured professors at MIT highlighted that they felt marginalized and demonstrated that they were being treated significantly differently from their male peers in everything from committee assignments, to lab space, to response to outside offers and salary. The leadership of MIT took a proactive approach to these findings and took steps to remedy the inequalities, leading to a significant improvement of morale among the women scientists, though it was clear in a follow-up [2011 study](#) that focus on the issues needs to be retained. No such study has been conducted at Columbia to date. We recommend that such a study be conducted as soon as possible.

We make this and other recommendations to try to better understand some possible causes of observed issues, but this report primarily seeks to document the progress, or in some cases, lack of progress, throughout Arts and Sciences. Data is described in terms of the overall picture in Arts and Sciences as well as at the divisional level (Humanities, Social Sciences, Natural Sciences), and occasionally at the department level. We also document the progress of underrepresented minorities through the ranks, but the analysis is focused on women, as a *Commission on the Status of Women* report. We hope that the newly forming Senate *Commission on Diversity* will follow up with more detailed analysis on underrepresented minority diversity.

2. Data and Report Approach

The biggest challenge facing this report of was lack of resources to conduct the analysis, and lack of data collection on salient topics. Despite clear recommendations in the last pipeline report for collection of data about arrivals and departures it proved impossible to even access some key pieces of data that were available when the last pipeline report was issued. For instance, the last report highlighted the problem of lack of women in the ‘target of opportunity’ hires into the tenured ranks over the 1990-2000 period. We suspect that the statistics would have improved since most of the hires made through the office of the Vice Provost for Diversity were done as target of opportunity hires. However, it proved impossible to get these data since they were apparently not collated anywhere, and the administrative personnel time to go through the raw data was not available.

Additionally, the original collated data that we were given for the tenure-track positions turned out to include a significant number of off-track positions, so we could not use it. This delayed the report by approximately a year and the analysis that had been completed to that point had to be redone. The final faculty data we got in raw format from Arts and Sciences, and authors of this paper had to process it themselves from scratch. This was a significant time sink, and these kinds of barriers to studying this important problem should not be in place.

One key recommendation we make is that the size of the institutional research office be increased so that pipeline data can be maintained with care and detail, including, hires, types of hires, departures and reasons for departures. This will help a great deal with transparency and identifying issues on something less than a decadal time scale. We note that all the administrators and staff that we worked with on this project were extremely helpful, but significantly overworked already. Columbia has one of the smallest institutional research offices in the Ivy League.

Because of the limitations of the data we had, our analysis in some cases is less detailed than provided in the original report, but with some expert assistance from the Statistics Department through their [free consulting program](#), we were able to conduct some important statistical analyses of the data, described in Section 4.

Most of our analysis is by division, since numbers in individual departments are too small to draw broad conclusions from. However, ultimately, the story is one that varies department by department, with some departments making significant progress in gender diversity and others going backwards.

As a result of the limited resources, we also focus most of our analysis on the faculty end of the pipeline (tenure-track and tenured) where the drop off in representation of women is most pronounced.

3. Observations

Figures 1-8 and Tables 1-4 show the 2004-2013 pipeline data for Arts and Sciences as a whole and broken down into divisions (Humanities, Natural Sciences, and Social Sciences). Figures 9-11 show the trends for tenure-track and tenured faculty from 1990-2013, for comparison with the trends observed in this study.

Undergraduate Students

The data show that, at the undergraduate level, women make up ~50% of the student body (noting that the undergraduate data is necessarily limited to those who have declared a major or concentration). This is the entry point over which Columbia central administration has the most control. When looking at divisions, while percentages fluctuate from year to year, no clear trend is apparent, and women make up on average 58% of Humanities majors, 53% of Natural Sciences majors and 45% of Social Sciences majors.

Graduate Students

At the graduate level, overall in Arts and Sciences, women make up on average about 47% of the student body, with a slight trend toward decreasing over time. This number reflects a divisional average of 53% in humanities, 42% in Natural Sciences and 44% in Social Sciences.

Most notable is the 11% drop in the Natural Sciences Ph.D.'s with respect to the undergraduate student body, and the fact that these numbers have been low in the most recent few years (41%) compared with a high of 44% over several years in the first half of this study period. This is the start of a series of leaks in the pipeline for Natural Sciences.

Social Sciences are notable for having almost no drop in the representation of women relative to the undergraduate student body. With the exception of one year (2009), the numbers are within a few % of each other, and sometimes the graduate student body actually has a higher % of women than the undergraduate student body. The pipeline into graduate school in Social Sciences therefore appears relatively healthy.

Humanities has a small drop in % women graduate students relative to undergraduate, but both numbers are at or above parity. There was decline in % of women graduate students from a high of 56% to a low of 49% in 2013, which should be watched, and potential causes considered. However, because the numbers are at or near parity, this stage of the pipeline still appears healthy.

We do not have data on gender distribution of students who complete their Ph.D., which is an important factor in considering the pipeline and we encourage further examination of this, particularly where women are heavily underrepresented at the tenure-track level.

Untenured – Tenure Track Faculty

Overall, the % of women on the untenured, but tenure-track faculty increased markedly for the first several years of the study period, coinciding with establishment of the Office of the Vice Provost for Diversity. However, following several years of parity, then numbers declined again, returning almost all the way back to levels seen at the beginning of the study period. This pattern is most pronounced in Natural Sciences, but a decline can be seen in the most recent years in all divisions. However, Humanities tenure-track faculty members have hovered around equity for the entire period (from 48-56% women), so this part of the pipeline is healthy, and broadly aligned with graduate student ratios. Social Sciences also increased from 33% to a high of 59% women, before falling back down to 49%, and actually exceeds the % of women undergraduate and graduate students for most of the last decade. So again, this appears to be a healthy pipeline. Natural sciences saw a dramatic increase from 21% to 40% over the first half of the study period, briefly reaching parity with the graduate student body, but then it plummeted back down to 23% by the end of the decade. This represents an unhealthy situation for the long-term pipeline, because historically a significant portion of the increase in tenured women in the Natural Sciences comes through promotion of internal candidates rather than external hires straight into tenure (Figure 12).

Tenured Faculty

Overall, the % of women in tenured faculty positions in Arts and Sciences has continued to grow at a steady, albeit slow, rate. The rates of growth by division are similar, though somewhat slower in Social Sciences where it grew only 4% over the decade (from 22% to 26%). Social Sciences is notable in that it actually has largely plateaued in the number of tenured women over the last half of the decade, with the highest absolute number and % occurring in 2010 (27%). Humanities grew by 6%, going from 33% to 39%, and is the division closest to parity, but it also has plateaued in the last few years. Natural sciences grew the most, at 7%, but is the division furthest from parity with % of tenured women growing from 12% to 19%. However, since much of that growth came through promotions to tenure, it is concerning that the untenured pipeline in Natural Sciences is now little better (+4%) than the tenured faculty, and so concerted efforts will be needed to maintain any growth in Natural Sciences.

Long-term Trends on the Tenured and Tenure-Track Faculty

While a simple look at the beginning and end numbers of the decade, described in the paragraph above, suggests a slightly more encouraging picture, this method is susceptible to small peaks or troughs in the data. For instance the picture of 7% growth of tenured women in Natural Sciences is due in large part to a 3% jump in the last year (2013) when 6 women were promoted/hired into tenure. The dearth of women in the Natural Sciences untenured pipeline suggest 2013 was anomalous, and that the representation of women at the tenured level is now likely to decrease or remain stagnant without focused efforts to improve it.

Figures 9-11 provide a linear fit to the data back to 1990, and show that overall the trends for tenured faculty have not changed significantly. The long-term trend in Humanities for the tenured faculty is an ~11% increase in the representation of women per decade, which means that at current rates, the Humanities division may reach parity in approximately one more decade. For Natural Sciences, the long-term trend was an increase of ~4% per decade, meaning that at present rates of increase it will take close to 80 years to reach parity, or almost the end of the 21st century. For Social Sciences the rate was only moderately better at a little less than 5%, suggesting about 50 years to parity.

The fact that the long-term trends in growth of tenured faculty don't appear to change significantly over the last decade compared to the previous decade, suggests that without the focused diversity efforts of the last decade things may have gotten significantly worse.

Promotions to Tenure and Tenured Hires

We were provided with tenure statistics across the three divisions for candidates that had been put forward by their departments to Arts & Sciences for consideration for tenure either through internal promotion or as part of an external recruitment. Once reaching this stage, the vast majority of all candidates (~92% for internal, and ~97% for external) were tenured, and if anything, women were slightly more likely to get tenure than men, but the numbers are very small. However, statistical analysis (see Section 4) suggests that women in Social Sciences were less likely than men to reach the stage of being put forward for tenure by their department.

The break down into internal versus external tenure cases provides a snapshot of the relative % of women coming into the tenure-track faculty through internal promotions versus external hires (Figure 12). With the exception of Social Sciences, where women were brought into the tenured ranks at very similar proportions both externally and internally (possibly because a potential problem exists with internal promotion – see Section 4, Promotion to Tenure), the pool brought in through internal promotions was significantly richer in women. This is particularly true in the Natural Sciences where the internally promoted pool had double the proportion of women to the external hires (38% vs. 19%). This is especially concerning given the recent downturn in representation of women on the untenured Natural Sciences faculty, where the most recent percent of women is only 23%, making it unlikely that the internally promoted pool will be richer than that in the near future.

One of the major points of concern of the previous pipeline report was the dearth of women hired through 'target of opportunity' hires as opposed to through open searches. For the 1990-2000 period, it was noted that in Natural Sciences of 11 target-of-opportunity hires, zero were women. We were not able to get gender data on the target-of-opportunity hires made in the decade of our study from 2004-2013. Despite recommendations by the last pipeline that these data be carefully tracked, no one appears to be doing so. However, these

numbers should have improved (from zero in the Natural Sciences) given that there were a number of target of opportunity hires through the Vice Provost of Diversity office.

Nevertheless, since there were only 6 female external tenured hires altogether in Natural Sciences, even with the diversity program, compared to 25 men, we suspect that the hiring patterns with respect to gender have not changed substantially outside of directed diversity efforts.

Faculty Pipeline Averages

Figure 13 shows the average relative proportions of women in and flowing through the Columbia Arts and Sciences pipeline, color-coded by division. The aggregate hiring numbers were not made directly available to us, and do not appear to be kept in an organized fashion. Instead we looked through the raw data provided by the office of the Vice-President of Arts, which included hiring dates. With the exception of Social Sciences it is clear that hiring into the (non-tenured) tenure track and promotion to tenure was more effective at increasing tenured diversity than hiring directly onto the tenured faculty, despite focused diversity efforts.

Overall, internal promotions and External hires contribute approximately equally to the numbers of new tenured faculty members, so the dearth of women hired through external searches is a significant drag on the improvement of the tenured ranks, particularly in the Natural Sciences.

Underrepresented Minority Data

Tables 5-7 provide the data for underrepresented minorities from 1992-2014 for undergraduate, graduate student, tenure-track and tenured faculty. Note that for these data the untenured faculty ranks may contain some faculty that Arts and Sciences considers off track faculty, which are not contained in the gender data (see issue outlined in paragraph 2 of Section 2). As mentioned earlier, these data are not the focus of our study, but illustrate another significant diversity problem that the university faces. There is a pronounced drop at the undergraduate to graduate point in the pipeline; relatively similar numbers between the graduate and untenured faculty, suggesting that this point does not represent a huge leak in the pipeline; and a big drop at the tenured faculty level. Of particular note is a recent *decrease* in both the % and the absolute number of underrepresented minority tenured faculty within Social Sciences, suggesting not only possible recruitment issues, but also retention issues. Overall, numbers are alarming small, particularly in the Natural Sciences.

Department-level Changes & Growth in Tenured Faculty

The observations discussed above are made on an Arts and Sciences wide or divisional basis to ensure that numbers are large enough to be meaningful. However, each one of the hires, promotions, retentions and departures are occurring at the department level, and each has

its own story. The previous report noted that in general, growth of departments was a key factor in improvements in diversity, and overall our data back this up, as detailed below.

Division Level Growth

Figure 14 shows the overall growth in tenured faculty numbers within a division compared to the growth in number of tenured women. With the exception of Social Sciences, more than half of the growth in the number of tenured faculty is accounted for by growth in the number of women faculty. The increase in division size is accounted for by 45% women in Social Sciences, 58% women in Natural Sciences and 64% women in Humanities. Figure 15 shows how the improvements in diversity within each division, and Arts and Sciences overall, were closely tied to increases in the number of faculty.

Department Level Growth

However, as Figure 16 shows, growth in women was not accomplished evenly across growing departments. Some departments increased the number of tenured women faculty by a greater amount than the department grew altogether (indicating departing/retiring men being replaced by women). Other departments doubled in size, but didn't hire a single additional woman. As with the previous pipeline report, we provide a list of the 'most improved' departments and 'least improved' departments (page 45). The most improved departments were defined as those that had a > 20% increase in the representation of women, and/or a greater change in the number of women than the change in the department size. The least improved departments were those where the representation of women on their tenured faculty actually decreased (5 departments), or remained the same (2 departments), despite the department growing.

4. Statistical Analysis

Statistical analysis of hiring, promotion and resignation patterns over the course of the study period was conducted by Professor Daniel Rabinowitz (Dept. of Statistics). Because these data were not directly available (with the exception of resignation), they had to be derived from changes and criteria associated with specific names in the raw catalogues provided by Arts and Sciences.

Statistical methods are outlined in the Appendix, along with the statistical test results. Estimates of regression coefficients and their associated p-values may be viewed as descriptive of the history of hiring, promotion, resignation, and retiring; to view estimates and p-values as statistical inferences about the culture of our institution would be predicated on the view that the experiences of individual faculty members are independent replications with common probabilistic properties. In other words, the statistical methods applied here are not necessarily appropriate for the type of dependent data examined, but are nevertheless useful in understanding the strength of apparent signals in the data.

Trends and observations are detailed below, with nominal statistical significance noted where present. Overall, despite the fact that these are small numbers, the results represent summaries of the history. Perceptions of greater hiring of men over women, perceptions of greater likelihood for women to resign at the tenured level, and for women being less likely to be put up for tenure are born out by a review of the data.

STATISTICAL RESULTS

Hiring – Untenured Faculty (Tenure-Track)

- Men were hired at greater rate than women among untenured (tenure-track) positions overall in Arts and Sciences (statistically significant). However, this does not account for the variability in the hiring pool.
- By divisions, there were slightly more men in Humanities, roughly equal numbers in Social Sciences, and vastly more in the Natural Sciences.

Hiring – Tenured Faculty

- Men were hired at a greater rate than women in the tenured ranks, with more extreme ratios than in the junior faculty hiring (statistically significant). Again, this does not account for the variability in the hiring pool.
- By division, vastly more men were hired in all divisions, with the Natural Sciences being the most extreme.

Hiring - Trends

- Overall, rates of hiring of women relative to men *decreased* with time, with the decrease more marked in non-tenured (statistically significant).
- By division, the trend is positive among the tenured natural scientists, but negative for all the non-tenured groups and tenured Social Sciences and Humanities.

Promotion to Tenure

- Women were less likely than their peers to be promoted (from untenured to tenured). This happened in all three reporting units, although the effects were negligible in Humanities and Natural Sciences, but substantial in the Social Sciences (statistically significant). Note: this happens before the cases reach university-level tenure review. At that step, 96% of women and 90% of men were tenured. Information was not available on why women left before this step.
- Overall the situation with respect to promotion seemed to improve for women over time, except in Social Sciences where the situation remained the same.

Resignations – Untenured Faculty (up to 5 years of service)

- Overall, women were less likely to resign from untenured positions (after adjusting for years of service), though this was not statistically significant. Note this does not include resignations immediately prior to going up for tenure, which are covered in promotion (above).
- By division, women were less likely to resign in Social Sciences (statistically significant) and Natural Sciences (barely significant), but more likely in the Humanities (not significant).
- Overall there were no significant trends over time with respect to untenured resignation, with no effect in Natural Sciences or Social Sciences, but perhaps likely more likely to resign overtime in Humanities.

Resignations – Tenured Faculty

- Overall, women were much more likely to resign from tenured positions.
- This trend was true across all divisions (Natural Sciences, Social Sciences and Humanities).
- Over time this trend was decreasing but with the change being almost entirely due to Natural Sciences.

5. Conclusions

PIPELINE TRENDS

1. While diversity in the tenured ranks at Columbia continues to improve overall, the rate of improvement does not appear to have changed significantly from the previous decade. At current rates it will take close to a century to reach parity in Natural Sciences, and about half a century in the Social Sciences, although Humanities is on track to be at parity in approximately a decade, assuming the recent stall is not maintained (see 3 below).
2. The representation of women in the non-tenured ranks has been decreasing in the last several years, and this decrease is particularly pronounced in the Natural Sciences. This could lead to a stall in progress at the tenured level. Overall there is a highly significant trend for hiring women at the untenured rank to be getting worse over time.
3. The number of tenured women in Humanities and Social Sciences appears to have stalled in the last 3-5 years of the study.
4. Women are more likely to be brought into the tenured ranks through promotion from untenured ranks than through hiring directly into the tenured ranks for Natural Sciences and Humanities, making the internal Columbia tenure-track pipeline particularly important for these divisions.

LINK OF DIVERSITY TO GROWTH AND FOCUSED ATTENTION

5. Focused gender diversity efforts, combined with a growth in the number of Arts and Sciences (A&S) faculty, in the ~2004-2008 time period appear to have been effective in increasing diversity in the tenure-track ranks. However, as growth decreased, or stalled altogether, and diversity efforts became broader and less focused on A&S, hiring patterns appear to have plateaued and in some cases reverted back to the original diversity level of a decade ago.
6. The decline in untenured ranks is led by the Natural Sciences, despite near parity in the graduate student body. The reasons for this are unknown, but it coincides with less focused attention on diversity within Natural Sciences as the scope of the Office of the Vice Provost for Diversity was broadened.
7. Overall, improvements in diversity appear to be closely tied to growth of A&S faculty, particularly at the tenured level, with the major improvements occurring when divisions were growing, and decreases or stalls occurring when growth was small or non-existent.

8. At the department level, in general, an increase in department size leads to an improvement in gender ratios. However, this varies significantly department by department, with some departments showing dramatic improvement, and a few decreasing in diversity despite increasing in size.

CLEAR LEAKS IN THE PIPELINE

9. Women in Social Sciences are significantly more likely to leave the untenured ranks immediately prior to going up for tenure than men.
10. Women are more likely than men to depart from tenured ranks, though it is not statistically significant. However, the lack of significance is at least in part because the pool is so small.
11. The recent drop in hiring of women at the untenured level is going to negatively impact progress at the tenured levels without focused efforts to hire more women at both the tenured and untenured ranks.

ISSUES TO ADDRESS MOVING FORWARD

12. Ultimately the responsibility for diverse and equitable hiring and promotion practices starts at the department level, with huge variability in growth of representation of women from department to department. Solutions need to be tailored to the issues facing specific departments from low pipelines to hiring practices. On a department scale, where women are significantly underrepresented on the faculty, they often (though not always) are also significantly underrepresented at the student level, suggesting a multi-level approach is needed. However, for most departments the pipeline is healthy at the graduate student level, and for many, it is healthy at the untenured level.
13. Departments within Arts and Sciences have not been particularly pro-active in accessing the most recently available diversity funds. This may in part be because communication about accessibility of these funds seems minimal at the department level, and confusion abounds.
14. Many of the conclusions of the first pipeline report still hold true, and many of the recommendations appear to remain unimplemented.
15. Conclusions and timeliness of this report were significantly hampered by lack of access to relevant data, and lack of staff to help assemble and analyze the data. This appears largely to be because data is not collected in a consistent and readily accessible fashion as recommended by the previous pipeline report.

6. Recommendations

DATA NEEDS

As per the prior Pipeline Report, the University needs to be much more systematic in collecting data so that less work needs to be put into extracting data, and more work can go into analyzing it. Additionally we recommend that more data be collected in terms of surveys within Arts and Sciences. We specifically recommend that:

1. The University increase the size of the Institutional Research Office. We have one of the smallest such offices in the Ivy League.
2. Arts and Sciences conduct an MIT-style survey of women's committee and teaching workload, offices, lab space, salary and other similar points of comparison relative to male colleagues. This should be led by tenured faculty.
3. Arts and Sciences conduct an initial and follow-up 'quality of life' web-based surveys, particularly targeting women faculty, both junior and senior, to try to establish why some groups are leaving at greater rate than their male colleagues, and to highlight aspects that may be working well.
4. Incorporate analysis of underrepresented minorities into the above surveys.

HIRING PRACTICES

Continued focus on diversity in hiring is essential to recover to the diversity of untenured hiring rates from the early to middle part of this survey period, and hopefully improve on the diversity of external hires into the tenure ranks. Specifically we recommend:

5. Special attention be paid to hiring in Natural Sciences and Social Sciences, keeping a close eye on the untenured pipeline, particularly in Natural Sciences, but also on the diversity of external hires to tenure in both divisions.
6. Appoint a tenured faculty member point-person within Arts and Sciences to track progress and help engage departments in diversity hiring opportunities.
7. Broaden dissemination of information on available resources for diversity hires so that everyone at the department level is engaged.
8. Improve flexibility in hires through diversity resources, including timing of funds and a broader scope of use of funds.

RETENTION AND RECRUITMENT

The disproportionate departure of women from the tenured ranks suggest that Arts and Sciences appears to be less successful at retaining women who receive outside offers, though no data is collected on this. Below we have recommendations that might help improve retention of women faculty, but should also help attract the outstanding women faculty that we are seeking to hire.

9. Recognize that a narrower band of the societally regarded ‘acceptable’ behavior for women makes it harder for them to negotiate competitive retention or hiring packages, and women often ‘under-ask’ relative to their male peers. Consider offering women more than they ask for, particularly if they ‘under-ask’ relative to recent comparable male hires or retentions.
10. Recognize that women may be less likely to seek outside offers specifically for salary raises, and since this is a primary tool used for obtaining higher salaries, this may lead to a *de facto* discriminatory salary policy.
11. Recognize that getting the best women may sometimes require making spousal hires, and that hiring male partners of women being retained or recruited should get the same priority as hiring female partners of male faculty being retained or recruited.
12. Ensure closer diversity oversight for hiring committees – in particular for departments that have fallen behind. Ensure [best practices](#) at every stage, including clear criteria for structuring search committees.
13. Recognize that diversity is best achieved in an environment of stable growth of faculty.

EXPANDING PIPELINE STUDIES

14. Finally, as highlighted in the previous pipeline report, we recommend that the university consider conducting, and making openly available, pipeline studies for other schools at Columbia, in particular schools where women are known to be underrepresented, such as the Engineering School and the Business School.

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8. Tables

List of Tables:

1. Relative representation of women and men in Arts and Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.
2. Relative representation of women and men in Humanities at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.
3. Relative representation of women and men in Natural Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.
4. Relative representation of women and men in Social Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.
- *5. Representation of underrepresented Minorities in Humanities at the undergraduate, graduate, tenure-track and tenured faculty levels from 1990-2014.
- *6. Representation of underrepresented Minorities in Natural Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 1990-2014.
- *7. Representation of underrepresented Minorities in Social Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 1990-2014.

*Notes:

- 1) The underrepresented minority data covers an additional year since it was collated at the very end of this study when the 2014-15 data had become available.
- 2) The total faculty numbers for divisions may be different for the same year in tables 2-4 (gender) versus tables 5-7 (underrepresented minority data). This reflects differences in the way that individuals are counted – e.g. some faculty have joint appointments in an A&S department and in a School outside of A&S (within Columbia). All such cases are included in the underrepresented minority data, but for the gender data these individuals were assigned to just one department on a case-by-case basis, and so some were not counted within A&S. Also the untenured faculty ranks may contain some faculty that Arts and Sciences considers off-track faculty, and thus are not contained in the gender data (see issue outlined in paragraph 2 of Section 2).

Table 1: Relative representation of women and men in Arts and Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.

ARTS & SCIENCES (A&S)

Undergraduate Major and Concentrator Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	1226	1287	1241	1255	1338	1334	1382	1415	1382	1267
Men	1216	1199	1213	1226	1264	1209	1251	1332	1350	1312
Total	2442	2486	2454	2481	2602	2543	2633	2747	2732	2579
% Women	50%	52%	51%	51%	51%	52%	52%	52%	51%	49%
Graduate Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	984	984	965	961	902	845	829	835	818	800
Men	1109	1063	1008	1004	977	1067	991	1000	990	990
Total	2093	2047	1973	1965	1879	1912	1820	1835	1808	1790
% Women	47%	48%	49%	49%	48%	44%	46%	46%	45%	45%
Tenure-Eligible (Untenured) Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	51	59	66	74	73	70	67	65	55	48
Men	86	83	86	74	73	66	66	69	69	73
Total	137	142	152	148	146	136	133	134	124	121
% Women	37%	42%	43%	50%	50%	51%	50%	49%	44%	40%
Tenured Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	77	79	85	89	100	103	107	106	109	118
Men	274	279	280	285	293	299	292	299	301	305
Total	351	358	365	374	393	402	399	405	410	423
% Women	22%	22%	23%	24%	25%	26%	27%	26%	27%	28%

Table 2: Relative representation of women and men in Humanities at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.

HUMANITIES

Undergraduate Major and Concentrator Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	480	513	461	412	433	444	465	462	421	387
Men	359	351	341	308	314	289	314	349	340	257
Total	839	864	802	720	747	733	779	811	761	644
% Women	57%	59%	57%	57%	58%	61%	60%	57%	55%	60%
Graduate Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	443	433	410	420	388	361	352	356	325	307
Men	371	355	337	327	333	322	332	333	311	321
Total	814	788	747	747	721	683	684	689	636	628
% Women	54%	55%	55%	56%	54%	53%	51%	52%	51%	49%
Tenure-Eligible (Untenured) Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	31	34	35	37	34	28	27	23	20	19
Men	33	33	33	30	27	24	24	24	22	21
Total	64	67	68	67	61	52	51	47	42	40
% Women	48%	51%	51%	55%	56%	54%	53%	49%	48%	48%
Tenured Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	39	40	43	45	51	53	55	55	55	57
Men	80	80	78	79	86	89	83	86	88	90
Total	119	120	121	124	137	142	138	141	143	147
% Women	33%	33%	36%	36%	37%	37%	40%	39%	38%	39%

Table 3: Relative representation of women and men in Natural Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.

NATURAL SCIENCES

Undergraduate Major and Concentrator Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	287	298	294	329	372	368	384	450	505	424
Men	259	257	290	303	314	324	329	378	415	450
Total	546	555	584	632	686	692	713	828	920	874
% Women	53%	54%	50%	52%	54%	53%	54%	54%	55%	49%
Graduate Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	245	259	273	272	272	256	255	250	253	252
Men	386	368	349	353	340	358	371	367	369	366
Total	631	627	622	625	612	614	626	617	622	618
% Women	39%	41%	44%	44%	44%	42%	41%	41%	41%	41%
Tenure-Eligible (Untenured) Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	7	9	11	13	14	16	16	17	11	9
Men	27	25	29	27	27	24	24	26	27	31
Total	34	34	40	40	41	40	40	43	38	40
% Women	21%	26%	28%	33%	34%	40%	40%	40%	29%	23%
Tenured Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	16	15	16	17	19	19	20	21	24	30
Men	115	116	119	119	117	120	121	123	123	125
Total	131	131	135	136	136	139	141	144	147	155
% Women	12%	11%	12%	13%	14%	14%	14%	15%	16%	19%

Table 4: Relative representation of women and men in Social Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 2004-2013.

SOCIAL SCIENCES

Undergraduate Major and Concentrator Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	459	476	486	514	533	522	533	503	456	456
Men	598	591	582	615	636	596	608	605	595	605
Total	1057	1067	1068	1129	1169	1118	1141	1108	1051	1061
% Women	43%	45%	46%	46%	46%	47%	47%	45%	43%	43%
Graduate Students										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	296	292	282	269	242	228	222	229	240	241
Men	352	340	322	324	304	387	288	300	310	303
Total	648	632	604	593	546	615	510	529	550	544
% Women	46%	46%	47%	45%	44%	37%	44%	43%	44%	44%
Tenure-Eligible (Untenured) Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	13	16	20	24	25	26	24	25	24	20
Men	26	25	24	17	19	18	18	19	20	21
Total	39	41	44	41	44	44	42	44	44	41
% Women	33%	39%	45%	59%	57%	59%	57%	57%	55%	49%
Tenured Faculty										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Women	22	24	26	27	30	31	32	30	30	31
Men	79	83	83	87	90	90	88	90	90	90
Total	101	107	109	114	120	121	120	120	120	121
% Women	22%	22%	24%	24%	25%	26%	27%	25%	25%	26%

Table 5: Representation of underrepresented Minorities in Humanities at the undergraduate, graduate, tenure-track and tenured faculty levels from 1990-2014.

Humanities 1992-2001										
Representation of Underrepresented Minorities: Students and Faculty										
Undergraduate Students										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	94	72	87	94	83	84	72	72	73	62
Underrepresented Minority	67	67	68	85	86	78	77	104	108	105
Other	0	0	0	0	0	0	0	0	32	33
White	394	308	296	288	330	312	325	333	337	353
Unknown	31	20	54	74	64	68	87	92	60	58
Non-Resident Alien	13	7	9	16	19	17	13	10	14	19
TOTAL	598	472	514	556	581	559	573	610	623	630
TOTAL US/Perm. Residents	586	466	505	541	562	542	561	601	609	611
% Underrepresented Minority	11.4%	14.3%	13.5%	15.7%	15.2%	14.5%	13.7%	17.3%	17.7%	17.2%
Doctoral Students										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	54	58	64	60	58	64	65	58	57	58
Underrepresented Minority	43	33	43	46	57	59	66	51	50	42
Other	3	3	6	9	9	12	16	19	20	20
White	843	808	759	738	712	687	683	635	594	560
Unknown	34	37	38	52	56	61	63	66	62	54
Non-Resident Alien	166	166	175	162	167	156	169	165	156	172
TOTAL	1143	1105	1085	1067	1059	1039	1062	994	939	906
TOTAL US/Perm. Residents	977	939	910	905	892	883	893	829	783	734
% Underrepresented Minority	4.4%	3.5%	4.7%	5.1%	6.4%	6.7%	7.4%	6.2%	6.4%	5.7%
Non-Tenured but on Track Faculty										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	5	5	4	5	4	5	5	4	4	5
Underrepresented Minority	3	4	5	3	3	4	5	4	2	2
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	71	68	66	61	55	51	44	47	49	46
TOTAL	79	77	75	69	62	60	54	55	55	53
% Underrepresented Minority	3.8%	5.2%	6.7%	4.3%	4.8%	6.7%	9.3%	7.3%	3.6%	3.8%
Tenured Faculty										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	4	5	5	5	6	6	7	7	7	8
Underrepresented Minority	4	5	5	6	6	6	6	7	7	7
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	96	102	97	99	105	101	106	106	105	103
TOTAL	104	112	107	110	117	113	119	120	119	118
% Underrepresented Minority	3.8%	4.5%	4.7%	5.5%	5.1%	5.3%	5.0%	5.8%	5.9%	5.9%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native

and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 5 (continued)

Humanities 2002-2011
Representation of Underrepresented Minorities: Students and Faculty

Undergraduate Students

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	57	60	59	68	63	63	64	55	72	60
Underrepresented Minority	99	116	118	109	109	110	127	122	139	173
Other	33	32	28	36	43	31	20	18	n/a	n/a
White	384	385	392	398	358	305	304	268	267	286
Unknown	64	67	65	78	75	58	50	50	49	39
Non-Resident Alien	<u>23</u>	<u>31</u>	<u>31</u>	<u>25</u>	<u>23</u>	<u>15</u>	<u>20</u>	<u>31</u>	<u>40</u>	<u>41</u>
TOTAL	660	691	693	714	670	581	584	543	567	600
TOTAL US/Perm. Residents	637	660	662	689	646	566	565	512	528	559
% Underrepresented Minority	15.5%	17.6%	17.9%	15.8%	16.8%	19.4%	22.5%	23.8%	26.4%	31.0%

Doctoral Students

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	55	53	49	48	44	49	44	45	50	51
Underrepresented Minority	44	37	41	43	45	43	47	46	54	59
Other	22	25	25	28	32	35	34	32	n/a	n/a
White	522	490	455	419	379	359	319	299	322	312
Unknown	54	59	70	76	75	85	86	80	67	66
Non-Resident Alien	<u>167</u>	<u>176</u>	<u>174</u>	<u>174</u>	<u>172</u>	<u>176</u>	<u>191</u>	<u>181</u>	<u>191</u>	<u>201</u>
TOTAL	864	840	814	788	747	747	721	683	684	689
TOTAL US/Perm. Residents	697	664	640	614	575	571	530	502	493	488
% Underrepresented Minority	6.3%	5.6%	6.4%	7.0%	7.8%	7.5%	8.9%	9.2%	11.0%	12.1%

Non-Tenured but on Track Faculty

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	8	5	6	5	5	8	7	6	7	5
Underrepresented Minority	1	3	3	3	4	4	3	3	4	4
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	<u>53</u>	<u>62</u>	<u>64</u>	<u>67</u>	<u>67</u>	<u>73</u>	<u>66</u>	<u>52</u>	<u>47</u>	<u>45</u>
TOTAL	62	70	73	75	76	85	76	61	58	54
% Underrepresented Minority	1.6%	4.3%	4.1%	4.0%	5.3%	4.7%	3.9%	4.9%	6.9%	7.4%

Tenured Faculty

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	9	11	9	8	11	12	12	13	13	13
Underrepresented Minority	6	6	7	7	8	11	13	15	14	14
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	<u>103</u>	<u>101</u>	<u>98</u>	<u>99</u>	<u>93</u>	<u>97</u>	<u>106</u>	<u>113</u>	<u>108</u>	<u>113</u>
TOTAL	118	118	114	114	112	120	131	141	135	140
% Underrepresented Minority	5.1%	5.1%	6.1%	6.1%	7.1%	9.2%	9.9%	10.6%	10.4%	10.0%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 5 (continued)

Humanities 2005-2014
Representation of Underrepresented Minorities: Students and Faculty

Undergraduate Students

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	68	63	63	64	55	72	60	48	60	62
Underrepresented Minority	109	109	110	127	122	139	173	177	157	160
Other	36	43	31	20	18	n/a	n/a	n/a	n/a	n/a
White	398	358	305	304	268	267	286	274	217	204
Unknown	78	75	58	50	50	49	39	27	25	23
Non-Resident Alien	<u>25</u>	<u>23</u>	<u>15</u>	<u>20</u>	<u>31</u>	<u>40</u>	<u>41</u>	<u>41</u>	<u>38</u>	<u>37</u>
TOTAL	714	670	581	584	543	567	600	566	498	485
TOTAL US/Perm. Residents	689	646	566	565	512	528	559	525	460	448
% Underrepresented Minority	15.8%	16.8%	19.4%	22.5%	23.8%	26.4%	31.0%	33.6%	34.2%	35.7%

Doctoral Students

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	48	44	49	44	45	50	51	54	49	53
Underrepresented Minority	43	45	43	47	46	54	59	57	54	53
Other	28	32	35	34	32	n/a	n/a	n/a	n/a	n/a
White	419	379	359	319	299	322	312	311	297	286
Unknown	76	75	85	86	80	67	66	57	61	58
Non-Resident Alien	<u>174</u>	<u>172</u>	<u>176</u>	<u>191</u>	<u>181</u>	<u>191</u>	<u>201</u>	<u>193</u>	<u>198</u>	<u>212</u>
TOTAL	788	747	747	721	683	684	689	672	659	662
TOTAL US/Perm. Residents	614	575	571	530	502	493	488	479	461	450
% Underrepresented Minority	7.0%	7.8%	7.5%	8.9%	9.2%	11.0%	12.1%	11.9%	11.7%	11.8%

Non-Tenured but on Track Faculty

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	5	5	8	7	6	7	5	4	4	4
Underrepresented Minority	3	4	4	3	3	4	4	5	5	4
Undisclosed	0	0	0	0	0	0	0	1	4	7
White	<u>67</u>	<u>67</u>	<u>73</u>	<u>66</u>	<u>52</u>	<u>47</u>	<u>45</u>	<u>43</u>	<u>38</u>	<u>29</u>
TOTAL	75	76	85	76	61	58	54	53	51	44
% Underrepresented Minority	4.0%	5.3%	4.7%	3.9%	4.9%	6.9%	7.4%	9.4%	9.8%	9.1%

Tenured Faculty

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	8	11	12	12	13	13	13	13	13	13
Underrepresented Minority	7	8	11	13	15	14	14	14	15	16
Undisclosed	0	0	0	0	0	0	0	1	2	3
White	<u>99</u>	<u>93</u>	<u>97</u>	<u>106</u>	<u>113</u>	<u>108</u>	<u>113</u>	<u>114</u>	<u>117</u>	<u>118</u>
TOTAL	114	112	120	131	141	135	140	142	147	150
% Underrepresented Minority	6.1%	7.1%	9.2%	9.9%	10.6%	10.4%	10.0%	9.9%	10.2%	10.7%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 6: Representation of underrepresented Minorities in Natural Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 1990-2014.

Natural Sciences 1992-2001										
Representation of Underrepresented Minorities: Students and Faculty										
Undergraduate Students										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Asian	69	62	83	91	96	86	78	75	74	70
Underrepresented Minority	66	62	59	44	48	54	60	58	54	61
Other	0	0	0	0	0	0	0	0	20	18
White	185	136	138	149	148	170	179	189	200	190
Unknown	5	4	14	23	34	37	42	43	29	38
Non-Resident Alien	8	7	5	9	12	12	15	12	12	11
TOTAL	333	271	298	317	338	360	375	376	389	387
TOTAL US/Perm. Residents	325	264	293	308	326	348	360	364	377	376
% Underrepresented Minority	20.3%	23.5%	20.0%	14.4%	14.7%	15.6%	16.8%	15.8%	14.3%	16.1%
Doctoral Students										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Asian	52	50	45	35	34	28	23	25	25	23
Underrepresented Minority	8	12	12	6	8	11	10	12	13	12
Other	0	3	3	5	4	6	7	10	10	10
White	192	196	183	169	174	172	181	191	203	224
Unknown	5	15	18	19	20	23	20	23	21	19
Non-Resident Alien	254	257	263	252	227	224	225	222	240	255
TOTAL	511	533	524	486	467	464	466	483	512	543
TOTAL US/Perm. Residents	257	276	261	234	240	240	241	261	272	288
% Underrepresented Minority	3.1%	4.3%	4.6%	2.6%	3.3%	4.6%	4.1%	4.6%	4.8%	4.2%
Non-Tenured but on Track Faculty										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Asian	7	10	10	8	8	15	12	13	11	14
Underrepresented Minority	1	1	0	0	1	0	2	2	4	4
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	44	45	43	38	45	47	44	48	56	59
TOTAL	52	56	53	46	54	62	58	63	71	77
% Underrepresented Minority	1.9%	1.8%	0.0%	0.0%	1.9%	0.0%	3.4%	3.2%	5.6%	5.2%
Tenured Faculty										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Asian	9	8	8	8	8	8	7	7	9	10
Underrepresented Minority	1	0	1	1	1	1	1	1	1	1
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	85	83	80	85	91	95	100	98	103	106
TOTAL	95	91	89	94	100	104	108	106	113	117
% Underrepresented Minority	1.1%	0.0%	1.1%	1.1%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native

and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 6 (continued)

Natural Sciences 2002-2011
Representation of Underrepresented Minorities: Students and Faculty

Undergraduate Students

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	64	70	84	86	77	102	108	98	101	122
Underrepresented Minority	52	46	53	62	82	95	110	108	111	160
Other	19	15	15	25	20	28	27	20	n/a	n/a
White	184	212	192	183	189	175	188	184	224	283
Unknown	38	37	39	38	41	36	41	55	34	26
Non-Resident Alien	<u>11</u>	<u>11</u>	<u>13</u>	<u>18</u>	<u>28</u>	<u>35</u>	<u>39</u>	<u>42</u>	<u>45</u>	<u>55</u>
TOTAL	367	391	396	412	437	472	512	507	515	645
TOTAL US/Perm. Residents	357	379	383	394	409	436	473	465	470	589
% Underrepresented Minority	14.5%	12.1%	13.8%	15.7%	20.0%	21.8%	23.2%	23.3%	23.5%	27.1%

Doctoral Students

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	25	24	28	30	28	32	30	26	39	42
Underrepresented Minority	15	15	26	26	24	23	26	30	34	41
Other	10	11	11	11	13	12	6	6	n/a	n/a
White	232	236	244	243	238	245	243	262	272	261
Unknown	29	39	49	53	54	46	44	40	31	28
Non-Resident Alien	<u>272</u>	<u>280</u>	<u>273</u>	<u>264</u>	<u>265</u>	<u>267</u>	<u>263</u>	<u>250</u>	<u>250</u>	<u>245</u>
TOTAL	583	605	631	627	622	625	612	614	626	617
TOTAL US/Perm. Residents	311	325	358	363	357	358	349	364	376	372
% Underrepresented Minority	4.8%	4.6%	7.3%	7.2%	6.7%	6.4%	7.4%	8.2%	9.0%	11.0%

Non-Tenured but on Track Faculty

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	17	16	10	9	10	9	11	12	16	20
Underrepresented Minority	4	3	4	6	6	6	5	5	8	9
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	<u>51</u>	<u>46</u>	<u>42</u>	<u>36</u>	<u>39</u>	<u>45</u>	<u>45</u>	<u>46</u>	<u>42</u>	<u>42</u>
TOTAL	72	65	56	51	55	60	61	63	66	71
% Underrepresented Minority	5.6%	4.6%	7.1%	11.8%	10.9%	10.0%	8.2%	7.9%	12.1%	12.7%

Tenured Faculty

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	10	11	12	12	12	12	13	13	13	13
Underrepresented Minority	2	3	3	3	3	3	3	5	4	3
Undisclosed	0	0	0	0	0	0	0	0	1	1
White	<u>109</u>	<u>111</u>	<u>115</u>	<u>113</u>	<u>118</u>	<u>119</u>	<u>118</u>	<u>122</u>	<u>122</u>	<u>126</u>
TOTAL	121	125	130	128	133	134	134	140	140	143
% Underrepresented Minority	1.7%	2.4%	2.3%	2.3%	2.3%	2.2%	2.2%	3.6%	2.9%	2.1%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native

and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 6 (continued)

Natural Sciences 2005-2014
Representation of Underrepresented Minorities: Students and Faculty

Undergraduate Students

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	86	77	102	108	98	101	122	146	151	156
Underrepresented Minority	62	82	95	110	108	111	160	201	178	178
Other	25	20	28	27	20	n/a	n/a	n/a	n/a	n/a
White	183	189	175	188	184	224	283	287	261	263
Unknown	38	41	36	41	55	34	26	20	22	16
Non-Resident Alien	<u>18</u>	<u>28</u>	<u>35</u>	<u>39</u>	<u>42</u>	<u>45</u>	<u>55</u>	<u>62</u>	<u>68</u>	<u>74</u>
TOTAL	412	437	472	512	507	515	645	716	679	686
TOTAL US/Perm. Residents	394	409	436	473	465	470	589	653	612	612
% Underrepresented Minority	15.7%	20.0%	21.8%	23.2%	23.3%	23.5%	27.1%	30.7%	29.0%	29.0%

Doctoral Students

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	30	28	32	30	26	39	42	50	50	52
Underrepresented Minority	26	24	23	26	30	34	41	45	45	46
Other	11	13	12	6	6	n/a	n/a	n/a	n/a	n/a
White	243	238	245	243	262	272	261	247	241	232
Unknown	53	54	46	44	40	31	28	31	31	35
Non-Resident Alien	<u>264</u>	<u>265</u>	<u>267</u>	<u>263</u>	<u>250</u>	<u>250</u>	<u>245</u>	<u>249</u>	<u>251</u>	<u>256</u>
TOTAL	627	622	625	612	614	626	617	622	618	621
TOTAL US/Perm. Residents	363	357	358	349	364	376	372	373	367	365
% Underrepresented Minority	7.2%	6.7%	6.4%	7.4%	8.2%	9.0%	11.0%	12.1%	12.3%	12.6%

Non-Tenured but on Track Faculty

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	9	10	9	11	12	16	20	19	20	16
Underrepresented Minority	6	6	6	5	5	8	9	5	6	7
Undisclosed	0	0	0	0	0	0	0	1	3	2
White	<u>36</u>	<u>39</u>	<u>45</u>	<u>45</u>	<u>46</u>	<u>42</u>	<u>42</u>	<u>42</u>	<u>42</u>	<u>37</u>
TOTAL	51	55	60	61	63	66	71	67	71	62
% Underrepresented Minority	11.8%	10.9%	10.0%	8.2%	7.9%	12.1%	12.7%	7.5%	8.5%	11.3%

Tenured Faculty

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	12	12	12	13	13	13	13	14	14	15
Underrepresented Minority	3	3	3	3	5	4	3	6	6	6
Undisclosed	0	0	0	0	0	1	1	1	1	2
White	<u>113</u>	<u>118</u>	<u>119</u>	<u>118</u>	<u>122</u>	<u>122</u>	<u>126</u>	<u>127</u>	<u>134</u>	<u>139</u>
TOTAL	128	133	134	134	140	140	143	148	155	162
% Underrepresented Minority	2.3%	2.3%	2.2%	2.2%	3.6%	2.9%	2.1%	4.1%	3.9%	3.7%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 7: Representation of underrepresented Minorities in Social Sciences at the undergraduate, graduate, tenure-track and tenured faculty levels from 1990-2014.

Social Sciences 1992-2001										
Representation of Underrepresented Minorities: Students and Faculty										
Undergraduate Students										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	131	119	143	146	134	126	131	114	115	109
Underrepresented Minority	176	150	154	126	139	119	126	156	142	127
Other	0	0	0	0	0	0	0	0	42	47
White	532	399	369	363	393	365	345	390	381	383
Unknown	26	13	48	66	72	71	72	84	58	67
Non-Resident Alien	<u>25</u>	<u>25</u>	<u>31</u>	<u>34</u>	<u>32</u>	<u>37</u>	<u>32</u>	<u>31</u>	<u>36</u>	<u>43</u>
TOTAL	889	706	745	734	771	717	706	776	774	776
TOTAL US/Perm. Residents	865	681	714	701	738	680	674	745	738	733
% Underrepresented Minority	20.4%	22.1%	21.6%	18.0%	18.8%	17.4%	18.7%	20.9%	19.3%	17.4%
Doctoral Students										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	61	61	63	56	59	59	53	52	48	43
Underrepresented Minority	52	54	57	61	60	59	59	53	48	47
Other	2	4	5	7	9	9	12	14	22	24
White	627	586	576	560	525	496	474	445	395	362
Unknown	19	29	39	50	55	59	53	55	48	41
Non-Resident Alien	<u>254</u>	<u>254</u>	<u>246</u>	<u>241</u>	<u>237</u>	<u>252</u>	<u>278</u>	<u>275</u>	<u>273</u>	<u>269</u>
TOTAL	1015	988	986	975	945	934	929	894	834	786
TOTAL US/Perm. Residents	761	734	740	734	708	682	651	619	561	517
% Underrepresented Minority	6.8%	7.4%	7.7%	8.3%	8.5%	8.7%	9.1%	8.6%	8.6%	9.1%
Non-Tenured but on Track Faculty										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	5	7	5	5	5	3	5	7	9	9
Underrepresented Minority	3	4	5	5	3	5	6	7	6	5
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	46	49	46	39	38	39	33	29	31	28
TOTAL	54	60	56	49	46	47	44	43	46	42
% Underrepresented Minority	5.6%	6.7%	8.9%	10.2%	6.5%	10.6%	13.6%	16.3%	13.0%	11.9%
Tenured Faculty										
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Asian	3	3	5	5	6	6	6	7	6	6
Underrepresented Minority	5	6	6	6	7	6	6	5	4	6
Undisclosed	0	0	0	0	0	0	0	0	0	0
White	<u>75</u>	<u>74</u>	<u>75</u>	<u>75</u>	<u>72</u>	<u>70</u>	<u>79</u>	<u>85</u>	<u>88</u>	<u>78</u>
TOTAL	83	83	86	86	85	82	91	97	98	90
% Underrepresented Minority	6.0%	7.2%	7.0%	7.0%	8.2%	7.3%	6.6%	5.2%	4.1%	6.7%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 7 (continued)

Social Sciences 2002-2011
Representation of Underrepresented Minorities: Students and Faculty

Undergraduate Students

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	108	99	83	101	107	94	100	112	121	112
Underrepresented Minority	139	141	136	141	143	158	195	208	199	203
Other	40	23	25	34	36	33	33	30	n/a	n/a
White	407	419	412	388	382	417	383	309	316	315
Unknown	76	67	59	67	72	71	60	63	62	35
Non-Resident Alien	59	59	58	56	49	51	65	81	94	97
TOTAL	829	808	774	787	789	823	835	802	791	762
TOTAL US/Perm. Residents	770	749	715	732	739	773	770	721	697	665
% Underrepresented Minority	18.0%	18.8%	19.1%	19.3%	19.3%	20.5%	25.3%	28.8%	28.5%	30.6%

Doctoral Students

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	43	35	34	33	32	34	32	30	30	29
Underrepresented Minority	45	45	42	43	42	42	32	35	38	42
Other	18	18	21	21	24	25	22	20	n/a	n/a
White	325	302	273	251	228	215	184	172	178	184
Unknown	36	33	35	40	39	32	38	36	40	39
Non-Resident Alien	273	261	243	244	239	245	238	222	224	235
TOTAL	740	694	648	632	604	593	546	515	510	529
TOTAL US/Perm. Residents	467	433	405	388	365	348	308	293	286	294
% Underrepresented Minority	9.6%	10.4%	10.4%	11.1%	11.5%	12.1%	10.4%	11.9%	13.3%	14.3%

Non-Tenured but on Track Faculty

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	10	9	6	8	8	5	5	5	4	5
Underrepresented Minority	5	5	4	3	6	4	8	9	8	8
Undisclosed	0	0	0	0	0	0	0	0	1	1
White	29	34	35	33	38	33	35	31	32	35
TOTAL	44	48	45	44	52	42	48	45	45	49
% Underrepresented Minority	11.4%	10.4%	8.9%	6.8%	11.5%	9.5%	16.7%	20.0%	17.8%	16.3%

Tenured Faculty

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Asian	7	7	9	10	11	12	13	15	17	17
Underrepresented Minority	6	7	8	9	8	8	13	13	12	11
Undisclosed	0	0	0	0	0	0	0	0	0	1
White	78	80	79	85	86	90	89	94	91	93
TOTAL	91	94	96	104	105	110	115	122	120	122
% Underrepresented Minority	6.6%	7.4%	8.3%	8.7%	7.6%	7.3%	11.3%	10.7%	10.0%	9.0%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

-Non-Tenured but on Track: Professors, Associate Professors, and Assistant Professors, who are not tenured but are eligible for tenure.

-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

Table 7 (continued)

Social Sciences 2005-2014
Representation of Underrepresented Minorities: Students and Faculty

Undergraduate Students

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	101	107	94	100	112	121	112	108	132	136
Underrepresented Minority	141	143	158	195	208	199	203	211	191	195
Other	34	36	33	33	30	n/a	n/a	n/a	n/a	n/a
White	388	382	417	383	309	316	315	287	279	276
Unknown	67	72	71	60	63	62	35	25	32	19
Non-Resident Alien	<u>56</u>	<u>49</u>	<u>51</u>	<u>65</u>	<u>81</u>	<u>94</u>	<u>97</u>	<u>90</u>	<u>94</u>	<u>94</u>
TOTAL	787	789	823	835	802	791	762	721	728	721
TOTAL US/Perm. Residents	732	739	773	770	721	697	665	631	634	627
% Underrepresented Minority	19.3%	19.3%	20.5%	25.3%	28.8%	28.5%	30.6%	33.5%	30.1%	31.1%

Doctoral Students

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	33	32	34	32	30	30	29	31	32	32
Underrepresented Minority	43	42	42	32	35	38	42	43	46	52
Other	21	24	25	22	20	n/a	n/a	n/a	n/a	n/a
White	251	228	215	184	172	178	184	190	187	178
Unknown	40	39	32	38	36	40	39	38	42	41
Non-Resident Alien	<u>244</u>	<u>239</u>	<u>245</u>	<u>238</u>	<u>222</u>	<u>224</u>	<u>235</u>	<u>248</u>	<u>237</u>	<u>230</u>
TOTAL	632	604	593	546	515	510	529	550	544	533
TOTAL US/Perm. Residents	388	365	348	308	293	286	294	302	307	303
% Underrepresented Minority	11.1%	11.5%	12.1%	10.4%	11.9%	13.3%	14.3%	14.2%	15.0%	17.2%

Non-Tenured but on Track Faculty

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	8	8	5	5	5	4	5	6	6	5
Underrepresented Minority	3	6	4	8	9	8	8	9	8	6
Undisclosed	0	0	0	0	0	1	1	1	2	2
White	33	38	33	35	31	32	35	33	29	27
TOTAL	44	52	42	48	45	45	49	49	45	40
% Underrepresented Minority	6.8%	11.5%	9.5%	16.7%	20.0%	17.8%	16.3%	18.4%	17.8%	15.0%

Tenured Faculty

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Asian	10	11	12	13	15	17	17	16	15	15
Underrepresented Minority	9	8	8	13	13	12	11	11	11	11
Undisclosed	0	0	0	0	0	0	1	1	1	2
White	<u>85</u>	<u>86</u>	<u>90</u>	<u>89</u>	<u>94</u>	<u>91</u>	<u>93</u>	<u>92</u>	<u>95</u>	<u>96</u>
TOTAL	104	105	110	115	122	120	122	120	122	124
% Underrepresented Minority	8.7%	7.6%	7.3%	11.3%	10.7%	10.0%	9.0%	9.2%	9.0%	8.9%

-Sources: Student Information Systems (student data); Office of the Vice Provost for Academic Administration (faculty data)

-Student enrollment counts include part-time degree-seeking students and students in dual degree programs

-All doctoral students are included (PhD, DES, DrPH, etc)

-Enrollment as of end of term

-For students, minority percentages exclude non-resident aliens

-US/Perm. Residents - US Citizens and Permanent Residents

-Tenured Faculty: Professors and Associate Professors with Tenure

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-Faculty numbers exclude Clinical (both prefix and suffix) Professors, Professors of Professional Practice, Visiting Professors, Instructors, and Lecturers

-Faculty numbers include a few non-resident aliens

-Tenured and tenure-track faculty members who also hold full-time administrative positions were not included in faculty numbers prior to 2009

-Underrepresented Minority includes any faculty member or student who self-identifies as Black, Hispanic, American Indian/Alaskan Native

and/or Native Hawaiian/Pacific Islander

-Important Note: In 2010, there were changes in federal requirements concerning the collection and reporting of race and ethnicity information

9. Figures

List of Figures:

Figures 1 & 2: Decadal Pipeline Trends in Arts and Sciences

Figures 3 & 4: Decadal Pipeline Trends in Division of Humanities

Figures 5 & 6: Decadal Pipeline Trends in Division of Natural Sciences

Figures 7 & 8: Decadal Pipeline Trends in Division of Social Sciences

Figure 9: Long-term trends for faculty in Humanities 1990-Present

Figure 10: Long-term trends for faculty in Natural Sciences 1990-Present

Figure 11: Long-term trends for faculty in Social Sciences 1990-Present

Figure 12: Gender ratios in Promotion to Tenure versus External Hires

Figure 13: Flow chart for average % of women through Arts and Sciences Pipeline

Figure 14: Increase in Women Tenured Faculty Relative to Increase in Division Size

Figure 15: Number of Tenured Faculty versus % Women on the Tenured Faculty

Figure 16: Department Growth Overall versus Growth in Women Tenured Faculty

List of Most & Least Improved Departments.

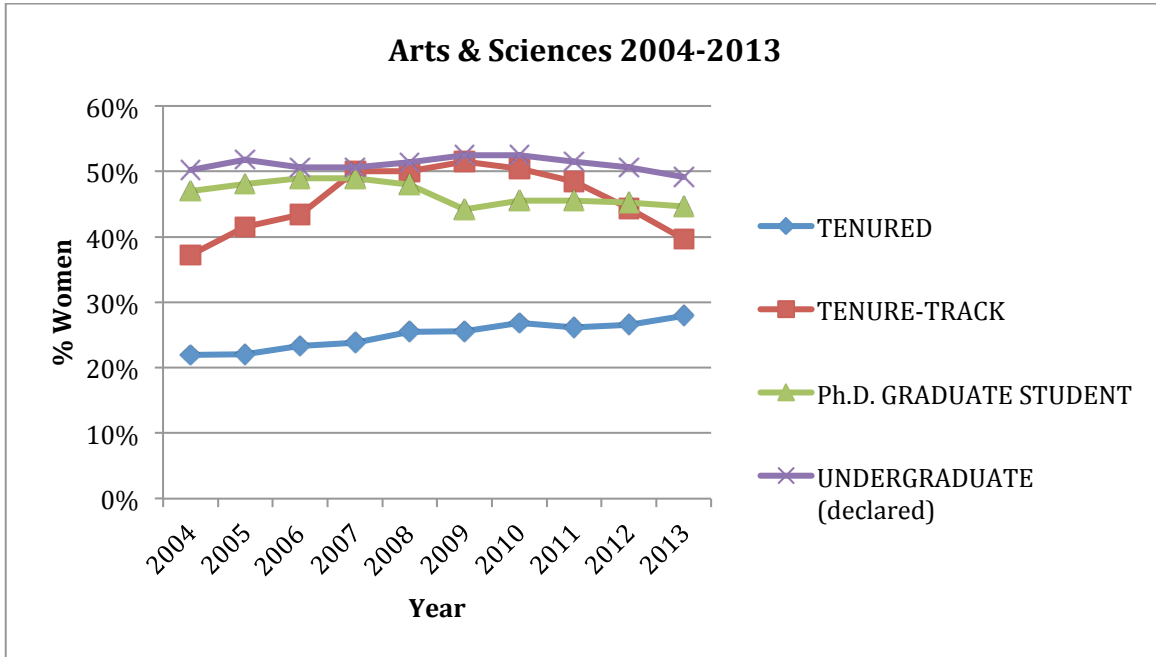


Figure 1: Overall Arts and Sciences % women for undergraduate students (with declared majors or concentrations), graduate students, tenure-track (untured) and tenured faculty from 2004-2013.

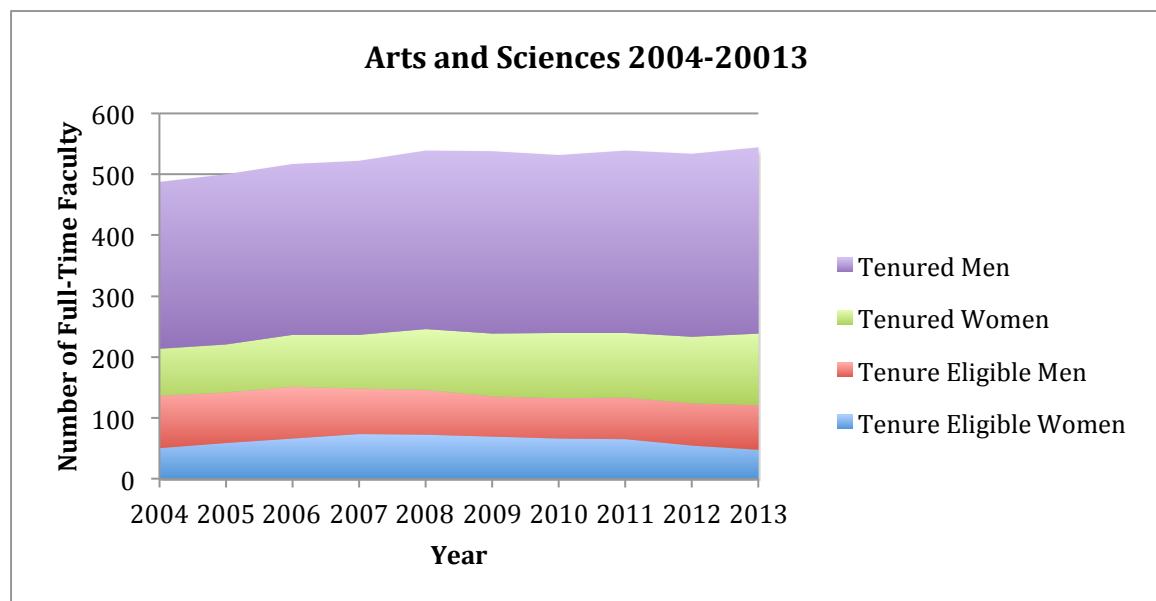


Figure 2: Overall Arts and Sciences Numbers of Men and Women tenure-track (untured) and tenured faculty from 2004-2013.

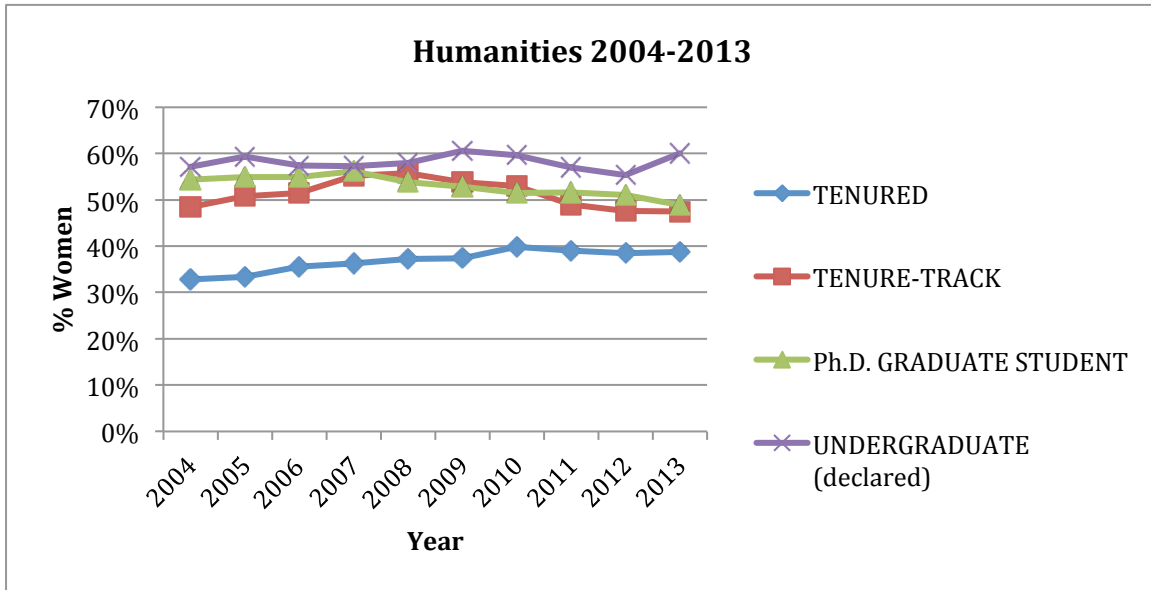


Figure 3: % women for undergraduate students (with declared majors or concentrations), graduate students, tenure-track (untenured) and tenured faculty from 2004-2013 for the division of Humanities.

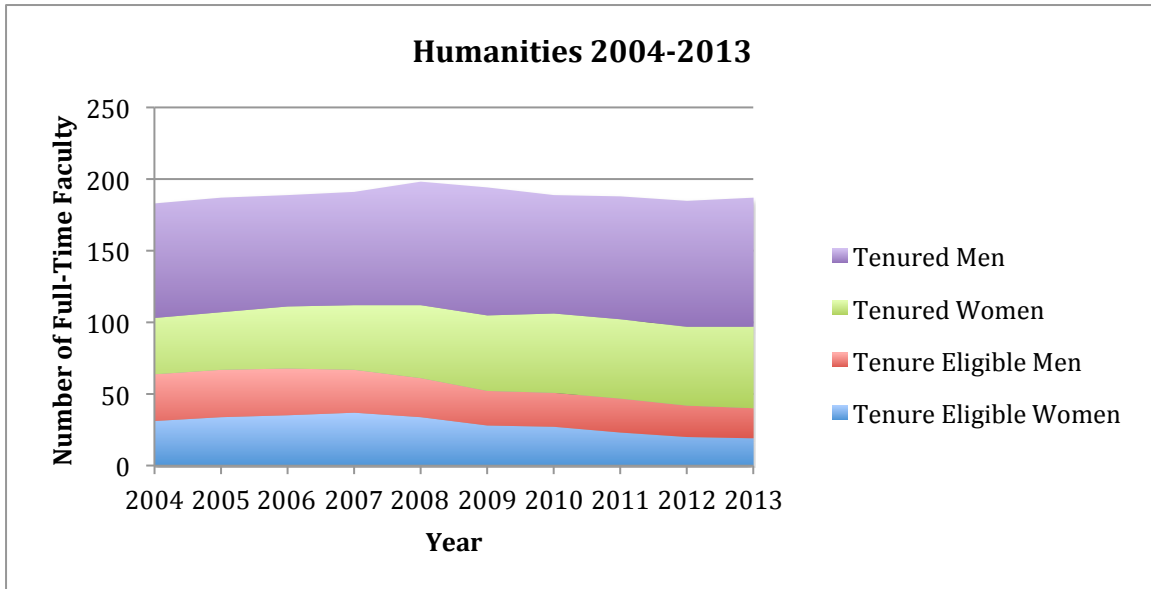


Figure 4: Numbers of Men and Women tenure-track (untenured) and tenured faculty from 2004-2013 for the Division of Humanities.

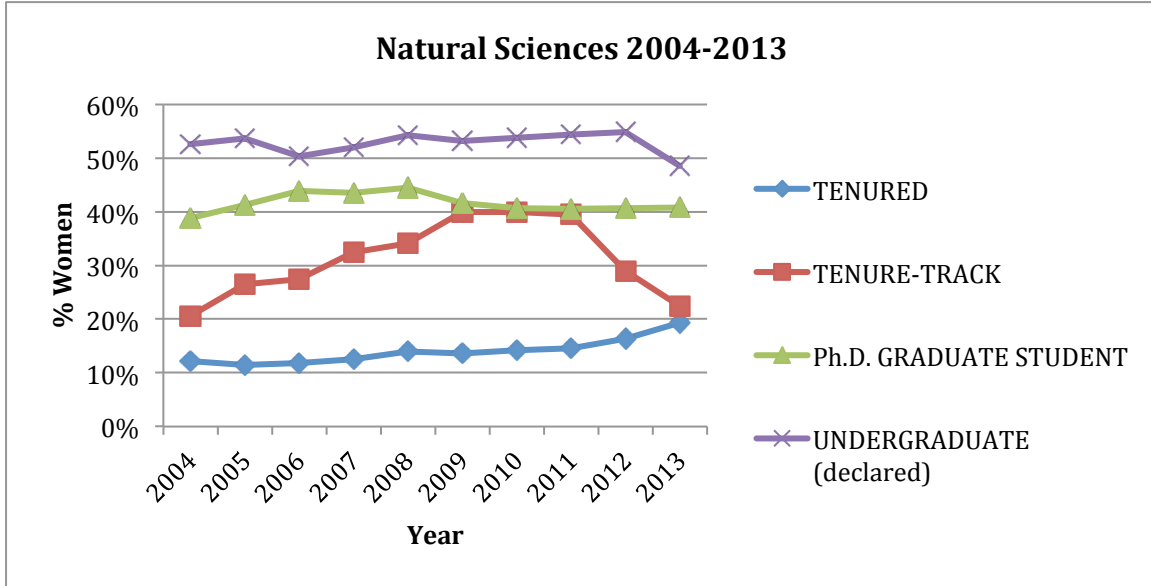


Figure 5: % women for undergraduate students (with declared majors or concentrations), graduate students, tenure-track (untenured) and tenured faculty from 2004-2013 for the division of Natural Sciences.

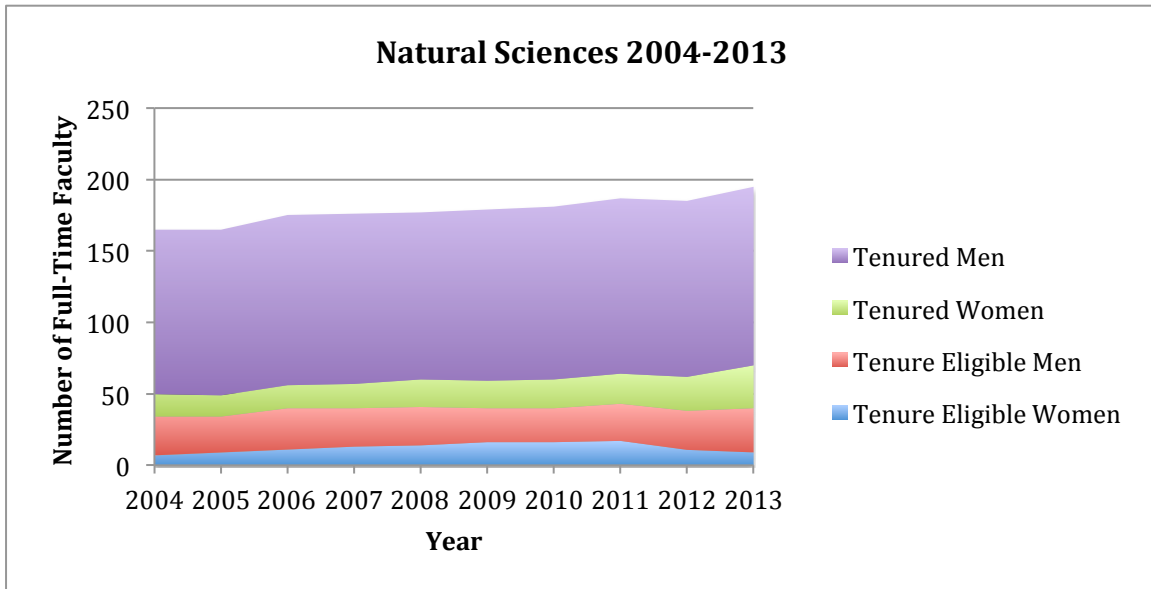


Figure 6: Numbers of Men and Women tenure-track (untenured) and tenured faculty from 2004-2013 for the Division of Natural Sciences.

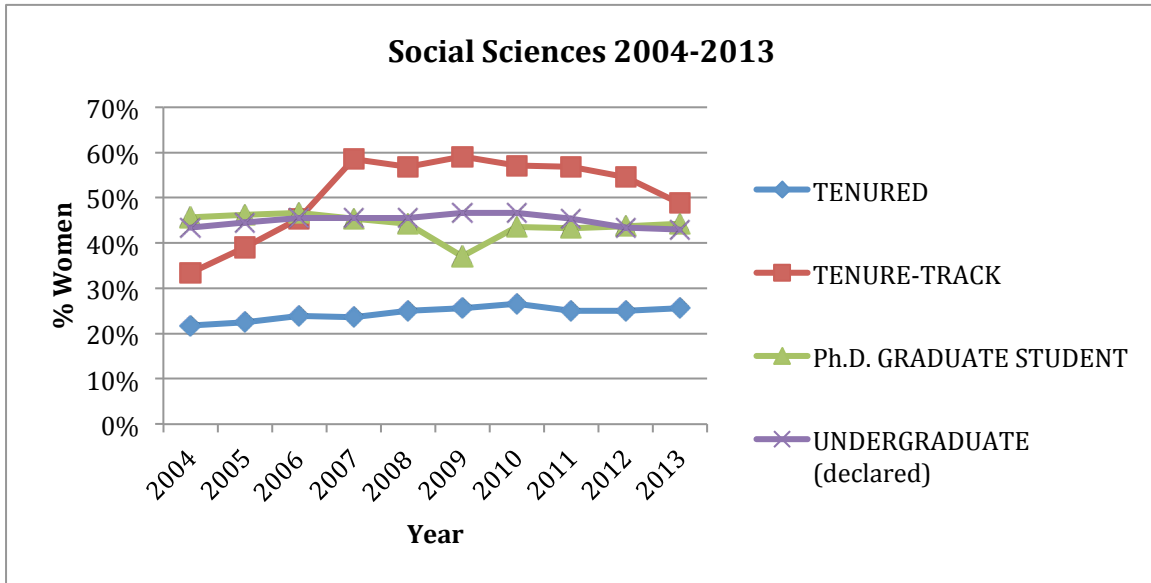


Figure 7: % women for undergraduate students (with declared majors or concentrations), graduate students, tenure-track (untenured) and tenured faculty from 2004-2013 for the division of Social Sciences.

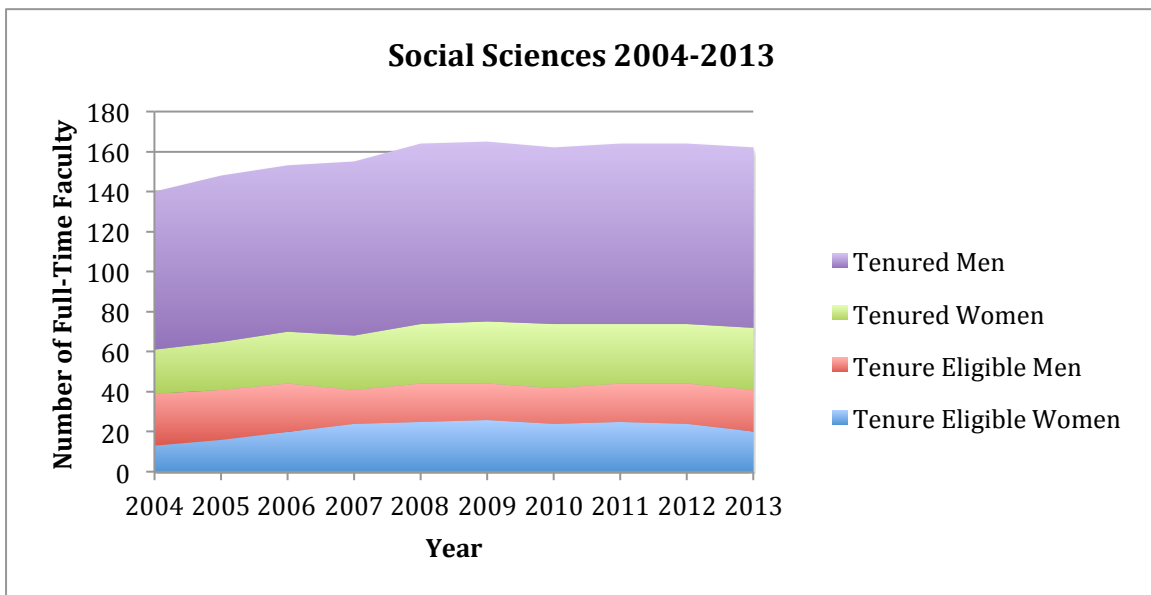


Figure 8: Numbers of Men and Women tenure-track (untenured) and tenured faculty from 2004-2013 for the Division of Social Sciences.

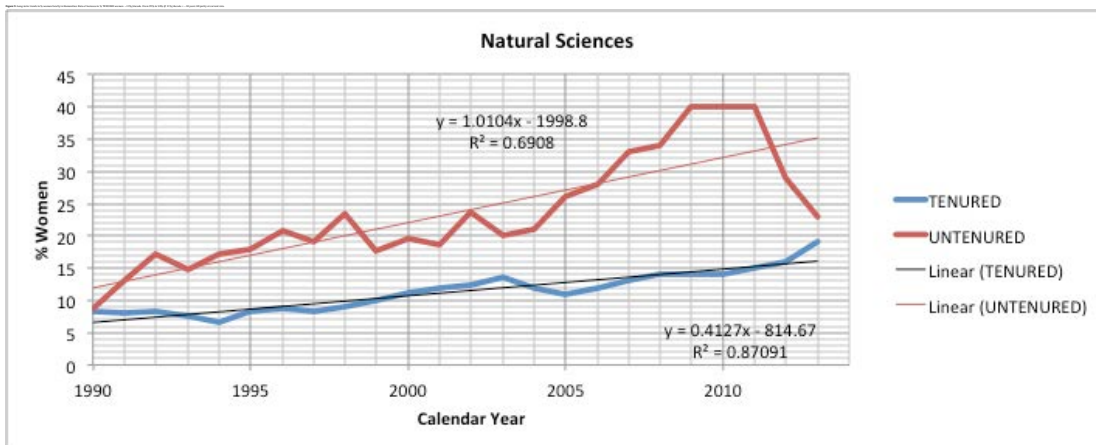
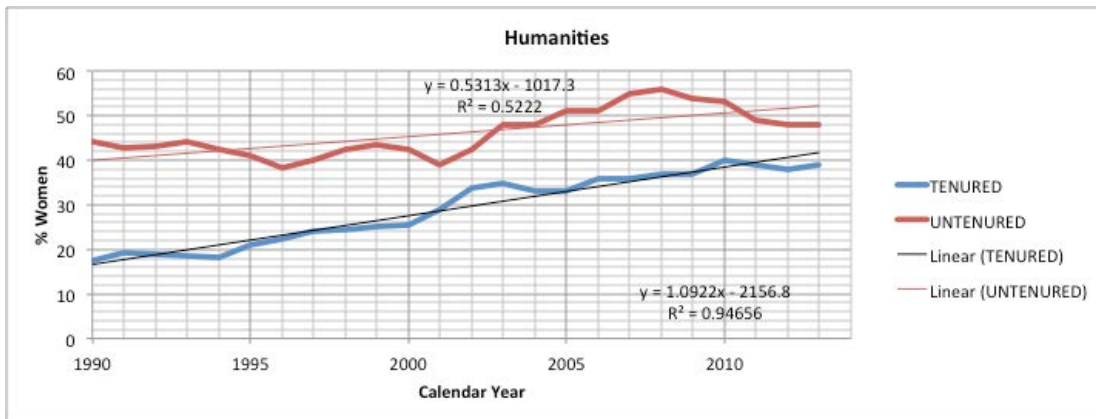


Figure 10: Long-term trends in % women faculty in Natural sciences: Rate of increase in % TENURED women: ~4%/decade. From 19% to 50% @ 4%/decade = ~80 years till parity at current rate.

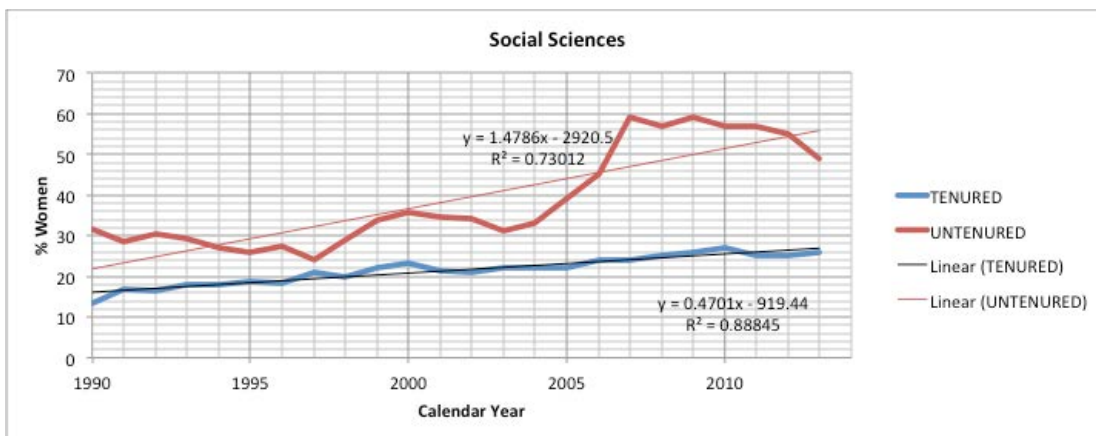


Figure 11: Long-term trends in % women faculty in Social Sciences: Rate of increase in % TENURED women: ~5%/decade. From 26% to 50% @ 5%/decade = ~50 years till parity at current rate.

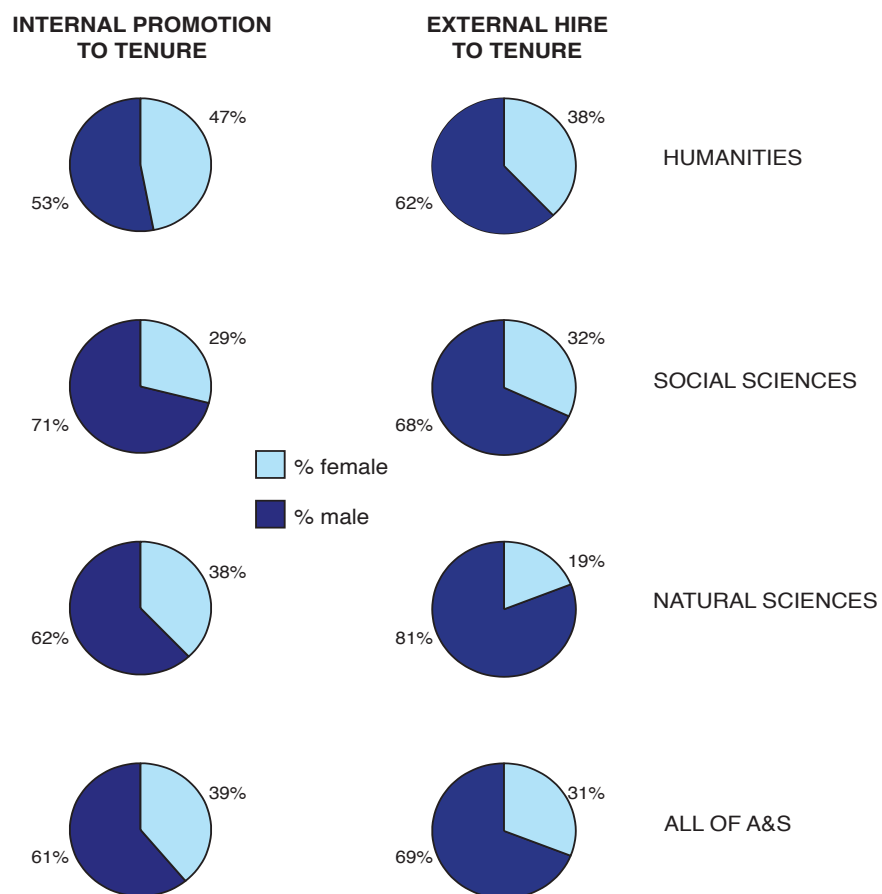


Figure 12: Gender ratio of promotions to tenure and hires with tenure by division and overall for Arts and Sciences 2004-2013.

Average % Women 2004-2013 Through the Faculty Pipeline

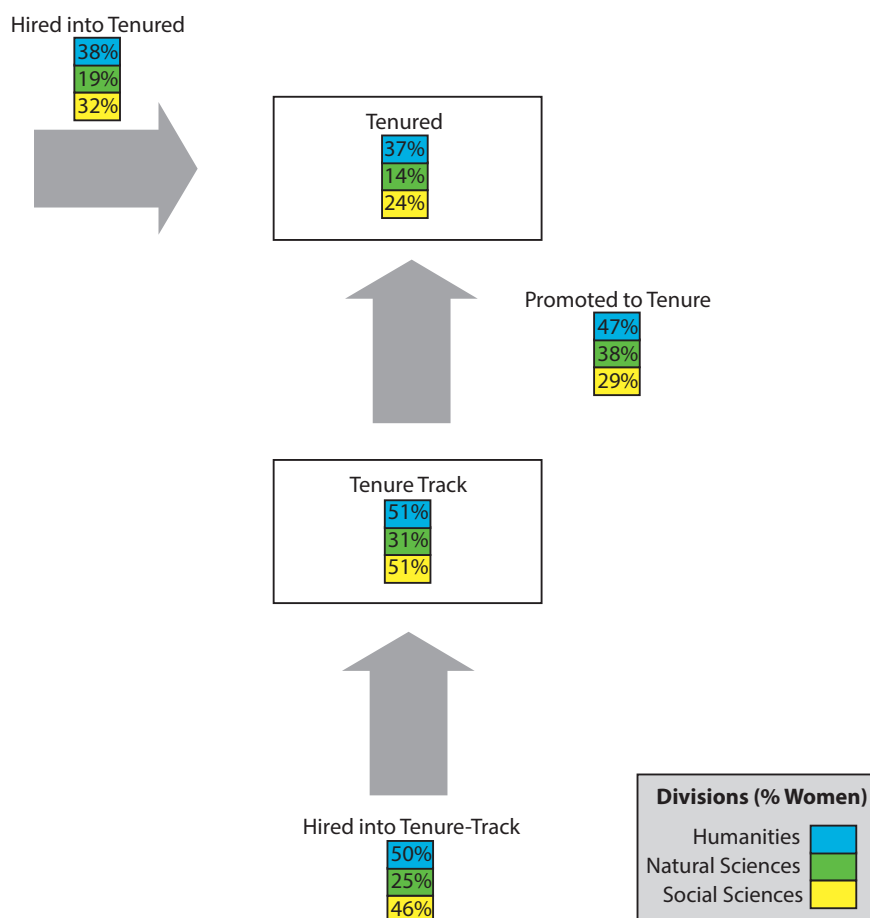


Figure 13: Flow chart for average % women into the Columbia University tenured faculty pool over the course of 2004-2013. *NOTE:* These data are based on changes in the number tenure-track faculty from year to year, tenure data provided by S. Rittenburg, and average department numbers from 2004-2013. Different parts of the chart cannot be compared directly against each other because the cohort of women hired over this time period is not, for instance, the same cohort that went up for tenure over this time period. Many of those going up for tenure were hired prior to 2005, and many of those hired did not yet go up for tenure during the 2004-2013 window.

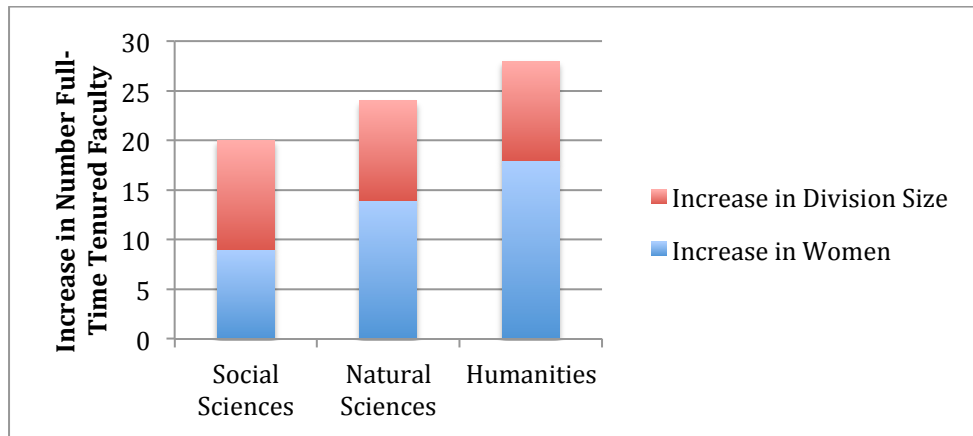


Figure 14: Increase in tenured women relative to increase in overall division size for tenured faculty. In all divisions, growth in the number of tenured faculty led to improvements in diversity. The top of the red bar represents the increase in overall numbers within the division, whereas the top of the blue-section of the bar represents the increase in the number of women on the tenured faculty.

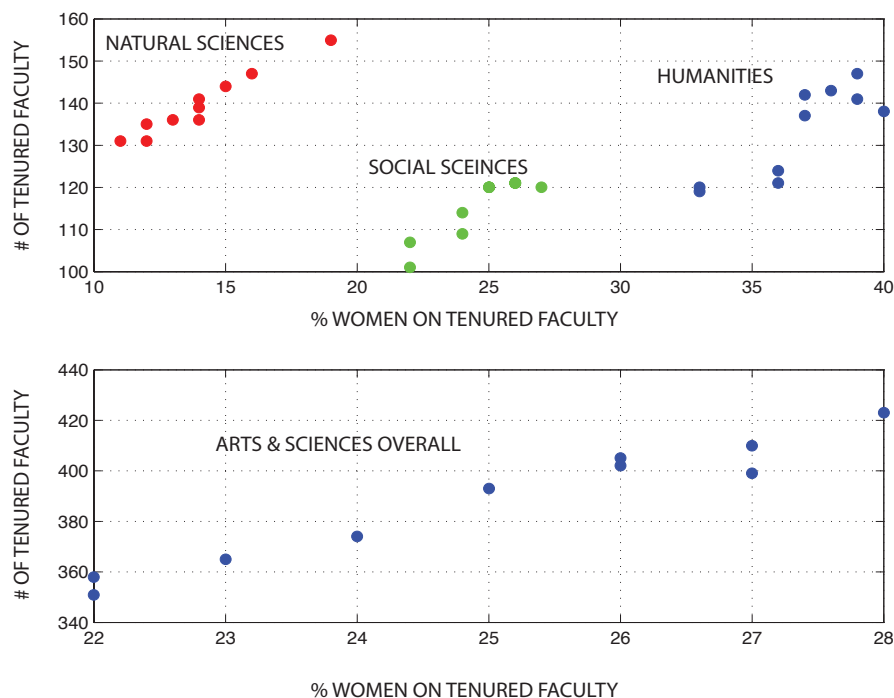


Figure 15: Relationship between the number of faculty in each division (top) and Arts and Sciences overall (bottom) and the % of women in tenured faculty. This illustrates how growth in the number of tenured faculty is closely tied to improvements in diversity of the tenured faculty.

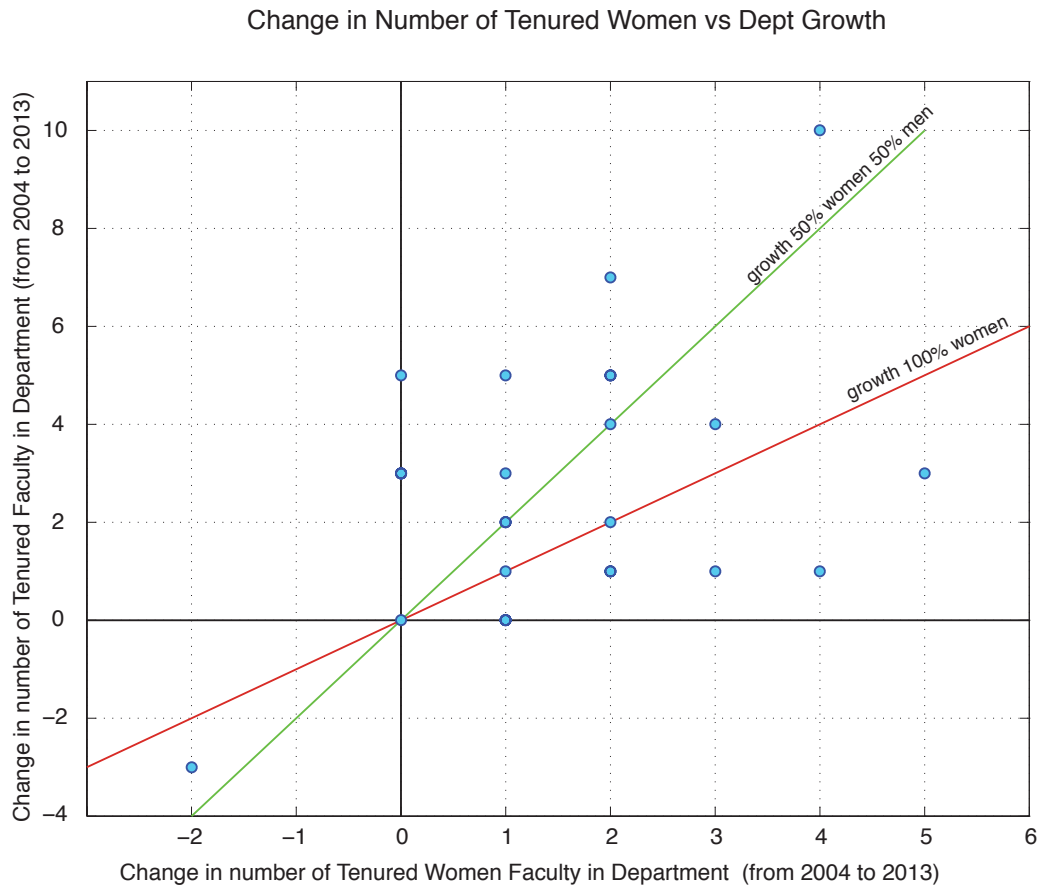


Figure 16: Relationship between department growth and growth in the number of women within the department. Departments at or below the green line accomplished growth at parity or better. Departments at or below the red line had all, or more than all, of it's growth accounted for by women. Departments above the green line did not grow at parity, and some grew without any increase in the number of women. Note, this does not account for all hires in any department, since many replacement hires would have taken place during this time. While the overall trend is that growth significantly improves diversity (Figures 14 & 15), there is substantial variability between departments.

Change in Representation of Women on Tenured Faculty (2004-2013)

Most Improved

(> 20 % increase in women and/or change in # women
greater than change in department size)

<i>Humanities</i>	Classics English & Comparative Literature French and Romance Philology Italian Music Philosophy
<i>Natural Sciences</i>	Earth and Environmental Sciences Ecology, Evolution. Environmental Biology
<i>Social Sciences</i>	Sociology

Least Improved

(Departments where % women decreased or remained static)

Humanities	East Asian Languages German Middle Eastern Languages and Culture
Natural Sciences	Physics Psychology
Social Sciences	Anthropology History

Appendix: Statistical Analyses

Introduction

The analyses were restricted to Arts and Sciences faculty who were present in 2004 or arrived from 2004 through 2012 with regular tenure-track or tenured appointments. Ad hoc inclusion/exclusion decisions were made in cases where faculty moved into or out of this group, faculty with non-regular appointments pending award of the Ph.D. were treated as regular faculty, and faculty who departed and then later returned were not included in the analysis. The focus was on gender differences in new hires to tenured positions, hires to untenured positions, up versus out, resigning from an untenured position, and resigning from a tenured position. Conditional logistic regression and tests of independence were used in the analyses. Associations with calendar year were considered in addition to associations with gender, and for promotion or resignation, adjustments were made for years-since-hired.

Data were analyzed in terms of overall Arts and Sciences, and broken down by division into Humanities (Division 1), Social Sciences (Division 2) and Natural Sciences (Division 3).

GENDER RATIOS IN HIRING

RE_CODED=NT_ON TRACK

	N	PctN
All	141	100.00
SEX		
F	61	43.26
M	80	56.74

GENDER RATIOS IN HIRING

RE_CODED=NT_ON TRACK

		N	PctN
REPORTING_UNIT	SEX		
1	F	20	32.79
	M	25	31.25
2	F	24	39.34
	M	22	27.50
3	F	17	27.87
	M	33	41.25

GENDER RATIOS IN HIRING

RE_CODED=TENURED

	N	PctN
All	69	100.00
SEX		
F	21	30.43
M	48	69.57

GENDER RATIOS IN HIRING

RE_CODED=TENURED

		N	PctN
REPORTING_UNIT	SEX		
1	F	8	38.10
	M	19	39.58
2	F	9	42.86
	M	17	35.42
3	F	4	19.05
	M	12	25.00

GENDER RATIOS OVER TIME IN HIRING

RE_CODED	Estimate	StdErr	ProbChiSq
NT_ON TRACK	-0.2771	0.0794	0.0005
TENURED	-0.0944	0.1513	0.5329

GENDER RATIOS OVER TIME IN HIRING

RE_CODED	REPORTING_UNIT	Estimate	StdErr	ProbChiSq
NT_ON TRACK	1	-0.2706	0.1319	0.0403
NT_ON TRACK	2	-0.2786	0.1404	0.0471
NT_ON TRACK	3	-0.2665	0.1439	0.0641
TENURED	1	-0.2057	0.2755	0.4553
TENURED	2	-0.3044	0.2891	0.2923
TENURED	3	0.3017	0.2912	0.3001

GENDER AND PROMOTION

Estimate	StdErr	ProbChiSq
-0.3299	0.2228	0.1387

GENDER AND PROMOTION

REPORTING_UNIT	Estimate	StdErr	ProbChiSq
1	-0.0212	0.3390	0.9501
2	-1.0761	0.5083	0.0342
3	-0.0472	0.4121	0.9089

GENDER AND PROMOTION OVER TIME

Estimate	StdErr	ProbChiSq
0.1101	0.0892	0.2172

GENDER AND PROMOTION OVER TIME

REPORTING_UNIT	Estimate	StdErr	ProbChiSq
1	0.0758	0.1384	0.5840
2	-0.00052	0.1551	0.9973
3	0.3510	0.2097	0.0941

GENDER RATIOS IN RESIGNATION FROM UNTENURED POSITIONS

Estimate	StdErr	ProbChiSq
-0.5355	0.3117	0.0858

GENDER RATIOS IN RESIGNATION FROM UNTENURED POSITIONS

REPORTING_UNIT	Estimate	StdErr	ProbChiSq
1	0.2083	0.5113	0.6837
2	-1.4260	0.6324	0.0241
3	-1.3312	0.7119	0.0615

GENDER RATIOS IN RESIGNATION FROM UNTENURED POSITIONS OVER TIME

Estimate	StdErr	ProbChiSq
-0.00026	0.0979	0.9979

GENDER RATIOS IN RESIGNATION FROM UNTENURED POSITIONS OVER TIME

REPORTING_UNIT	Estimate	StdErr	ProbChiSq
1	0.2175	0.2195	0.3217
2	-0.00069	0.1927	0.9971
3	-0.00066	0.2488	0.9979

GENDER RATIOS IN RESIGNATION FROM TENURED POSITIONS

Estimate	StdErr	ProbChiSq
-0.5355	0.3117	0.0858

GENDER RATIOS IN RESIGNATION FROM TENURED POSITIONS

REPORTING_UNIT	Estimate	StdErr	ProbChiSq
1	0.2083	0.5113	0.6837
2	-1.4260	0.6324	0.0241
3	-1.3312	0.7119	0.0615

GENDER RATIOS IN RESIGNATION FROM TENURED POSITIONS OVER TIME

Estimate	StdErr	ProbChiSq
-0.00026	0.0979	0.9979

GENDER RATIOS IN RESIGNATION FROM TENURED POSITIONS OVER TIME

REPORTING_UNIT	Estimate	StdErr	ProbChiSq
1	0.2175	0.2195	0.3217
2	-0.00069	0.1927	0.9971
3	-0.00066	0.2488	0.9979