

Gender (In)Equity in the Academy:*
Subtle Mechanisms and the Reproduction of Inequality

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Abstract

Researchers have shifted in recent years from explanations that posit overt discrimination as the causal mechanism reproducing gender inequity, to more subtle forms of favoritism and/or barriers to advancement. Working in the latter tradition, we focus on how subtle sex biases operate in academia, through nonconscious beliefs and attitudes that operate through workplace interactions, and through the use of subjective policies and procedures institutionalized in the academic workplace. We examine these issues with qualitative and quantitative data from an arts & sciences (A&S) unit of a public research university. We use our quantitative data to assess the extent to which unequal outcomes persist in the academic workplace, and our qualitative data to flesh out the mechanisms whereby those unequal outcomes are reproduced.

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INTRODUCTION

Issues of gender equity in the academy are back in the news. In January, 2005, Harvard's president Lawrence Summers claimed that "intrinsic" differences between men and women accounted for existing sex differences in scientific achievement. The resulting furor recalled news stories about MIT's admission that it had discriminated against its women faculty (Goldberg 1999). The MIT report documented extensive "discrimination" against senior women, who were by all reports stellar members of the university and gifted scientists in their larger professional communities.

Researchers have shifted in recent years from explanations that posit overt discrimination to more subtle forms of favoritism or disfavor that limit women's advancement. Synthesizing and building on research in this latter tradition, we examine how subtle sex biases operate in practice. We focus attention on the various mechanisms that reproduce gender inequity,¹ through nonconscious beliefs and attitudes that operate through workplace interactions, and through the use of subjective policies and procedures institutionalized in the academic workplace. We examine these issues with quantitative and qualitative data from a large Arts & Sciences (A&S) unit in a public research university ("State U."). We begin by synthesizing recent literature, focusing attention on both theoretical and empirical advances. We then use State U. data to show how gender inequity in academia is reproduced, even as more overt discrimination has abated. Finally, we discuss the implications of our case study for gender equity research more generally.

Narrowing the Gender Gap

The controversies over Summers's remark and the MIT report represent a resurgence of interest in gender equity in the academy. Earlier work documented the nature of sex discrimination in higher education, focusing primarily on the gender earnings gap and sex segregation by field (e.g., Radcliffe Faculty Trustee Committee 1956; Bernard 1963; Zuckerman, Cole, and Bruer 1991; Sheridan 1998). Glazer-Raymo (1999) found evidence of a gender wage gap at every academic rank, institution, and discipline (see also Long 2001:Ch. 7). The male-female earnings ratio is highest in the initial academic ranks, and declines the higher the rank. The net sex gap in earnings has declined over time, to 15 percent in 1979, and 10 percent in 1995 (Long 2001:216; see also Goldberg and Hill 2007).

¹ Although "inequity" and "inequality" are often used interchangeably, we prefer the former, following the usage of researchers who use "inequity" to indicate "unjust inequalities" (Pan American Health Organization 1999:11).

Earnings differences reflect job segregation in the academic workplace: for example, men predominate in the top paying fields of law, engineering, physics, and computer science, while women typically work in lower paying fields such as elementary education and visual and performing arts. And women are overrepresented in the lower ranks (e.g., full-time instructors and assistant professors), while men predominate at the upper levels (e.g., full professors and above; Bellas, Ritchey, and Parmer 2001; Long 2001; Long, Allison, and McGinnis 1993).

Women face “marriage” and “baby” penalties in academia: they are more likely than men with similar family characteristics to “leak out” of the academic pipeline, especially if they have children early in their career (Mason and Goulden 2004). According to a recent National Science Foundation (2004) report, the effect of sex on tenure-track placement and tenure disappears once family characteristics, and sex-family interactions, are taken into account. Significant sex differences in promotion to full professor persist, however, even after family characteristics (and interactions with sex) are controlled. Rather than attribute these family effects to sex differences in “choice,” Mason and Goulden blame the rigid nature of academic institutions and the lock-step nature of academic careers (p. 88). Biological clocks collide head on with tenure clocks, especially in academic occupations that demand long hours on the job (Cole and Singer 1991; de Wet, Ashley, and Kegel 2002).

There are also demographic changes in higher education to consider. Because women are now the majority (51 percent) of doctorates among U.S. citizens, more women should be entering faculty positions (Peter and Carroll 2005:iii; see also Jacobs 1996; Hoffer et al. 2003). Even in the absence of discrimination, however, demographic inertia ensures a substantial lag time before women will be equitably represented in the faculty ranks (Hargens and Long 2002).

The MIT Report and Beyond

The publication of MIT’s report reflects the shift in gender equity research to more subtle forms of discrimination (Hopkins 1999).² Although the published MIT report was not detailed, what made its way into the public record is nonetheless an exceedingly frank discussion of the inequities women faculty confront. The faculty gathered data on salary; space; named chairs, prizes, and awards; grant-based salaries; teaching assignments; departmental or university committee assignments; outside professional accomplishments/committees; and the representation of women at all levels of the university. They talked both to senior and junior women, and to male department heads. The study’s key finding is straightforward: contrary to the more blatant discrimination of

² There are actually several “MIT reports:” (1) a set of unpublished committee; (2) a public summary of these reports (MIT 1999); and (3) followup reports in 2002 from the four other MIT schools (for an overview, and all the reports, see Hopkins et al. 2002). For online access: <http://web.mit.edu/fnl/women/women.html> and <http://web.mit.edu/faculty/reports/overview.html>.

the past, “1990s discrimination” is more subtle, stemming from “unconscious ways of thinking that have been socialized into . . . men and women alike.” They found a pattern of discrimination, reflected in unexplained inequities in salary, space, resources for research, teaching assignments, awards, and committee assignments. In the interviews, senior women described themselves as “invisible” and “marginalized.” Junior faculty women at MIT reported that they felt well supported, but committee members found that senior women also used to feel well supported.

Under pressure from women faculty, other universities followed suit (Wilson 1999; Zernike 2001),³ and foundations began to take notice.⁴ Like MIT, Princeton’s report identified “climate” issues: more women than men reported encountering gender inequity, less collegial departments, and problems with child care. Women were less satisfied than men and this sex gap was significantly greater among tenured faculty (Princeton University’s Task Force on the Status of Women Faculty in the Natural Sciences and Engineering 2003). Women faculty at Cornell reported feeling less well integrated than their male colleagues, and those at Johns Hopkins found collegial relationships elusive (Cornell University Provost’s Advisory Committee on Faculty Work Life 2006; Johns Hopkins University Committee on the Status of Women 2006). Harvard began a process of self reflection, produced a report, and pledged \$50 million to address gender equity issues (Fogg 2005). In an ironic epilogue to the Summers controversy, in February 2006 President Summers resigned, and in February 2007 Harvard named its first woman president, Drew Gilpin Faust.

As indicated by the number and substance of the university reports, the idea of subtle forms of gender inequity has gained acceptance. Even the prestigious National Academy of Sciences noted the existence of “unintentional biases and outdated institutional policies and structures” (NAS Committee on Maximizing the Potential of Women in Academic Science and Engineering 2006). One thing these reports make clear: women’s lack of access and mobility in academia is no longer simply a “pipeline” issue.

The “Hows” of Ascriptive Inequality: Sociological Contributions

Although empirical work on gender equity continues to grow apace, few researchers have linked this work to theoretical advances in the social sciences on subtle mechanisms that perpetuate inequality. We synthesize relevant social science work and then apply these theoretical insights to better understand how gender inequity persists in academia.

³ The National Academy of Sciences Committee on Women in Science and Engineering reports gender equity studies at Research I institutions, by state: (http://www7.nationalacademies.org/cwse/gender_faculty_links.html).

⁴ The Ford Foundation provided grants (for an MIT conference on gender equity and a research/action grant to Rutgers University, the National Science Foundation initiated institutional transformation awards, through its Advance program. State legislatures have also exerted pressure to ensure gender diversity [California State Auditor, Bureau of State Audits 2001 (<http://www.bsa.ca.gov/bsa/pdfs/2000-131.pdf>); see also West et al. 2005: (<http://universitywomen.stanford.edu/reports/unprecedented.pdf>)].

Underlying much social science work on gender equity is the assumption that continuing gender (or race) inequity in academia reflects the outcome of conscious decision making of those in positions of authority to discriminate against women (or minorities). In her analysis of “ascriptive” inequality, or inequity based on ascriptive factors such as sex (or race), sociologist Barbara Reskin (2003) argues that our theories have typically focused on *unobservable*, and empirically *untestable*, motives of decision makers and peers. Indeed, conflict theories—long favored in sociology to explain the “whys” of ascriptive inequality—assume that “dominant groups use their monopoly over resources to maintain their privileges” (p. 2). As Reskin points out, gender inequality can also be reproduced by nonconscious cognitive processes that operate as much to favor ingroups as disfavor outgroups (Roth 2006 similarly investigates homophily preferences among Wall Street securities professionals).

As Reskin (2003) recommends, we focus here on the “hows” of ascriptive inequality in the academic workplace, or the specific mechanisms that produce sex differences in outcomes. Our data allow us to move beyond the motives of decision makers, to examine how ascriptive inequality is reproduced in more subtle ways. Given their entrenched status, such subtle mechanisms may be more difficult to dismantle than more overt exclusionary practices (Bielby 1991:185-86).

We describe two linked arenas in which these subtle mechanisms operate: workplace interactions and institutionalized policies and procedures. Ascriptive inequality is reproduced in everyday *workplace interactions* that occur within a hierarchy of gender status beliefs that tend to advantage men and disadvantage women. Gender operates as a cultural “superschema” that shapes how we perceive others in our everyday interactions: “[s]ex categorization pumps gender into the interactionally mediated work process by cueing gender stereotypes, including status beliefs, and by biasing the choice of comparison others” (Ridgeway 1997:231; see also Ridgeway and Correll 2000). Such stereotypes are exacerbated by generational differences: academic elites who came of age at a time when few women worked might have very different evaluations of women’s competence than those whose mothers worked and whose sisters and women friends compete with them in the workplace.

DiTomaso et al. (forthcoming) further this argument by focusing on how existing structural relationships—consensual status hierarchies—can reproduce intergroup inequality. They found (for a sample of R&D lab scientists and engineers) that U.S. born white men experience the most favorable work environments and performance evaluations. As the normative ingroup, white men earn “micro advantages,” not only from white men, but from others as well. In contrast, normative outgroups (women, nonwhites, immigrants) experience “micro inequities,” reflecting an “absence of advantage.” Rather than overt discrimination, outgroups encounter ambivalence and/or indifference, which nonetheless limits their access and mobility.

Gender stereotypes are particularly salient when they become consciously or unconsciously *institutionalized in organizational policies and decision making* (Roos and Reskin 1984). Organizational elites regularly map external asymmetrical categories (such as male-female) to intra-organizational distinctions (such as jobs), thereby recreating socially-based stratification within organizations. Tilly (1998:11) argues that such mapping can be inadvertent: “[p]eople who create or sustain categorical inequality . . . rarely set out to manufacture inequality. . . (rather) they solve other organizational problems by establishing categorically unequal access to valued outcomes.” In academia, for example, if securing an outside offer is the mechanism whereby faculty members boost their salaries, those less able to take advantage of this strategy (presumably women) can lose out financially.

The key to reproducing inequality, for both Ridgeway and Tilly, is the interactional (or “relational”) nature of social relationships. In academia, personal interactions underlie much of our everyday work lives, making higher education an excellent laboratory for investigating subtle mechanisms. We evaluate vitae; interview job candidates; negotiate salaries; engage in research with colleagues; teach our students; assess scholarship, teaching, and service for promotion and merit increases; attend faculty and other committee meetings; and meet with academic administrators. As this list indicates, much of what academics do involves the application of *subjective* judgments of those with whom we interact. Our academic judgment of the quality of a colleague’s work is inherently ambiguous, depending in part on our subfield, methods, theoretical approach, academic age, as well as personalistic criteria. It is precisely in such ambiguous interactions that evaluators tend to fall back on gender schema, and/or personalistic biases. To the extent that culturally-based gender beliefs infuse our work interactions, or are automatically reproduced (and institutionalized) within work interactions, women lose more than men.⁵

Implicit Attitudes: Social Psychological Contributions

Social psychologists have made much headway in recent years identifying the kinds of nonconscious attitudes and beliefs that help to reproduce ascriptive inequality. Foremost among these are “implicit attitudes” or “stereotypes” that impact our evaluations of people’s behavior, competence, and/or performance. Building on the demonstrated weak link between attitudes and behavior (e.g., Greenwald 1990), social psychologists developed and fielded response latency methods to measure the kind of discriminatory

⁵ Data and space limitations preclude our focusing on race differences, although a similar argument could be made for racial minorities vs. whites. Indeed, there is a rich, developing literature examining the subtle workplace inequities people of color face. As more overt manifestations of racism have abated, “symbolic (or new or modern) racism” remains. Researchers describe “primitive, largely unconscious and automatic negative affects” and “implicit or automatic prejudice” (Sears and Henry 2003). Moreover, mechanisms that reproduce racial inequities: “(1) are increasingly covert, (2) are embedded in normal operations of institutions, (3) avoid direct racial terminology, and (4) are invisible to most Whites” (Bonilla-Silva 1997:476; see also Bonilla-Silva 2003). A “color-blind racism” has replaced the more overt “Jim Crow” forms of prejudice.

social behaviors that operate at a nonconscious level.⁶ Designed to quantify implicit attitudes, the Implicit Association Test (IAT) measures “actions or judgments . . . under the control of automatically activated evaluations, without the performer’s awareness of that causation” (Greenwald, McGhee, and Schwartz 1998:1464; see also Greenwald and Banaji 1995). For our purposes, such “indirect” methods are important in demonstrating how attitudes and stereotypes about gender (and race) can operate in nonconscious (as opposed to “self-reportable,” conscious) ways to reproduce ascriptive inequality.⁷

The empirical evidence for implicit attitudes is large, and growing, and directly relevant to day-to-day interactions in academia. Reviewing empirical findings, Greenwald and Banaji (1995:9-17) describes Thorndike’s “halo effect” (e.g., physical attractiveness increases the likelihood of holding prestigious jobs, or institutional prestige enhances the acceptance of journal articles); “implicit race stereotyping” (e.g., stronger association between the word pair “white-smart” vs. “black-smart”); and “implicit gender stereotyping” (e.g., essays with male names were judged as superior to those with female names). Rudman and Kilianski (2000:1325) found that *implicit* gender attitudes toward female authority figures are similarly negative for women and men, even though women’s *explicit* attitudes toward female authorities are more egalitarian than men’s. Similarly, Rudman and Glick (2001) found that those who implicitly view women as “nicer” than men (e.g., women are more communal, and men are more agentic) are more likely to judge female applicants as “unskilled and unlikeable” (p. 758). Such findings underscore how implicit beliefs—among both women and men—can hinder women’s recruitment to, acceptance in, and mobility into academic positions, especially positions of power and authority. We can, however, “unlearn our automatic biases.” Rudman, Ashmore, and Gary (2001) found that enrollment in diversity education reduced both implicit and explicit anti-black prejudice of college students.⁸

Subtle Mechanisms, Cumulative (Dis)advantage, and the Reproduction of Inequality

These nonconscious attitudes and stereotypes operate as “gender schemas” that work in similar ways for women and men and can function either positively, negatively, or neutrally (Valian 1998:103-04). In the arc of one’s academic career, disadvantages (or advantages) cumulate over time to reproduce significant sex differences in achievement

⁶ “Response latency methods” refer to evaluations of actions over which we have little personal control. Evaluations are estimated from the “reaction time tasks that measure people’s attitudes or beliefs indirectly (i.e., without asking people how they feel or think). . . . attention is focused not on the attitude object, but on performing an objective task, and attitudes are then inferred from systematic variations in task performance” (Rudman 2004:79).

⁷ Sample Implicit Association Tests (IAT) are available online to test implicit attitudes, about race, age, gender and science, and gender and careers: www.implicit.harvard.edu.

⁸ In his recent bestseller *Blink*, Malcolm Gladwell (2005) popularizes the process whereby nonconscious cognitive processes reproduce inequality. Several of his examples demonstrate how our “adaptive unconscious” reproduces occupational sex segregation. One of Gladwell’s more compelling examples shows how “blinding” has successfully reduced sex bias in recruitment to philharmonic orchestras (Gladwell 2005: 245-51).

over the life course. Cole and Singer (1991) describe this accumulation of disadvantages (or advantages) as “negative (or positive) kicks” that in turn produce “reactions.” To the extent that women experience a larger number of negative kicks than men (e.g., less prestigious postdoc position, grant rejection, birth of child), the gender success gap will widen. In dealing with everyday inequities, women are often told not to “make a mountain out of a molehill,” an admonition that fails to recognize that “mountains *are* molehills, piled one on top of the other” (Valian 1998:4-5).

Even without subsequent “negative kicks,” initial sex differences in hiring, whatever their source, can continue to reproduce gender inequity throughout the life cycle, simply through the everyday operation of workplace institutions (Petersen and Saporita, 2004). For example, economists have pointed out that men are more likely than women to negotiate starting salaries. The power of cumulative advantage (or disadvantage) yields a huge return on that initial investment: even with identical raises in later years, a \$5,000 difference in initial negotiated salary translates into extra male earnings of about \$360,000 over the course of a 38-year career (and over \$500,000 if the male earned three percent interest on the yearly salary difference; Babcock and Laschever 2003:5).

As the more overt discrimination faced by earlier generations of women faculty has declined, what remains are these more subtle forms of favoritism (or disfavor) that can cumulate to sizable advantages (or disadvantages) over the course of an academic career. In this paper, we use data from an Arts & Sciences unit in a public research university to examine these more subtle forms of inequity. Our goals are modest. First, responding to Reskin’s (2003) challenge to focus on mechanisms of inequity within organizations, we examine how ascriptive inequality gets reproduced in one academic organization. Specifically, we identify mechanisms of inequity that operate at State U. to reproduce gender inequity.

Second, we examine these mechanisms with two kinds of data: descriptive quantitative statistics to assess the extent to which unequal outcomes persist in the academic workplace, and qualitative interview data to flesh out the mechanisms whereby those unequal outcomes are reproduced.

Third, guided by recent research, we explore how nonconscious beliefs and attitudes operate both through workplace interactions and through organizational policies and decision making. We examine three distinct interactional arenas in academia: access to faculty positions, mobility throughout one’s career (e.g., rank, promotion, leadership), and access to earnings and discretionary funds.

Data

We evaluate the efficacy of these theories with data from a large Arts & Sciences (A&S) unit of a public research university (“State U.”). A&S faculty represent 46 percent of the campus’s faculty, and the university itself is the major unit of a multi-campus state

system. The campus has no law or medical school, and the remaining faculties are substantially smaller undergraduate or professional schools (e.g., engineering, education, pharmacy). From the outset we were granted full access to the decanal staff and data. We collected data from the A&S Dean's personnel data base for AY 1999-2000. These data contain demographic and personnel history, reasons for leaving the university, administrative history, merit increases, rank, degree years, leave history, current salary, and so forth. In Spring 2004, we collected more recent data to measure change over time for critical variables, such as rank, promotion dates, leadership roles, earnings, and discretionary monies.

Unless otherwise specified, we conducted analyses for faculty in residence during two academic years (AY 1999-2000 and AY 2003-2004). We compared these data to National Research Council (NRC) statistics from the university's Office of Affirmative Action. We also had full access to paper and/or electronic spreadsheets for promotion and tenured hiring decisions; data on internal research, startup, and summer funds; and historical information on academic leadership positions (deans, chairs, center directors).

We supplemented the quantitative personnel and promotion data with interviews with senior women faculty (and a few senior men), as well as open-ended survey responses to a web-based survey sent to all women A&S faculty. In Spring 2000, we conducted 20 interviews, separately sampling within three stratified groups of A&S faculty: (1) "senior professor" women, (2) female full professors with 10+ years in rank, and (3) "senior professor" men. At State U., "senior professor" is a separate rank higher than full professor. Unless otherwise specified, we used "senior professor" to refer to all professors at ranks above the initial full professor rank.⁹ In Spring 2001 we fielded an anonymous web-based survey to all 190 tenured and tenure-track women faculty in residence in AY 1999-2000. After one month and one followup attempt, we received 81 responses (43 percent of those contacted).¹⁰

MECHANISMS OF INEQUITY

We begin by focusing on quantitative outcome measures, dividing our results into three sections. First, we examine women's access to faculty positions and compare this to NRC-based recruitment pools. Second, we present data on sex differences in academic

⁹ We excluded faculty in dean or higher administrative positions from the target population for interviews. We include quotes only from the women interviewees.

¹⁰ Because this response rate was lower than we had hoped, we did comparisons with A&S faculty women as a whole. The results were encouraging. Of the 81 women who responded to the survey, 27 percent were assistant professors/lecturers, 28 percent associate professors, 33 percent professors, and 11 percent senior professors. These percentages correspond fairly well to the actual percentage distribution of 190 A&S faculty women in these ranks during AY 1999-2000 (30, 32, 30, and 8 percent, respectively). With respect to discipline group, 54 percent of the respondents were in the humanities, 31 percent in the social & behavioral sciences, and 15 percent in the sciences. The comparable percentages for A&S faculty women in AY 1999-2000 were 52, 28, and 19 percent, respectively. Chi-square calculations for faculty rank and disciplinary group showed no significant differences between the survey sample and the A&S population of women.

success, specifically rank, promotion, and leadership opportunities. Third, we focus on sex differences in earnings, and examine whether women and men differ in the amount of discretionary monies they receive. Throughout, we supplement our quantitative data on outcomes with our respondents' more qualitative assessments. Our data enable us to dig deeper than most studies of gender equity, and hence to examine the more subtle mechanisms of inequality operating in academia.

Access to Faculty Positions

Access to faculty positions is the important first step to a successful academic career. As Petersen and Saporta (2004) argue, allocative discrimination at point of entry can set men and women on quite different trajectories throughout their careers. We thus begin by examining male-female differences in academic disciplines.

During our base year of 1999-2000, A&S had 743 faculty, 26 percent of whom were women (see Panel A, Table 1). This percentage places State U. near the top of comparable (AAU) research universities in women's faculty representation. As in many universities, male and female faculty were located in significantly different disciplines: the majority of the A&S women faculty were in the humanities (52 percent), with a smaller percentage in the social & behavioral sciences (28 percent), and even smaller percentages in the sciences (7 and 13 percent, respectively, in the life and mathematical & physical sciences). In contrast, the largest group of male faculty were in the mathematical & physical sciences (39 percent), followed by the humanities (28 percent), social & behavioral sciences (25 percent), and the life sciences (9 percent). Taking the disciplinary group as base, women were most fully represented in the humanities (39 percent), followed by social & behavioral sciences (28 percent). As is true across academia, few A&S scientists were women (about one-fifth of the life scientists and one-tenth of the mathematical/physical scientists).

[Table 1 about here]

Although the broad picture remained essentially the same four years later, there was some movement toward equity: the overall representation of women inched up, from 25.6 percent in AY 1999-2000, to 28.4 percent in AY 2003-2004, a function of both the decreasing number of male, and increasing number of female, faculty. The data on percent female show that women increased their representation in each disciplinary group, but especially in the humanities (39.3 to 44.8 percent) and the social & behavioral sciences (28.3 to 32.0 percent).

Table 2 breaks down the disciplinary groups into their component A&S departments in AY 2003-2004. Clear segregation by sex exists across A&S departments. Women constitute at least half (≥ 50 percent female) in five humanities departments (art history; French; Germanic, Russian and East European; Spanish & Portuguese; and women's and gender studies) and one social & behavioral science department (Africana Studies). Eight (primarily science) departments have fewer than 15 percent female

(philosophy, religion, geography, computer science, geological sciences, mathematics, physics & astronomy, and statistics).

[Table 2 about here]

Simple majorities or minorities, however, are not the best measure of under-representation. To put these numbers into perspective, we compare them to national data on the availability of women in the relevant senior recruitment pool: the number and percent female of the cumulative doctorates awarded between 1981 and 1998.¹¹ To allow for error in our estimates, we use the somewhat arbitrary criterion of 60 percent to indicate “under-representation of women” (when the departmental percent female is less than 60 percent of the percent female in the cumulative doctorate pool).¹² According to this criterion, women were significantly under-represented in one third of the 33 A&S departments: classics, philosophy, religion, geography, psychology, genetics, molecular biology and biochemistry, computer science, geological sciences, mathematics, and statistics.

We use our qualitative interview data to provide insight into the mechanisms that produce these outcomes. With respect to access, our respondents focused on departmental decision making. One professor was highly skeptical of departmental claims that excellent women job candidates could not be found:

There are women in many departments, but there are still departments that I know are underrepresented in terms of women. They claim that there aren't enough women out there to choose from. In some cases they might be right, but in some cases I don't think that it is true. So in some departments there still can be some gender discrimination. (professor, humanities/social sciences)

An associate professor viewed gender parity in academic departments as an elusive goal:

There are many major departments which seem to make no efforts at equity at all: some of our most distinguished . . . have abysmal records and no one has seemed to suggest that a major department could take some leadership on equity issues. (associate professor, humanities/social sciences)

Indeed a female professor in the sciences argued that few departments put a priority on hiring women:

In hiring, no one pays attention to getting a woman. . . . Everyone says it is hard to hire women, but [there was] a panel at the national meetings of all [disciplinary] societies and the title was 'How to increase the number of tenured women in [the field]' . . . no one from my department went. The room was standing room only. There is no real commitment to women. Furthermore they say that if you want women why don't you

¹¹ We received these March 2001 data from State U.'s Office of Affirmative Action. They originate from the National Research Council's (NRC) Office of Scientific Engineering Personnel and the Doctorate Records File. Comparisons with A&S departments are somewhat arbitrary in some cases (see notes to Table 2 for details).

¹² We thank Noemie Koller for suggesting this criterion. These numbers, however, need to be interpreted with great caution. First, because this criterion is highly sensitive to sample size, the loss of one or two women can mean that small departments easily flip to under-representation. Second, demographic inertia can delay women's representation in the academy, even in the absence of any discrimination (Hargens and Long 2002).

go out and recruit them. It shouldn't be the job of the women to hire women, that really bugs me. (senior professor, sciences)

And, of course, sex differences in family responsibilities can operate to subtly advantage men and subtly disadvantage women:

[T]here are very few women hired and these women tend not to have family commitments. [Men in my division] had wives working in the laboratory for them. These women were highly trained PhD level scientists who chose to forego an independent job to help their spouse get over the tenure hump. In contrast, I felt completely isolated trying to juggle a tenure-track job, . . . young children, and a spouse who also had a very high pressure job outside of academia. (assistant professor, sciences)

Consistent with Petersen and Saporta's (2004) findings regarding allocative hiring discrimination, these data strongly suggest that at State U., women's underrepresentation is no longer simply a pipeline issue (see also Johns Hopkins University Committee on the Status of Women 2006; NAS Committee on Maximizing the Potential of Women in Academic Science and Engineering 2006).

Mobility in Academic Careers

Rank and promotion. We turn now to subtle kinds of barriers that exist at other allocative points in the academic career—rank, promotion, and leadership opportunities. Rank segregation by sex is a common finding in the gender equity literature on academia, and State U.'s A&S unit is no exception. Table 1 (Panel B) documents significant sex differences in rank in both academic years. Consistent with previous research, the largest representations of women in AY 1999-2000 occurred in the instructor/lecturer and assistant professor ranks, where women were 33 and 42 percent of faculty, respectively. At the other end of the prestige hierarchy, nearly a quarter of full professors were women but only 8 and 18, respectively, of senior and special professors. Over one-quarter (27.6 percent=25.1+2.5) of men at State U. were in the senior/special professor ranks, compared with only 7.9 (=6.3+1.6) percent of women. Only 12 A&S women were senior professors, and 3 more were special professors. By AY 2003-2004, women's representation in the top ranks had notably increased: 29 women were senior, and 4 were special, professors. Women's representation also modestly increased among assistant and associate professors. Even with these gains, however, less than one fifth of the senior and special professor ranks were women.

Table 3 provides important insight into why so few women are in the senior/special professor ranks. These data refer to senior/special professors only, and make clear that well over half of these faculty in each academic year were mathematical/physical scientists (52.4 percent in AY 1999-2000 and 57.6 percent in AY 2003-2004). Thus the designation of senior/special professor is most common precisely in the discipline group where women are least represented (only 12.4 percent of women were in this discipline group in AY 2003-2004, compared with 42.0 percent of men; see Table 1). Moreover, if we break down the rank in which senior/special professors were hired, we learn another piece of the puzzle for how men came to predominate among those at the senior ranks: fully two-thirds

of the female senior/special professors in AY 1999-2000 were hired as assistant professors (who thus rose through the ranks), compared with only approximately one-third of their male counterparts (Panel A). Men were thus notably more likely than women to be initially hired into tenured positions; most women rose through the ranks. These numbers are a direct consequence of State U.'s major departmental building in the 1980's, when top administrators recruited especially full and senior professor men to bolster the university's science departments. By 2003-2004, the same basic pattern remained, although somewhat attenuated: 52 percent of senior women had been hired as assistant professors compared with 41 percent of comparable men (Panel B). This increase in the representation of women in the top ranks was (as we shall see) attributable both to their continued promotion through the ranks and the Deans Office's targeted hiring of senior women.

[Table 3 about here]

A second form of allocative discrimination (Petersen and Saporta 2004) can emerge from sex differences in promotion to higher ranks. Table 4 presents data on the percentage of successful promotions from 1997 to 2004. Looking first at the total A&S faculty over the full eight-year period, men were slightly more likely than women to be promoted: 86.7 percent vs. 84.3 (a 2.4 percent sex difference).¹³ The overall sex gap grew slightly over time, from 2.2 percent in 1997-2000, to 3.4 percent in 2001-2004, although these findings vary somewhat by discipline group. Within the humanities, 87.7 percent of the men vs. 84.7 percent of the women were successfully promoted (a 3.0 percent sex difference), while the comparable percentages for the social/behavioral sciences were 89.5 vs. 80.6 percent (an 8.9 percent sex difference). The sex gap doubled over time for those in the humanities (2.2 to 4.7 percent), and tripled for those in the social/behavioral sciences (3.9 to 11.7 percent), suggesting increasing sex inequity in promotions.¹⁴

Looking at the raw numbers within ranks (not presented in the table) indicates that in the humanities, the lower female percentages were primarily attributable to women's relatively lesser probability of being promoted to associate professor in the latter years. In the social & behavioral sciences, the problem was at both the associate and full professor ranks. A good sign of progress by time 2 in the humanities is that 11 women went up for senior professor and all but one were successful (this is in comparison to only 3 of 3 at time 1). The numbers of women in the two science groups are too small to allow for reliable comparisons (there were only 7 women in the life sciences, and 11 in the math/physical sciences up for promotion in the entire 1997-2004 period). Nonetheless, there is some reason for optimism: while 0 (of 1) female life scientists were promoted in the earlier period, 5 (of 6) were promoted in the latter period. Similarly, while 3 (of 3) women in the math/physical sciences were promoted in 1997-2000, 8 (of 8) were in 2001-2004, and all five up for senior professor were successful.

[Table 4 about here]

Our respondents spoke at length about perceived inequities in the promotion process, especially to the upper two full professor ranks:

¹³ These are likely inflated estimates of success in promotion, for both women and men, because those leaving prior to their tenure year are not included in the base n.

¹⁴ Small numbers, however, necessitate caution in over-interpreting these trends.

One of the most important hurdles for women faculty is promotion to [professor and senior professor]. In terms of the [professor] promotion, a number of us have been subtly undermined by our colleagues so that we are more reluctant than we might be to go up for promotion. In addition, the promotion rates to [senior professor] appear to be blatantly inequitable. (associate professor, humanities/social sciences)

One form of subtle discrimination was through the encouragement of early promotion for men but not women:

Men are encouraged to seek promotions and to seek them early (e.g., to full professor) by other men; women generally are not. Men are assumed to be academic stars. Similarly situated women must prove they are deserving. In short, women have to do twice as much to be judged half as good. Women of color are particularly devalued in the promotion process. (professor, humanities/social sciences)

One woman described her own experience:

[Male colleagues close to my professional age] came up a year early for tenure. I was discouraged from doing so (perhaps not in so many words, but told that generally the admin was not supporting early tenure so I shouldn't consider it), although my book was published early and my publication record comparable. (associate professor, humanities/social sciences)

Women believe they have to exceed the performance of their male counterparts:

I have my doubts about the jump to [senior] professor. For example, several men have been promoted to [senior professor] largely on the basis of department administration. This has never happened for a woman in our department. Every [senior] woman in our department has a solid international position, funding, and more publications than anyone else. (professor, humanities/social sciences)

There was also subtle discrimination in how women and men are evaluated:

Focusing on RATES misses the main problem. The biggest problem is with the language and tone of the evaluation and the messages that are conveyed. We just had a reappointment decision in our department where a guy, three years out of grad school, was heralded as an emerging "star" in his field. They said they were worried that he might leave despite the fact that no one has expressed an interest in him. . . . In contrast, two women who recently came up for reappointment and then tenure and objectively had much more impressive records were talked about in much less enthusiastic ways. One has just been offered the sun and the moon by another major research institution and is likely to leave because she feels so undervalued here. (professor, humanities/social sciences)

In addition to the "star" label, subtle discrimination also takes the form of devaluing the intellectual work that women do:

My first time I went for tenure I was rejected, even though I had the Dean's and the department's support. One of the reasons why I was denied tenure was [my subject matter]. . . . It was such a blow to the department that they reviewed it again the next year and I got tenure. But that's an example of the blindness . . . women's [scholarship] was just getting into the mainstream. . . . (senior professor, humanities/social sciences)

[F]eminist scholarship being produced by women is [seen as] less worthy and so women have to produce much more than male or nonfeminist colleagues in order to make up for this. . . . objective criteria are thrown out when they favor women/feminist individuals and male contenders are given a leg up on questionable or

debatable "quality of mind" arguments. This is very demoralizing for a young faculty member as the message is that as a feminist woman you have to work twice as hard just to get equitable promotion decisions and even then you will not be valued (assistant professor, humanities/social sciences)

The consequences of discriminatory experiences contribute to a climate where women believe they are not equal members of the faculty, and increase their negative view of the university:

...[because of this] I owe this university and department nothing. I owe my students something. . . . I no longer believe in the university and the academic system. . . . It doesn't matter if I publish 10 books, it's all irrelevant to my salary and promotions. (professor, humanities/social sciences)

And, faculty are not always sanguine about the university's attempts to address the problem:

To be given a message by the administration that apparent discrimination against women at the higher ranks will be "cured" by recruiting quality women from the outside is a real insult to those of us already here. This is a PR move, not a sincere effort to look at the continuing process of what is going on here. . . . Why doesn't the university get with it and reward the considerable talent that it has on hand? A proposal to recruit quality senior women from the outside is a kind of tokenism which does not address the systemic problem of discrimination against women at all ranks (in terms of promotion and therefore salary and research funds). (professor, sciences)

Access to leadership. A final form of allocative discrimination can emerge from lack of access to leadership positions. We calculated women's representation in several leadership positions at two points in time, Fall 1999 and AY 2004-2005, including A&S deans, department chairs, graduate directors, undergraduate directors, and research center directors (data not provided in tabular form). At State U., women made progress approximately commensurate in some discipline groups with their representation in the tenured ranks (typically a precondition for movement into leadership positions). Although visible, women were certainly not plentiful. At the decanal level, two of seven A&S deans were women in Fall 1999, 1 of 7 in Fall 2004. In Fall 1999, one-fifth of the departmental chairs, one-third of the graduate directors, and over one-fourth of the undergraduate directors were women. The situation remained basically the same in 2004/2005, except for a decline in women's representation among undergraduate directors, coupled with slight increases as chair and graduate directors .

Women's representation in leadership positions was driven primarily by their presence in humanities departments. Women were 39 percent of A&S's humanities faculty in AY 1999-2000 (and 35 percent of tenured humanities faculty). They were 35 percent of the humanities chairs, but over-represented as graduate and undergraduate directors (representing 58 and 46 percent of those positions, respectively). In AY 2003-2004, they were underrepresented among chairs and undergraduate directors, and overrepresented as graduate directors, given their 42 percent representation among tenured faculty in the humanities.

Women were underrepresented in leadership positions in other discipline groups. In the social & behavioral sciences in Fall 1999, they were 28 percent of the faculty (and 21 percent of the tenured faculty), but 12 percent of the chairs and 0 and 17 percent of the graduate and undergraduate directors, respectively. They remained underrepresented in 2004-2005, except as chairs. Not surprisingly, the numbers of women in leadership positions in the sciences were particularly low: in AY 1999-2000 women represented 12 percent of the faculty in the sciences (and 12 percent of the tenured faculty), but none of the chairs. Two women scientists were graduate directors (of nine departments), and one (of eight) was an undergraduate director. In 2004-2005, there were even fewer women scientists in leadership positions.

We also gathered data on the history of departmental leadership, calculating the number and percentage of female chairs for each A&S department between Fall 1980 and Spring 2004 (data not provided in tabular form). The results are instructive. During that 24-year period, one-fifth of A&S's 191 department chairs were women, and this was driven by the large representation of humanities chairs (32 percent female). During the same period, 18 percent of social and behavioral science chairs were women, one in the physical & mathematical sciences, and none in the life sciences. The list of departments that by AY 2003-04 had never had a woman chair is long: 6 of the 19 humanities departments, 3 of the 8 social & behavioral sciences departments, 6 of 7 mathematical & physical sciences, and 5 of 5 of the life sciences.¹⁵

Our respondents had ready answers for women's underrepresentation in leadership positions:

In my department it is explicitly acknowledged . . . that a female chair would have great difficulty within and outside the department in doing her job due to the perception that a woman head is a mark of inferiority. A woman who assumes a leadership role must be far superior to male colleagues to assume similar roles. (professor, humanities/social sciences)

There are too few women in departmental officer positions—[the university's] departments need more women chairs, more women graduate directors. There are almost no women in higher-level positions in Central [Administration]. [The university] more generally needs women in top administrator positions and in deans' offices. One is struck repeatedly at how male those social spaces still are. And it does make a difference. (professor, humanities/social sciences)

One respondent noted more generally that women in her department were seldom in decision-making positions:

I cannot remember a time in the past 6 years when a major committee in the department was chaired by a woman. Nor is there even the slightest discussion of appointing a female dept chair. This seems unlikely given the way in which I have seen my senior women colleagues systematically excluded from decisionmaking networks which are informal, excluded from access to information and in the past excluded

¹⁵ There have been five life science departments over this time period; consolidation and re-organization reduced this to three by AY 1999-2000.

from major committees. An inner circle made up of a selected group of male faculty determines decisions and these decisions are then rehearsed in formal committees. (assistant professor, humanities/social sciences)

This was true as well for a professor in the sciences:

Judging from events [that] happened in the past five years in the department, one cannot help but come to the conclusion that it is the WASPMs [White Anglo-Saxon Protestant Men] that dominate and govern. Women and minorities may serve in committees, but their voices are not heard and their suggestions never followed through. (professor, sciences)

Finally, in addition to access to leadership at the departmental and university levels, women were less than one-fifth of center directors reporting to the A&S Dean in AY 1999-2000, increasing to one-third by AY 2003-2004. As was true for many universities across the country, the number of university-based centers at State U. exploded beginning in the 1980's, when like-minded faculty developed interdisciplinary centers to further their scholarly interests and provide support structures for grant solicitation and administration. This is a conservative measure of women's representation as center directors at State U., because a number of other larger, and better funded, centers report directly to higher level administrators.

Salary Equity

We turn in this final section to a focus on salary equity. We were able to calculate a number of earnings variables from the personnel data. "Base salary" depends on one's official title. In most cases, the title is for the academic year and represents a 9-month salary (e.g., "Associate Professor-AY"). If the faculty member's title contained a calendar year distinction (e.g., "Professor-CY"), the data provided a calendar year salary (approximately 15 percent over the base AY salary). For the most part, CY faculty are in administrative positions (e.g., chair, dean, center director). Whether or not the salary is AY or CY, we refer to this salary as the faculty member's "base salary." We also estimated "full salary," which represents base salary plus discretionary summer salary (i.e., summer salary provided through the A&S Deans Office).¹⁶ Finally, we calculated two other forms of discretionary funds: out of cycle merit increases and internal research funds.

Base and full salaries. Table 5 provides data on the gender salary gap. We present earnings ratios, separately by discipline group and rank for each academic year. Overall, A&S women faculty earned approximately 83.8 percent of men's salaries in AY 1999-2000, a figure that increased slightly to 85.3 percent in AY 2003-004. Some of this sex gap in earnings is attributable to sex segregation across disciplines, and controlling for discipline group typically increases the earnings ratios. At time 1 the earnings ratios were

¹⁶ Only those non-grant funds budgeted through the central A&S Deans Office are included. Any other funds—from external grants, other external groups, or other university sources—are excluded. Note that even CY faculty can receive discretionary summer money. See below for further discussion of discretionary summer salary.

highest in the two science discipline groups (92 percent in the life sciences, and 96 percent in the math/physical sciences), and substantially lower in the humanities (85 percent) and the social & behavioral sciences (81 percent). By AY 2003-2004, women's relative earnings had increased in the humanities (90 percent) and social & behavioral sciences (85 percent), but slipped to 89 percent in both the life and math/physical sciences.

[Table 5 about here]

Because women also concentrate in the lower ranks in academia, the earnings picture for women improves if one controls for rank. Among humanities faculty, all the within-rank earnings ratios hovered around 100 percent in AY 1999-2000, although these relative earnings declined somewhat in the latter period, to a low of 94 percent for associate professors. In the math/physical sciences, the few women in faculty positions tended to do somewhat better than their male counterparts within rank, although this slight advantage evaporated by AY 2003-2004. There are so few men and (especially) women in the life sciences that the earnings ratios should be viewed with caution: nonetheless, the data suggest that life science women did not do as well in salaries in comparison with their male colleagues, and their relative earnings declined even further within the ranks by time 2. Finally, for the social & behavioral sciences, women in some ranks did relatively well (assistant professors and professors), but in others did less well (associate and especially senior/special professors). Their relative advantage disappeared by AY 2003-2004, but the relative earnings of the senior professors improved.

Our access to decanal data allowed us to take the salary analyses one step further. Because faculty salaries are typically based on a 9-month period, many faculty earn additional summer money. From budget spreadsheets, we calculated the amount of summer salary earned, dividing up the summer monies into "discretionary" vs. grant funding. We focus here only on discretionary funds because they are more likely to be subject to subtle sex bias.¹⁷ Table 5 presents "full salary" earnings ratios for A&S faculty for both time periods ("full salary" equals "base salary" plus "discretionary summer salary"). These estimates include all monies earned in AY 1999-2000 (e.g., from July 1, 1999 through June 30, 2000), and similarly all equivalent monies earned in AY 2003-2004. These data suggest that a male advantage with respect to discretionary summer salary translates into modest declines in the gender earnings ratio (and, hence, an increase in the sex gap in earnings). Comparing the base and full salary estimates for AY 1999-2000, the earnings ratios for all A&S faculty were 83.8 vs. 83.5 percent, respectively. The comparable percentages for AY 2003-2004 were 85.3 vs. 84.4 percent. These same modest declines in the earnings ratios occurred within each discipline group (except the life sciences at time 1), and in most (but not all) ranks within years. In sum, women earn less than men in part because they earn less discretionary summer salaries.

¹⁷ Discretionary summer money refers to salary received in June, July, or August from state funding, internal grants, departmental funds, or the central administration. We do not report here data on external grants, nor any funds administered by non-A&S units. Grant availability varies dramatically by discipline and funding agency. Humanities faculty have access to few grants, medical researchers to many. Theorists don't need much grant money, survey researchers need much more. Some funding agencies (e.g., NIH) will fund summer salaries more frequently than others (NSF).

One might argue that it is questionable to control for rank in gender equity studies, because this assumes that male and female faculty of similar ability are equally likely to be promoted. Table 5 suggests that female faculty were less likely to be promoted within A&S from 1997 to 2004. Even equal promotion rates for those who put themselves forward for promotion does not ensure equity. Indeed, as noted earlier, our qualitative data indicate that some A&S women perceive gender differences in the promotion process (e.g., chairs bring men up earlier for promotion, disparage gender scholarship, or require higher publication standards for women faculty).

Our respondents provided further insight into the processes that produced these salary outcomes. With respect to starting salaries:

In terms of hiring, until last year I don't think a single woman received a beginning salary equal to that offered to male candidates and hires appointed in the same year. (professor, humanities/social sciences)

Another mentioned the gendered process of responding to job offers, a process that widens the gender earnings gap:

The only way to get salary increases or university professorships seems to be to have outside job offers. But that involves several factors which act disproportionately against women. First of all, it assumes that one is willing to move; women typically have more of a problem with members of their family tied to one spot than men do (though this can also act against men who have wives with careers that effectively pin them to one spot). Secondly, it assumes that either one would happily go somewhere else, or that one would act duplicitously in dealing with other institutions. (senior professor, sciences)

The biggest gender-related factor that has made my work life less than satisfactory is the . . . systematically lower salary that women in my department receive. I had one of the lowest salaries among assistant professors in my department despite having multiple offers when I took this job. My salary was raised (above parity) only after I got another outside offer 3 years after coming here. (associate professor, humanities/social sciences)

Discretionary funds. Access to discretionary funds is an important component in the salary process. We have already noted how a small male advantage in summer salary modestly increased the gender earnings gap in both academic years. Here we further investigate the availability of discretionary summer funds. In Table 6, we see that for each year male A&S faculty were more likely than comparable females to receive discretionary summer monies. For example, in the summer of 2000, 12.1 percent of the men received a discretionary salary compared with 9.5 percent of their female counterparts. The percentage sex difference ranged from 2.6 percent in 2000 to 6.1 percent in 2004, the last year for which we have data. Men's percentages bested women's in all but three of the 21 possible within-discipline comparisons (the exceptions were social & behavioral scientists for 2000 through 2003), suggesting that the male advantage cannot be explained away by sex differences in disciplines.¹⁸

¹⁸ We also controlled for rank to test for the possibility that rank segregation by sex would eliminate men's summer salary advantage. Even with this control, men's percentages bested women's in two-thirds of the 84

[Table 6 about here]

Pushing this analysis further, we examined the possibility that men received more of this summer funding because they are more likely than women to do additional service work. Contrary to this expectation, men were more likely to receive summer funds as salary enhancement (e.g., in response to an outside offer), while women were the ones more likely to do service work.¹⁹ This form of earnings enhancement is an example of the more subtle ways in which sex neutral policies and procedures can contribute to the gender earnings gap. While not intended to widen the gender salary gap, such policies nevertheless produce that outcome.

We turn in Table 7 to two final ways in which faculty salaries are augmented (and gender gaps widened): out of cycle merit awards and supplementary research accounts. Faculty at State U. can receive two kinds of merit awards: (1) increases generated through a negotiated union-sponsored merit program, and (2) salary from out-of-cycle increases (the former are paid through state funding, while the latter come from A&S Deans funds). The former kind of awards has become normative: by AY 2003-2004 over 90 percent of both women and men had received at least one merit award. We thus focus on out-of-cycle (OOC) merit increases and ongoing research accounts.²⁰

[Table 7 about here]

The out-of-cycle merit awards clearly favor men. These awards occur rarely, and are often provided in response to outside offers. Out-of-cycles at time 1 in the humanities and social/behavioral sciences favor men, and the sciences favor women, although by time 2 only women in the math/physical sciences do better than their male counterparts. The largest sex gap is among humanities faculty, where 16 percent of the men received an out-of-cycle merit award, compared with 7 percent of the women [and this sex gap favoring men gets even bigger by time 2 (20.4 vs. 10.8 percent)]. Even controlling for discipline and rank, men are advantaged for out-of-cycles (there are too few women scientists to make reliable sex comparisons, but for the humanities and social & behavioral sciences, 8 of the 12 sex comparisons over the two years favor men).

Table 7 also includes data on the percentage of faculty receiving internal research accounts. Across the entire A&S faculty women are more likely than men to receive research accounts (35.3 vs. 25.9 at time 1, and 38.8 vs. 30.7 at time 2). This female

possible sex comparisons (=3 disciplines by 4 ranks by 7 years). Because of small numbers, in both these analyses we combined the two science disciplines, and collapsed the two highest ranks.

¹⁹ We asked A&S deans to code each summer funding recipient for 1998 to 2000 to estimate whether they received discretionary monies for (1) supplementing their base salary (e.g., guaranteed summer salary in response to an outside offer, or as a fixed-period recruitment inducement), or (2) service work done over and above one's regular workload (e.g., teaching an additional course, work for an honors program, service as center director).

²⁰ Research accounts are distinct from "startup funds," which are awarded to most incoming faculty for three to six years, depending on rank. Although policies shift as deans change, newly recruited assistant professors typically receive such funds for their probationary period. Newly recruited tenured faculty typically receive three years of research funding. A&S also awards additional funds as needed for computers, specialized equipment, setting up labs, and so forth. Since startup funds are fairly universal, we focus here on research accounts, which can be either term (for a specified set of years) or ongoing (renewable yearly) accounts.

advantage, however, is attributable to women's greater representation in the humanities and men's in the sciences (see Table 1), and because the availability of research accounts varies by discipline. Because they rely primarily on external funding, few scientists receive decanal research funds, but the opposite is true for faculty in the humanities. For example, 62 percent of the male, and 53.2 percent of the female, humanities faculty at time 2 had research accounts during the 2001 to 2004 period; the comparable figures for each science group were 7 to 13 percent. Controlling for discipline shows that with one exception (the life sciences at time 1), more men than women have research accounts. Controlling further for rank reveals a female advantage at the assistant professor level, and a substantial male advantage in the tenured ranks (among the humanities and social & behavioral scientists, seven of the sex comparisons favor men, five favor women). Among those who received internal research accounts, men's funding typically exceeds women's for the four-year, time 2 period (not provided in tabular form). Across A&S as a whole, women averaged approximately 81 percent of men's research award. This male advantage holds in the sciences (35 percent) and the social & behavioral sciences (75 percent), although women have the advantage in the humanities (113 percent).²¹

We once again turn to our interview data to describe the processes that contributed to these outcomes. Our respondents were well aware, and had strong opinions about, the inequity in the allocation of discretionary dollars. One tenured woman told us about how out-of-cycle merit increases were used in her department:

All my male colleagues at the same level of seniority or lower who have been shortlisted at other universities have received an out of cycle raise . . . Although I have been shortlisted several times at prestigious universities, my department chairs . . . did not inform the administration . . . being placed on a shortlist was considered very prestigious for my male colleagues. But it ended up being considered negatively for me. My salary has consequently stayed lower than that of men faculty of comparable ranking and increased at a slower pace although my publication results are clearly comparable. . . . This is the most direct evidence . . . I have ever received that my work was not considered of comparable value to the one of others in my department. (associate professor, humanities/social sciences)

Another described access to summer research money:

. . . early in my career when summer money became available to faculty members the chair said that special consideration would be made for allocating the money to people starting a new project other than their Ph.D. dissertation research. Well I was starting a new project [in my field], so I applied. A young male professor also applied, but his application was to continue his Ph.D. research, so I thought I had a leg up on him. Well he got the money and I didn't. When I went to the chair to complain, the chair said 'well he has a family to support and you don't.'" (professor, humanities/social sciences)

Some argued that the gender differences in discretionary salaries emerge from a culture in academia that empowers men, while marginalizing women. As one female assistant professor told us:

²¹ The 35 percent figure is based on fewer than five women in the sciences, and is thus unreliable. We ran additional controls for rank within discipline group, but the small numbers make the estimates unreliable. Nonetheless, there is some suggestion that the male advantage reflects in part rank segregation by sex.

. . . many women have internalized social and cultural views that women are second-class citizens and hence not entitled--either to ask for more or to make use of what they're given. I'd bet that if you were to study how much of their research budgets men and women use or how much additional funding men and women ask for from their deans or departments, you would find a large discrepancy; in general, men seem to have far stronger senses of entitlement. (assistant professor, humanities/social sciences)

Our respondents underscored the male advantage in generating indirect cost resources for research:

Off grants, the indirect costs go to the chairman and then that money gets distributed and often women don't have access. I have [many \$] a year in grants, that generates a lot of overhead. I don't see much of that money. The university doesn't give me any money for my labs, but lots of guys get money. (senior professor, sciences)

I feel we have poor support from the university in terms of research resources. . . . I have received cost-sharing for an award and I only received it because I threatened to leave. I've brought in [many dollars], [been] continuously funded . . . The university was supportive when I was younger, but I think it's this rise, you get well advanced in the professorial ranks and some people continue and are used for leadership positions and some are not. There are women who are very advanced and there might be a committee in the university dealing with their expertise and they are lucky if they even get on the committee, let alone chair it. . . . [University administrators have] a very sports minded mentality and that excludes women. Rewards are given out such as 'come with me to the football game and we can talk'. (senior professor, sciences)

And, finally, another professor noted:

After complaining several times to various department Chairs about the fact that I received NO research support, unlike almost every other senior professor in my department, I was given [several thousand dollars]. There is another senior woman who has NO research support. Both of us are research active and well published.... Apparently, the public relations policy rewards men and women who get outside offers, but not those who are research active and who pull in large amounts of grant money. I am deeply resentful of this. (professor, humanities/social sciences)

DISCUSSION

The title of a recent book on gender differences in academic careers well describes recent trends toward gender equity in academia: *From Scarcity to Visibility* (Long 2001). Women in most of State U.'s A&S departments are clearly visible and successful in significant ways. Even in the four short years we examined, women's representation in A&S faculty positions modestly increased (in part because the number of women increased, and the number of men declined). Their visibility increased in each disciplinary group, but especially in the humanities and the social & behavioral sciences.

In addition, rank segregation lessened between AY 1999-2000 and AY 2003-2004: women's representation increased in most ranks and, notably, their numbers in the senior/special professors more than doubled. Our data also suggest that women made important inroads into departmental leadership positions, especially in the humanities, where over half of A&S women faculty work. The earnings ratio in many of the

discipline-rank groups approached 100 percent (and at time 1 the earnings ratios in the sciences exceeded 100 percent).

Our findings are especially useful, however, in demonstrating the persistence of inequity, even as more overt forms of discrimination have abated. We examine how these more subtle mechanisms of gender inequity operate in one particular academic setting, a large arts and sciences unit in a major public research university. Our quantitative data show how unequal outcomes persist in academia, and our qualitative data provide important insights into the mechanisms that continue to produce those outcomes. These unequal outcomes don't necessarily require a conscious motive to discriminate. Indeed, they often simply reflect traditional ways of doing business, historical legacies, and/or the mapping of nonconscious attitudes, prejudices, and stereotyping about men and women onto organizational interactions and decision making. In the remainder of this paper we outline how these mechanisms of inequity operate in practice, and describe the implications of our analyses for gender equity research.

First, underrepresentation of women persists in disciplines viewed as atypical for their sex (most notably, the sciences). To the extent these differences are the consequence of subtle sex bias in recruitment or promotion as opposed to sex differences in "choice," inequality in outcomes will be reproduced. Certainly, increased numbers of women receiving graduate degrees in sex-atypical disciplines during those years in which current A&S faculty were earning their degrees (see Table 2) makes "choice" a less compelling explanation for the sex differences we observe today. Such data strongly suggest that there is more than simply "leakage in the pipeline:" one-third of A&S departments had a percentage female less than 60 percent of the national percentage of doctorates produced in their respective fields approximately two decades earlier. As at MIT, women were particularly scarce in scientific fields: even in AY 2003-2004, less than one-quarter of A&S life scientists, and approximately 10 percent of math/physical scientists, were women. Without concerted attention and leadership at the top the status quo will simply continue (e.g., Hopkins, 2006). Such effort is all the more important, given that allocative discrimination at career entry importantly affects later career trajectories (Petersen and Saporta 2004).

Second, stark sex differences remain in career success, specifically with respect to rank, promotion, and leadership. Even in AY 2003-2004, women were notably more likely to be in the junior, and men in the senior, ranks. Few women are at the very top: less than one-fifth of the most senior faculty were women. This under-representation of women at the senior ranks is at least in part a combination of two important historical legacies at State U.: (1) most A&S senior professors are in those fields where women are least well represented (math/physical sciences), and (2) many of these male senior professors were hired as tenured faculty during the 1980s, when the state and the university joined forces to upgrade the university's (especially science) research infrastructure and faculty. Most women now in the senior ranks, in contrast, were hired as assistant professors (and typically in the humanities), and they rose through the ranks. We know from other

research that these kinds of historical legacies exacerbate gender inequity.²² And, such legacies clearly aggravate any overt gender bias remaining in the system.

As noted, there is reason for optimism with respect to the recent promotion of women into the senior professor ranks: 11 women in the humanities went up for senior professor between 2001 to 2004 and all but one was successful, and in the sciences 6 of 7 were successful (this is in comparison to 3 in the humanities and none in the sciences in the 1997 to 2000 period). Some of this success reflects a concerted effort by the A&S Deans Office to recruit additional senior women. The combination of increased recruitment, and promotion from within, more than doubled the numbers of women at the senior professor ranks. There are troubling signs, however, regarding promotions in the nonscience discipline groups. Overall, male faculty were slightly more likely than women to be promoted during the 1997 to 2004 period. Additionally, the time1-time 2 comparison shows that the sex gap favoring men doubled among humanities faculty and tripled among social/behavioral scientists. In addition to promotion, women in the humanities successfully moved into leadership positions, but this was less true for women in the social & behavioral sciences, and nearly nonexistent for female scientists. Up to AY 2003-2004, only one woman had chaired any of the A&S science departments since record keeping began in the early 1980s. White (2005) describes these forms of inequity as “stubbornly durable blockages,” which inevitably slow down career advancement.

Third, sex differences in base salary persist. While the few women scientists did fairly well in comparison with their rank-equivalent male counterparts at time 1, their earnings advantage vanished by time 2: women life scientists and math/physical scientists earned 89 percent of their male counterparts. While time 1 earnings ratios for the humanities and social/behavioral scientists were relatively lower (85.2 and 80.8 percent, respectively), their relative earnings increased to 90.4 and 85.3 percent, respectively, by time 2. Men are more likely than women to earn discretionary summer salaries (typically for salary enhancement as opposed to payment for services rendered), and these supplemental earnings modestly boosted men’s salaries, reducing the earnings ratio in over two-thirds (11 of the 16) of the time-2, discipline-rank comparisons. Our data also show that men typically have the advantage with respect to out-of-cycle merit increases and research accounts (and their research accounts are typically worth more). Such policies on the face of it are not designed for discriminatory purposes. These are good, reasonable policies intended to reward excellent faculty (e.g., to lure them to the university, or to keep them when they receive outside offers). Their existence doesn’t require a motive to discriminate. Nonetheless, how these policies operate in practice can allow for nonconscious prejudice and stereotypes to creep into the decision making process. Clearly, such programs on average advantage male faculty at State U.

²² West et al. (2005) describe how important these historical moments of institution building can be, locking gender biases in hiring in place for decades. They urge added attention to gender equity as the University of California system gears up for a major program of faculty hiring.

Our respondents' qualitative responses help us to flesh out how subtle sex bias operates through the myriad types of interactions in which academics regularly engage. They described in vivid detail the inequities they confront in their day-to-day faculty lives, the inequalities that might begin as "molehills" but grow into "mountains" (Valian 1998:4-5). Very much like their MIT counterparts, they articulated feelings of invisibility and marginalization that grew worse as they moved into the tenure ranks. They described the lack of departmental or university attention or support for recruiting women; their relative scarcity in science (and some nonscience) departments; their exclusion from important departmental and university committees, departmental grants, and research teams; their lack of adequate access to leadership opportunities or resources for their research. They perceived subtle (and sometimes overt) gender biases in how departmental chairs, faculties, and deans managed the promotion process; set salaries; negotiated salary and research support; and allocated supplementary funds. Those we interviewed, especially those engaged in gender research, also argued that sex bias restricted or delayed their promotion prospects. Many of our respondents made quite clear that they feel well respected and valued in their larger professions, but undervalued in their own departments and the larger university. As one senior professor noted:

What is raised in the MIT report is that senior women have small discriminations against them that lead to patterns of discrimination. . . . the MIT report . . . was everything that I experienced. . . . While I am very well respected outside of the university in my area of expertise, inside the university I am marginalized. . . . I don't get recognition and [I received some monetary resources] after five years of battles. I had to fight hard for it. . . . I am very visible in the university when they want to tout accomplishments, but I am invisible when it comes to having an impact and being in the inner loop. (senior professor, sciences)

Our data thus provide evidence for the existence of subtle inequities that can arise in part from nonconscious attitudes and beliefs, or organizationally based policies and procedures. These kinds of inequities often provide "micro advantages" to male faculty and "micro disadvantages" to female faculty (DiTomaso et al, forthcoming). While these forms of inequity can be difficult to eradicate, decanal leadership at State U. did account in part for the movement toward gender equity between the two years. The (male) A&S dean took steps to recruit senior women; a few years later, the (female) A&S dean initiated an A&S committee on faculty diversity, charged with recommending "realistic goals and strategies to address the underrepresentation of women and faculty of color in many [A&S] departments."²³ That committee presented its final report in March, 2004, just after we completed data collection. It included a number of specific recommendations that focused on increasing awareness, updating information, identifying best practices, enhancing retention, generating new resources, and using accountability mechanisms to greater advantage. An informal A&S diversity analysis (conducted in September, 2005 by the A&S Dean's Office) summarized the first year's success: of 34 new faculty, 16 were women, 16 were members of underrepresented ethnic groups, and 4 of the 13 new science faculty were women.

²³ "Report of the Committee on Increasing Faculty Diversity" (internal A&S report presented to the A&S Executive Dean, March 31, 2004).

The results of these efforts show unequivocally what a difference leadership on diversity issues can make, a point Nancy Hopkins (2006) underscores from her experience at MIT. She argues that without constant vigilance diversity gains can rapidly evaporate. To the extent that nonconscious gender biases get mapped onto organizational interactions and decision making, or historical legacies or policies continue to reproduce gender inequity, unconventional strategies are called for. As Ridgeway and Correll (2000) point out, we need to modify the existing “gender system” through an interactive process of social interventions that will slowly re-shape our personal interactions, and hence how we perceive and evaluate others. They recommend renewed commitment to affirmative action, policies that equalize the distribution of resources, transparency re pay and reward practices, accountability for gender equity outcomes, and family friendly workplace policies (Ridgeway and Correll 2000:114-119).

It’s still quite newsworthy when universities redress gender inequity. Witness the media attention to MIT’s admission of discrimination against its most accomplished senior women faculty. The big news was that MIT’s administrators “got it,” and took steps to rectify the inequities that existed. It was also big news when in 2001 Princeton hired its first ever woman President, and in 2007 when Harvard did the same. Perhaps the true measure of success in tomorrow’s universities will be when the appointment of women to top positions won’t occasion this kind of media attention, because it would simply be business as usual.

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Table 1. PERCENTAGE IN DISCIPLINARY GROUPS AND RANKS, BY SEX, FOR TENURED AND TENURE-TRACK FACULTY, ARTS & SCIENCES FACULTY, AY 1999-2000 AND AY 2003-2004

Panel A: Disciplinary Group	AY 1999-2000^a				AY 2003-2004^b			
	Men	Women	% Female	N	Men	Women	% Female	N
Humanities	27.7	52.1 *	39.3	252	26.0	53.1 *	44.8	248
Social & Behavioral Sciences	24.8	28.4	28.3	191	23.3	27.8	32.0	181
Life Sciences	8.9	6.8	21.0	62	8.7	6.7	23.3	60
Mathematical & Physical Sciences	38.7	12.6	10.1	238	42.0	12.4	10.5	248
Total A&S Faculty	100.1	99.9	25.6	743	100.0	100.0	28.4	737
N	(553)	(190)			(528)	(209)		
Panel B: Rank	Men	Women	% Female	N	Men	Women	% Female	N
Instructor/Lecturer	0.4	0.5 *	33.3	3	0.2	0.0 *	0.0	1
Assistant Professor	13.6	29.0	42.3	130	11.9	23.4	43.8	112
Associate Professor	23.0	32.1	32.4	188	25.2	36.8	36.7	210
Professor	35.4	30.5	22.8	254	34.1	23.9	21.7	230
Sr. Professor	25.1	6.3	8.0	151	25.2	13.9	17.9	162
Special Professor	2.5	1.6	17.6	17	3.4	1.9	18.2	22
Total A&S Faculty	100.0	100.0	25.6	743	100.0	99.9	28.4	737
N	(553)	(190)			(528)	(209)		

^aIncludes all A&S faculty with a current (AY 1999-2000) salary.

^bIncludes all A&S faculty with a current (AY 2003-2004) salary.

*Sex difference significant .001

Source: A&S Dean's Office

Table 2. Doctorates Earned in the U.S., 1981 to 1998, by Field, and Percent Female in A&S Departments (AY 2003-2004)

<u>A&S Dept. [NRC field, if different]^d</u>	<u>A&S Departments, AY 2003-2004^a</u>		<u>Cumulative Doctorates 1981-1998^b</u>		<u>Under- Representation^c</u>
	<u>Total</u>	<u>% Female</u>	<u>Total</u>	<u>% Female</u>	<u>% Underrepresented</u>
<u>Humanities</u>	<u>248</u>	<u>44.8</u>	<u>62049</u>	<u>47.3</u>	<u>94.7</u>
American Studies	5	40.0	1376	55.4	72.2
Art History	14	78.6	2441	71.3	110
Asian Languages and Culture ^e	11	45.4	353	47.3	96.0
Classics	5	20.0	931	40.6	49.3
English [Amer. Lit., English, & Engl. Lit.]	58	48.3	13510	57.6	83.9
French	15	53.3	1834	70.8	75.3
Germanic, Russian, & East European Languages ^f	7	57.1	1750	58.0	98.4
History [6 subfields added]	54	44.4	10916	36.0	123
Italian	5	40.0	297	62.0	64.5
Jewish Studies [Hebrew]	4	na	146	26.0	na
Linguistics	10	40.0	2133	59.6	67.1
Philosophy	27	14.8	4053	25.7	57.6
Religion	9	11.1	3491	23.7	46.8
Spanish & Portuguese [Spanish]	16	50.0	2445	62.7	79.7
Women's and Gender Studies	8	87.5	na	na	na
<u>Social & Behavioral Sciences^g</u>	<u>181</u>	<u>32.0</u>	<u>89694</u>	<u>50.1</u>	<u>63.9</u>
Africana Studies	8	50.0	na	na	na
Anthropology	20	45.0	5366	54.2	83.0
Economics	30	16.7	8599	24.2	69.0
Geography	7	14.3	1634	28.6	50.0
Political Science [Pol Sc. & Gov't]	30	30.0	6509	30.5	98.4
Psychology	50	28.0	52962	57.4	48.8
Puerto Rican & Hisp Carib Studies	2	na	na	na	na
Sociology	31	48.4	7041	51.7	93.6

<u>Life Sciences</u>	<u>60</u>	<u>23.3</u>	<u>90425</u>	<u>41.0</u>	<u>56.8</u>
Cell Biology & Neuroscience [added 2 subfields]	26	26.9	5719	42.5	63.3
Genetics ^h	17	23.5	6729	43.5	54.0
Molecular Biology and Biochemistry [added 2 subfields]	17	17.6	15844	38.6	45.6
<u>Mathematical & Physical Sciences</u>	<u>248</u>	<u>10.5</u>	<u>65898</u>	<u>20.4</u>	<u>51.5</u>
Chemistry	41	24.4	25495	24.8	98.4
Computer Science	38	2.6	6585	19.0	13.7
Exercise Science ⁱ	2	na	441	41.3	na
Geological Sciences [Geology]	16	12.5	1916	22.5	55.6
Mathematics	70	8.6	9084	22.5	38.2
Physics & Astronomy	62	9.7	15173	11.3	85.8
Statistics [Mathematical Statistics]	19	5.3	1749	25.7	20.6
<u>Total (all NRC fields)</u>	<u>na</u>	<u>na</u>	<u>483291</u>	<u>41.9</u>	<u>na</u>
<u>Total (all NRC humanities, social and behavioral sciences, life sciences, and math and physical sciences)^j</u>	<u>737</u>	<u>28.4</u>	<u>308066</u>	<u>40.5</u>	<u>70.1</u>

^aNumbers in departments for tenured and tenure-track faculty, AY 2003-2004. Percent female is calculated only for departments with 5 or more faculty.

^bTotal number of doctorates (and percent female) conferred in the U.S. from 1981 to 1998, by field of study (NRC data).

^cCalculated from (% female in A&S department / % female in cumulative doctorates) x 100.

^dIncludes NRC fields without A&S department equivalents.

^eAs of 2003-2004, Asian Languages and Culture included Chinese, Japanese, and Korean. NRC data includes sum of Chinese and Japanese degrees (and average percent female). Korean not available.

^fAs of 2000, Germanic, Russian and East European Languages included German, Russian, Hungarian, and Slavic. NRC data includes sum of German, Russian, and Slavic degrees (and average percent female). Hungarian not available.

^gThree State U. Criminal Justice program faculty without departments are included in the Social & Behavioral Science total, but not within individual departments.

^hListing for 1998 NRC data is "Microbiology" and "Human & Animal Genetics"; listing for 1981-1998 is "Microbiology", "Human & Animal Genetics", and "Genetics".

ⁱListing for 1998 NRC data is "Exercise Physiology"; listing for 1981-1998 is "Exercise Science/Kinesiology".

^jTotals for A&S Departments refers to AY 2003-2004. Total for NRC column includes NRC fields without A&S department equivalents.

Source: A&S data: A&S Dean's office; NRC data: data made available from the university's Office of Affirmative Action (March, 2001).

These data are from the National Research Council, Office of Scientific Engineering Personnel and the Doctorate Records File. The Affirmative Action office deleted "aliens on temporary visas" and "degree recipients of unspecified race or citizenship status."

Table 3. Rank When Hired, Senior/Special Professor Faculty, AY 1999-2000 and 2003-2004 (in percentages)

	Rank when hired						Base N
	<u>Asst. Prof.^a</u>	<u>Assoc. Prof.</u>	<u>Prof.</u>	<u>Senior Prof.</u>	<u>Special Profs.</u>	<u>Total</u>	
<u>Panel A. AY 1999-2000</u>							
<u>Totals</u>	<u>40.0</u>	<u>15.3</u>	<u>18.8</u>	<u>21.2</u>	<u>4.7</u>	<u>100.0</u>	<u>170</u>
<u>Discipline (as % of total)</u>							
Humanities (25.3%)	37.2	11.6	23.3	18.6	9.3	100.0	43
Social & Behavioral Sciences (17.6%)	30.0	20.0	33.3	16.7	0.0	100.0	30
Life Sciences (4.7%)	25.0	12.5	25.0	37.5	0.0	100.0	8
Mathematical & Physical Sciences (52.4%)	46.1	15.7	11.2	22.5	4.5	100.0	89
<u>Sex (as % of total)</u>							
Men (91.2%)	37.4	16.1	20.6	21.3	4.5	99.9	155
Women (8.8%)	66.7	6.7	0.0	20.0	6.7	100.1	15
<u>Panel B. AY 2003-2004</u>							
<u>Totals</u>	<u>42.9</u>	<u>14.1</u>	<u>13.0</u>	<u>26.6</u>	<u>3.3</u>	<u>99.9</u>	<u>184</u>
<u>Discipline (as % of total)</u>							
Humanities (24.5%)	35.6	13.3	20.0	24.4	6.7	100.0	45
Social & Behavioral Sciences (15.2%)	32.1	17.9	28.6	21.4	0.0	100.0	28
Life Sciences (2.7%)	40.0	0.0	0.0	60.0	0.0	100.0	5
Mathematical & Physical Sciences (57.6%)	49.1	14.2	6.6	27.4	2.8	100.1	106
<u>Sex (as % of total)</u>							
Men (82.1%)	41.1	14.6	13.2	27.8	3.3	100.0	151
Women (17.9%)	51.5	12.1	12.1	21.2	3.0	99.9	33

^aIncludes Assistant Professors and Lecturers.

Source: A&S Dean's Office

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Table 4. PERCENT PROMOTED, ARTS & SCIENCES FACULTY, BY SEX AND DISCIPLINE GROUP, AY 1997-2004^a

<u>Discipline Group</u>	<u>% Promotion Success Rate (base N)</u>					
	<u>1997-2000</u>		<u>2001-2004</u>		<u>1997-2004</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
<u>Total A&S Faculty</u>	<u>81.0 (79)</u>	<u>78.8 (33)</u>	<u>90.1 (131)</u>	<u>86.7 (75)</u>	<u>86.7 (210)</u>	<u>84.3 (108)</u>
Humanities	80.0 (25)	77.8 (18)	92.5 (40)	87.8 (41)	87.7 (65)	84.7 (59)
Social & Behavioral Sciences	85.7 (14)	81.8 (11)	91.7 (24)	80.0 (20)	89.5 (38)	80.6 (31)
Life Sciences	80.0 (10)	0.0 (1)	100.0 (10)	83.3 (6)	90.0 (20)	71.4 (7)
Math & Physical Sciences	80.0 (30)	100 (3)	86 (57)	100.0 (8)	83.9 (87)	100.0 (11)

^aAcademic year indicates promotion cycle.

Source: A&S Dean's Office

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Table 5. BASE SALARY AND FULL YEAR SALARY EARNINGS RATIOS, BY DISCIPLINE GROUP AND RANK, AY 1999-2000 AND AY 2001-2004^a

<u>Discipline Group/Rank</u>	<u>Base Salary Earnings Ratios (W/M)</u>		<u>Full Salary Earnings Ratios W/M)</u>	
	<u>AY 1999-2000</u>	<u>AY 2003-2004</u>	<u>AY 1999-2000</u>	<u>AY 2003-2004</u>
<u>Total A&S Faculty</u>	<u>83.8%</u>	<u>85.3%</u>	<u>83.5%</u>	<u>84.4%</u>
<u>Humanities</u>	<u>85.2%</u>	<u>90.4%</u>	<u>84.8%</u>	<u>89.5%</u>
Assistant Professor	99.8%	97.7%	97.6%	98.0%
Associate Professor	98.8%	94.1%	98.6%	92.7%
Professor	101%	96.1%	103%	96.7%
Sr. Professor/Special Prof.	101%	99.7%	98.0%	97.0%
<u>Social & Behavioral Sciences</u>	<u>80.8%</u>	<u>85.3%</u>	<u>80.5%</u>	<u>85.1%</u>
Assistant Professor	102%	98.9%	102%	96.6%
Associate Professor	93.0%	95.6%	92.5%	95.5%
Professor	102%	96.9%	102%	96.6%
Sr. Professor/Special Prof.	[86.4%]	101%	[84.5%]	100%
<u>Life Sciences</u>	<u>91.9%</u>	<u>89.3%</u>	<u>91.9%</u>	<u>88.6%</u>
Assistant Professor	[93.0%]	[91.1%]	[93.0%]	[88.9%]
Associate Professor	[89.7%]	82.7%	[89.7%]	82.7%
Professor	101%	[94.0%]	101%	[93.0%]
Sr. Professor/Special Prof.	^b	[75.7%]	^b	[75.7%]
<u>Mathematical & Physical Sciences</u>	<u>95.7%</u>	<u>89.0%</u>	<u>95.0%</u>	<u>87.5%</u>
Assistant Professor	[103%]	82.9%	[104%]	81.7%
Associate Professor	[103%]	[100%]	[101%]	[98.0%]
Professor	101%	98.1%	100%	97.1%
Sr. Professor/Special Prof.	102%	98.6%	100%	96.1%

^aIncludes all A&S faculty with a current (AY 1999-2000 or AY 2003-2004) salary. The few "Instructors" are included in discipline averages, but not separately within disciplinary groups. Base salary = academic year salary (includes those whose titles carry calendar year salaries; e.g., chair, dean); Full salary = base salary plus discretionary summer salary (dean-provided summer salary earned from July 1st through the following June). See text for details.

^bData withheld due to small n. Brackets ([]s) used for values based on fewer than 5 men or women.

Source: A&S Dean's Office

Table 6. PERCENTAGE RECEIVING DISCRETIONARY SUMMER SALARIES, BY YEAR, DISCIPLINE GROUP, AND SEX, AY 1999-2000 OR AY 2003-2004^a

	<u>Discretionary Summer Salaries^b</u>						
	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Total A&S Faculty	8.9	10.8	11.4	10.3	10.4	12.8	13.4
Male	9.9	11.8	12.1	11.2	11.6	13.8	15.2
Female	5.8	7.9	9.5	8.1	7.7	10.0	9.1
Humanities	12.3	13.1	9.1	7.3	7.7	9.7	10.5
Male	14.4	15.0	10.5	8.8	9.5	12.4	13.1
Female	9.1	10.1	7.1	5.4	5.4	6.3	7.2
Social & Behavioral Sciences	8.4	9.4	10.5	9.9	11.6	13.8	11.0
Male	11.0	11.0	9.5	8.1	9.8	13.0	12.2
Female	1.8	5.6	13.0	13.8	15.5	15.5	8.6
Life, Math. & Physical Sciences	6.3	9.7	14.0	13.0	12.0	14.6	17.2
Male	6.8	10.3	14.4	13.8	13.4	14.9	17.5
Female	2.7	5.4	10.8	7.5	2.5	12.5	15.0

^aData on 1998 through 2000 available for A&S faculty in residence AY 1999-2000; data on 2001 through 2004 available for A&S faculty in residence AY 2003-2004.

^b"Discretionary summer salary" refers to salary received in June, July, or August of indicated year (from state funding, internal grants, department, and central administration).

Source: A&S Dean's Office

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Table 7. PERCENTAGE RECEIVING OUT OF CYCLE MERIT OR RESEARCH ACCOUNT, BY DISCIPLINARY GROUP, RANK, AND SEX, AY 1999-2000 AND AY 2003-2004^e

<u>Discipline Group</u>	<u>AY 1999-2000</u>				<u>AY 2003-2004</u>			
	<u>Percentage Receiving:</u>				<u>Percentage Receiving:</u>			
	<u>Out of Cycle^b</u>		<u>Research Acct.^c</u>		<u>Out of Cycle^b</u>		<u>Research Acct.^d</u>	
	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>
<u>Total A&S Faculty</u>	<u>6.8</u>	<u>9.2</u>	<u>35.3</u>	<u>25.9</u>	<u>11.0</u>	<u>14.0</u>	<u>38.8</u>	<u>30.7</u>
<u>Humanities</u>	<u>7.1</u>	<u>15.7</u>	<u>48.5</u>	<u>50.3</u>	<u>10.8</u>	<u>20.4</u>	<u>53.2</u>	<u>62.0</u>
Assistant Professor	0.0	5.0	53.8	25.0	3.7	4.8	22.2	19.0
Associate Professor	11.8	4.9	41.2	41.5	10.5	20.0	68.4	73.3
Full professor ^e	7.9	23.1	52.6	60.4	15.2	25.4	58.7	67.6
<u>Social & Beh. Sciences</u>	<u>5.6</u>	<u>9.5</u>	<u>27.8</u>	<u>31.4</u>	<u>10.3</u>	<u>13.8</u>	<u>32.8</u>	<u>35.0</u>
Assistant Professor	4.5	0.0	40.9	26.3	7.7	0.0	15.4	8.3
Associate Professor	5.3	16.2	15.8	21.6	16.7	12.1	43.3	27.3
Full professor ^e	7.7	8.8	23.1	36.2	0.0	16.9	26.7	42.9
<u>Life Sciences</u>	<u>7.7</u>	<u>2.0</u>	<u>15.4</u>	<u>6.1</u>	<u>14.3</u>	<u>15.2</u>	<u>7.1</u>	<u>13.0</u>
Assistant Professor	[0.0]	0.0	[0.0]	0.0	[33.3]	33.3	[0]	0
Associate Professor	[0.0]	6.2	[25.0]	6.2	0.0	11.8	0	17.6
Full professor ^e	16.7	0.0	16.7	8.3	16.7	10.0	16.7	15.0
<u>Math. & Physical Sciences</u>	<u>8.3</u>	<u>6.1</u>	<u>8.3</u>	<u>9.3</u>	<u>11.5</u>	<u>9.9</u>	<u>7.7</u>	<u>12.6</u>
Assistant Professor	[0.0]	0.0	[0.0]	0.0	0.0	0.0	0	0
Associate Professor	[25.0]	3.0	[0.0]	6.1	[25.0]	10.5	[0]	2.6
Full professor ^e	6.2	7.8	12.5	11.7	12.5	11.0	12.5	16.6

^aIncludes all faculty with current (AY 1999-2000 or AY 2003-3004) salary. Instructors are included in disciplinary averages, but not separately within disciplinary groups.

^b% Receiving Out of Cycle Merit = percentage ever receiving out of cycle merit increase while faculty member.

^c% Receiving Research Account = ever receiving research account during 1998-2000 period.

^d% Receiving Research Account = ever receiving research account during 2001-2004 period.

^eIncludes all full, senior, and special professors. Note: Brackets ([]'s) used for values based on fewer than 5 faculty.

Source: A&S Dean's Office