

The Burden of Invisible Work in Academia: Social Inequalities and Time Use in Five University Departments

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Despite an increase in the number of Ph.D.s earned by women and faculty of color in recent decades, they are less numerous among faculty at U.S. colleges and universities. This scarcity is most pronounced at the level of full professor. Why are women and faculty of color not reaching the upper levels of academia? Previous research in the cultural taxation literature suggests that women and faculty of color experience heavier service burdens than their white male colleagues. In order to examine whether a heavier service burden could be at the root of the “leaky pipeline” from Ph.D. to full professor among women and faculty of color, we recruited faculty in five departments at a large research university to record their daily tasks in time-use journals during two different weeks in a 10-week quarter. Our analysis of these journals provided mixed results with regard to gender, but pointed to important differences with regard to other axes of inequality. Specifically, we found that faculty of color, queer faculty, and faculty from working class backgrounds together spent a disproportionate amount of their time on the “invisible” work of academia, leaving them less time for the work that matters for tenure and promotion.

Keywords: higher education, gender, division of labor, race, faculty, class, sexuality

At the beginning of the 21st century, women and faculty of color in most academic disciplines are earning Ph.D.s in much larger numbers and proportions than they were 20 to 30 years ago. In some disciplines, more women than men are earning Ph.D.s. However, women and faculty of color are not as well represented as white men among tenure-track faculty. This gender and racial imbalance is most pronounced at the full professor level (Britton 2010; Marschke et al. 2007; Monroe and Chiu 2010; West and Curtis 2006).

Why are women and people of color leaking out of the academic pipeline? Here we explore

one process that may contribute to this outcome: differences in the organization and use of time, specifically with regard to cultural taxation and the “invisible work” of academia. Through collecting data in the form of detailed time use journals from faculty members at a large research institution, we were able to compare differences in the specific activities in which faculty from a variety of social locations and identities reported engaging during a typical work day.

We locate our analysis within the cultural taxation literature that suggests that faculty of color experience increased expectations to address diversity-related departmental business (Joseph and Hirshfield 2011; Padilla 1994) and the theoretical perspective that social processes

**Acknowledgements: The authors wish to thank the University of Oregon’s Center for the Study of Women in Society, especially Carol Stabile, for their generous support of our work. SSFN-RIG members Yvonne A. Braun, Patricia Gwartney, Jocelyn Hollander, Eileen Otis, Aliya Saperstein, and Ellen K. Scott also contributed to this project. Special thanks to Dana M. Britton for feedback on an early draft and to the anonymous reviewers for their comments. An earlier version of this article was presented at the American Sociological Association’s Annual Meeting in Las Vegas, Nevada.*

and institutions are deeply gendered and feminize male faculty of colors' work (Acker 1990, 2006; Ashcraft and Mumby 2004; Espiritu 1997; Gherardi and Poggio 2007). Our research addresses a lacuna in the cultural taxation literature that contends that women and faculty of color experience heavier service burdens than their white male colleagues. Our findings suggest a need to further investigate the service burdens of other marginalized social locations, such as queer and working class identities, especially from an intersectional lens. In this paper, we examine the differences in time allocation that may affect career outcomes based on gender, race, ethnicity, sexuality, and class background, specifically regarding differences in time devoted to academic activities such as teaching, research, advising, and service.

Literature Review

Gendered Institutions

Gender scholars have long noted that social processes and institutions are deeply gendered (Acker 1990, 2006; Ashcraft and Mumby 2004; Gherardi and Poggio 2007). These gendered divisions of labor span multiple spheres: between domestic (usually unpaid) and non-domestic (usually paid) work, the gender segregation and stereotyping of jobs, allocations of societal and organizational power, gendered expectations in work organizations and other social arenas, and images of gender-adequate behaviors and appearances (Britton 2010; Misra et al. 2010; Park 1996). Gendered processes are often socially invisible and taken for granted.



Institutions of higher education are also gendered organizations. Historically, universities have been male-dominated, with clear images of the “professor” as a learned man with no obligations aside from his scholarly and university tasks. This male professor image is an example of the ideal unencumbered worker (Acker 2006). The image of this unencumbered worker has had implications for what type of work is valued in the academy and what is not. Tasks that are typically coded as feminine—the care work of dealing with students, the administrative tasks of running departments, organizing meetings and social events, and serving on university committees—are typically less valued than the work that leads to research publications and grants. This difference in the value of certain work over other types has long been reflected in the criteria for tenure and promotion.

One result of the gendered academy is a phenomenon known as the “leaky pipeline.” This refers to the gradual drop-out of women and faculty of color at each stage in the academic hierarchy. As previously noted, large numbers of women *enter* the academic pipeline. Graduation rates of women outnumber those of men at the undergraduate level, and the percentage of women earning graduate degrees is almost equal to that of men (Monroe et al. 2008; Monroe and Chiu 2010; vanAnders 2004). However, as women move up the academic ranks, they become less and less represented. Overall, women comprise little more than a quarter of tenured faculty in U.S. four-year colleges and universities. While women represent 51 percent of non-tenured instructors and lecturers, they represent about 46 percent of assistant

professors, 36 percent of associate professors, and only 21 percent of full professors (American Association of University Women 2004; Monroe and Chiu 2010; West and Curtis 2006). This trend is particularly notable at research universities and is a pattern across nearly all disciplines.

Gender is not the only site of inequality within the academy; faculty of color also drop off at every level in the process toward tenure. White faculty make up almost 90 percent of associate and full professors, and their proportion increases as they move up the ranks. For faculty of color, however, their proportion diminishes as they move up the ladder of academia (American Association of University Women 2004).

Many scholars have theorized the reasons for these problems. One explanation for women's low mobility is that this process begins in childhood, when women are socialized out of fields like science and technology, and that this continues throughout the academic procession towards full professorship (Light 2009; Pell 1996). Although it can be argued that overt sexism and gender discrimination are waning, some research suggests that institutionalized beliefs based on gender stereotypes continue to disadvantage women in hiring and promotion practices (Roos 2008; Valian 2004). Others point to the "chilly climate" for women in academia. When expectations for promotion are unclear, when colleagues appear distant, and when sexist behavior permeates the workplace, women faculty tend to feel isolated or threatened (Alemán and Renn 2002; Anonymous and Anonymous 1999; Britton 2010; Denker 2009; Hall and Sandler 1982; Roos 2008; Winkler 2000). These "gnatlike" problems are not necessarily extreme enough to warrant harassment suits, but they include micro-level interactions such as not inviting women to social gatherings, making sexist jokes, or students and colleagues referring to women as "Ms." rather than their professional titles (Krefting 2003). In addition to institutionalized sexism and the "chilly climate" for women in the academy, the

studies have also documented that there is a lack of mentorship and networking opportunities for women. Because there are so few women at the highest rungs of the academic ladder, it is difficult for women to form meaningful groups to provide support, resources, and advice about negotiating the institution (Alemán and Renn 2002; Britton and Logan 2008; Light 2009; Misra et al. 2010; Pell 1996; Roos 2008; Søndergaard 2005).

Similar patterns can be seen among faculty of color. Patricia Matthew's 2016 edited volume, *Written/Unwritten: Diversity and the Hidden Truths of Tenure*, reveals the ways that faculty of color are often held to higher standards than their white colleagues with regard to expectations for tenure and promotion. These standards are often unwritten and continually changing for faculty of color. Furthermore, Pittman (2012) finds that African American faculty regularly experience microaggressions in the academy, including "microinvalidations with White colleagues and microinsults with White students" (p. 81). These microaggressions have been found to have a significant emotional toll on those on the receiving end (Davis 1989). In addition, a study by Constantine et al. (2008) demonstrates that African American faculty do not receive adequate mentorship in the academy and often feel that their credentials are challenged.

Invisible Work

While all of the previously-discussed reasons contribute to the disappearance of women and people of color from the higher ranks of academia, we argue that one more aspect should be further examined: the invisible work of academia. It is widely accepted that there are various types of work that must be done within the institution of the research university, including research, administration, teaching, advising, and service. But it is also widely recognized that these five components—all of which are necessary—are not valued or rewarded equally.

As noted above, like other institutions, higher education is a gendered institution. One key aspect of gendered institutions is differential reward structures. Teaching and service are often seen as more “feminine” activities, entailing service to others. Research and administration, in contrast, are often seen as more “masculine” because they demand innovation and leadership. The reward structure of the academy assigns greater value to these more “masculine” activities. These tenure systems emphasize individual achievement over group achievement and thus, spending more time on “masculine” work consequently earns higher rewards within the academy (Denker 2009).

One example of the invisible work taken up by women and faculty of color is the work of making the academy a better place. As institutions are increasingly confronted with the leaky pipeline, they must take steps to better understand and alleviate the problem. Potential solutions might include researching and writing official reports, creating and serving on committees and task forces, and increased mentoring (Light 2009). Not surprisingly, this work is most often taken up by those who are already the most disadvantaged. All of this work is undervalued and, according to Bird, Litt, and Wang (2004), can actually hinder one’s chances at promotion: “Indeed, faculty who devote considerable time to service work are likely to be penalized in their efforts to achieve tenure and promotion” (p. 199). Meanwhile, those individuals unbounded by institutional barriers (racism, sexism, or homophobia) are free to pursue more highly rewarded work (Bird et al. 2004; Moore et al. 2010).

Another notable component of this invisible work is the “care work” associated with teaching, mentoring, and advising—the meetings with students, reading and commenting on drafts of papers, writing letters of recommendation, forwarding research or job opportunities to advisees, and providing general advice. All of these activities are hidden under the category of “teaching,” “chairing,” or “advising.”

Much like the invisible work in the academy, women are also responsible for more of the invisible work at home. On average, because women have more responsibilities at home than men, women actually work more hours than men. The overall structure of society dictates that women should be caregivers, thus, they take on the burden of the “second shift.” Reproduction of the household still usually falls on women (Hochschild and Machung 2003; Misra et al. 2010). This inequity combined with a “winner takes all approach” in academia encourages faculty to work longer hours and publish more, making it especially difficult for women in the academy who are trying to balance their family and professional lives (Britton 2010; Hunter and Leahy 2010). Because nearly all female full-time faculty members have partners who also work full time, female professors raising children are confined to their children’s schedules, which means that research time is limited (Jacobs 2004). The after-hours spent as a researcher are gone—evenings and weekends are not easily set aside as research time anymore (Thomas 2005). Women who decide to marry and have families are penalized in academia, whereas the opposite is true for men—married women are paid less and are also less likely to have tenure while married men are paid more and are more likely to have tenure, even though women are just as productive as their male counterparts (Toukoushian 1998). Women’s disproportionate responsibilities within the family in conjunction with their larger share of undocumented care work within the academy, namely teaching, mentoring, and service, means that women likely have less time for the things that really “count” for tenure and promotion at research institutions, namely research, publishing, and grant-writing.

Cultural Taxation

It is not just women who experience the burden of invisible work. The term cultural taxation, coined by Amado Padilla (1994), refers to the increased burden faculty of color

experience to address diversity-related departmental and university issues (Banks 1984; Joseph and Hirshfield 2011; Padilla 1994). Cultural taxation may manifest itself in a variety of ways, including expectations that faculty of color will serve on diversity committees, advise students of color, and give public lectures on diversity. Faculty of color may also be called upon to speak for their race or other minorities in faculty meetings (Griffin, Bennett and Harris 2011, Hollenshead and Thomas 2001; Shavers, Butler and Moore 2014). In addition to the added diversity work, faculty of color are expected to teach the same course load and have the same research obligations as their white peers. Because women and faculty of color spend disproportionate amounts of time in service and mentoring around issues of diversity, they are often missing out on opportunities for professional socialization that can help advance academic careers and they also have less time for more highly rewarded academic activities (Shavers et al. 2014).

In addition to the professional sacrifices faculty of color make in service to the university, they are also faced with the personal sacrifice of mental and physical health. Faculty of color report incidents of colleagues questioning their merit, a lack of comradery in predominately white institutions, and a delegitimation of certain research interests and methods (Joseph and Hirshfield 2011; Padilla 1994). These persistent slights create a “double doubt” (Griffin et al. 2011) where faculty of color feel both an internalization of not being good enough and external pressures to do more and be twice as good as white colleagues. Faculty of color experienced more stress and anxiety, and a loss of sleep as a result of this unequal burden (Joseph and Hirschfield 2011).

The expectations for diversity-related service work are magnified for women of color who experience marginalization based on both gender and race. Griffin, Bennett and Harris (2011) found that while quantitative data pointed to no statistical difference in time commitments

between male and female faculty of color, the qualitative experience of this work is definitively gendered. For instance, black female faculty mentioned more personal relationships with students of color whereas black male faculty characterized their relationships with students in purely academic terms. The authors surmise that mentorship that incorporates personal development as well as academic advising occupies more emotional energy and is more stressful than strictly professional advising. There is also a difference in how male and female faculty of color view the importance of service work related to diversity issues. While male faculty characterized committee work as “standard,” “voluntary,” or as an obligation to be deferred, female faculty rarely mentioned refusal to engage in service work and voiced concerns that without their participation on committees, issues relevant to people of color would be neglected (Griffin et al. 2011).

While these examples demonstrate some important intersections of race and gender identities, they also raise a bigger question about *why* faculty of color continue to make the significant professional and personal sacrifices that come along with spending time on academic service. Part of the motivation is certainly extrinsic. Like all faculty members seeking tenure or promotion, faculty of color fear that declining requests for service work will reflect negatively on their case for advancement. This risk is compounded, however, for faculty of color who, by virtue of their racial identities, do not fit the popular image of a college professor. Persistent racism and sexism in the academy, and society at large, can certainly affect the way colleagues view faculty of color’s “fit” and collegiality within the institution (Griffin 2013). In other words, the negative repercussions of declining invitations to participate in service activities may be intensified for those who are already marginalized from the academy.

Though there is certainly external pressure to participate in service work, faculty of color also consistently report intrinsic motivation for this

type of work. Mentoring junior colleagues or students of color, working on committees to address racial troubles on campuses, and giving public lectures related to diversity issues can give faculty of color a chance to “give back” to marginalized communities, ameliorate feelings of isolation, and give faculty of color energy and a sense of purpose (Baez 2000; Griffin 2013; Shavers et al. 2014). In this way, “race-related” service work opens up the possibility for “critical agency”. In other words, by breaking the informal rules about spending “too much” time on service, faculty of color are challenging the prevailing norms about merit and what makes a “good” academic. By participating in diversity-focused service work, faculty are providing an essential service to their racial or ethnic communities and to their own self-concepts, but they are also challenging the underlying assumptions of advancement in the academy. This transformative practice “presents the possibility of redefining existing structural barriers for traditionally subordinated groups” (Baez 2000:387). In sum, though faculty of color are culturally taxed based on their racial (and sometimes gender) identity, this invisible work may provide both individual and institutional benefits.

In this study, we sought to examine whether part of the story explaining the “leaky pipeline” for women and faculty of color related to the invisible work that is done—the work that does not “count” for tenure, merit increases, promotion, or much respect. Do marginalized faculty bear more of the burden of invisible work than white men? Are there other aspects of social location, such as class background and sexual orientation that may also be significant factors? In order to answer these questions, students and faculty members of the Social Science Feminist Network Research Interest Group at the University of Oregon initiated a time-use study, examining how faculty

in multiple disciplines across the academy use their time.

Research Methods

This collaborative research project emerged within a feminist reading group in the fall of 2007 at the University of Oregon. Various members of the Social Science Feminist Network Research Interest Group (RIG)¹ took on different tasks within the project, such as writing the Human Subjects protocol, writing a grant to the Center for the Study of Women in Society at the University of Oregon, recruiting participants, developing the research instruments, coordinating the data collection efforts, and writing the results. The subject of the burden of invisible work in academia both piqued our collective interests and was researchable in a collaborative environment. We determined the best way to assess this would be through analyzing time journals kept by tenure-track faculty members at a research university. The RIG conceptualized the study to assess time spent on invisible activities and to examine whether members of certain marginalized groups—women, people of color, LGBTQ individuals, and those from a working class background—spend more time engaged in “invisible” tasks than individuals inhabiting more privileged social locations.

We chose the University of Oregon as our research site. The University of Oregon is one of the 34 public institutions among the Association of American Universities and has a “high” Carnegie Research ranking. Within the university we selected six departments representing a range of disciplines that might affect time use—two from the social sciences, two from the natural sciences, and two from the humanities. Other selection criteria were that the departments be similar in size, and include tenure-track women¹ faculty.

¹ Our initial project was focused on studying the invisible work of women faculty; it was only through our data analysis that we saw the importance of examining other

axes of inequality. Thus, our selection criteria reflect this earlier focus.

We contacted department chairs and asked for their support on the project. Five of the six departments agreed to participate: Anthropology, Economics, Romance Languages, Philosophy, and Chemistry. Four of the five participating department chairs allowed us to present the project during a faculty meeting in the fall of 2008. For the remaining department, we handed out flyers to faculty members and set up a “question and answer” period where RIG members were on hand to answer questions and explain the project. RIG members presented a 15-minute Power Point talk during faculty meetings to explain the project to potential faculty recruits. Members presented the focus of the project as attempting to reveal the amount of time faculty spent engaged in various types of labor. They expressed that this project was particularly timely, given the work speed-up that was taking place within the university, such as increasing class sizes and numbers of advisees. After describing the rationale for the project, faculty were instructed on the procedure for filling out a time-journal and were told how the RIG would keep their responses anonymous.

Data collection ensued at the beginning of the spring quarter, 2009. The first component was an initial demographic questionnaire, which respondents completed through an online survey site. Second, participants completed daily time journals during two different weeks in the spring 2009 quarter (weeks 3 and 8 of the 10-week term). We chose two weeks during the term in order to catch any outlier weeks which were abnormally busy or slow. We also selected weeks 3 and 8 because they represented more typical weeks during the term (i.e., not at the beginning, midpoint, or end of the term). Time journals were distributed in participating department mailboxes the Friday prior to the time journal weeks. We asked faculty to list every activity in which they engaged, both work-related and non-work-related. The form required respondents to list the start time of the activity, describe the activity, indicate any simultaneous activities, and note if

the activity occurred on campus and if the activity was shared with others (see Figure 1).

We included security envelopes with the time journals to ensure privacy, and we asked faculty to submit the daily time journals into a predetermined secure location in their home departments. Daily gifts of food and frequent email reminders were used to encourage faculty members to return their journals. Finally, we administered a follow-up questionnaire after the end of the second week of time journal collection. This open-ended questionnaire asked faculty to reflect on their experiences filling out the time journals. Questions included how they felt about the way they used their time and how they felt their use of time compared with their colleagues.

Following data collection, a four-member committee developed a coding scheme, first reading through a sample of time journals and then developing a list of activities that were commonly reported. The committee then refined the list through multiple iterations of sample coding. For the purposes of our analysis, we were interested in activities that fell under the work-related codes of time spent on research, teaching, advising, and service (to their departments, the University, the discipline, and the public). Not all work-related activities fit into these categories, however. We also encountered a number of other competing work demands, including professional relations, professional development, work-related email, and a category of tasks we termed “work reproduction” that include such things as returning library books, making photocopies, debugging one’s computer, and other such tasks. These also became work-related codes.

This inductively-generated coding scheme allowed the coding team to capture a variety of activities, facilitating the assessment of invisible work within the academy. Non-work related activities were also coded and divided into self-reproduction (e.g., showering or waking up), childcare, traveling, personal time, sleep, and household reproduction (e.g., making dinner).

After the coding scheme was created, a two-person coding team coded the time journals and questionnaire data line by line. The larger RIG collectively scrutinized the data and resolved initial discrepancies in inter-coder reliability before the full dataset was coded.

Descriptive statistics and cross-tabulations were run using STATA and Excel once the larger group finalized the coding of the data.

Results

The response rate across all disciplines was 29 percent. Participation was highest in the humanities (51 percent) and lowest in the natural sciences (9 percent). The social science departments averaged a 20 percent response rate. These low response rates were not unexpected, as we were asking professors to complete a

Figure 1. Sample Time Journal Entry

Time	Main Activity	Simultaneous Activities	On Campus?	Shared Task?
7:15	Wake up, Shower, Get Ready	Fed cats		
8:40	Ride bus to school	Read paper		
9:10	Check email, Read sports news		<input type="checkbox"/>	
9:15	Grade papers	Make phone call	<input type="checkbox"/>	
10:00	Class		<input type="checkbox"/>	
11:20	Talk to students	Organize papers	<input type="checkbox"/>	students
11:35	Responded to emails	Chatted with co-workers	<input type="checkbox"/>	Sue, Bill
11:55	Went out for lunch		<input type="checkbox"/>	Sue
12:55	Check email		<input type="checkbox"/>	
1:00	Read articles for literature review	Checked email	<input type="checkbox"/>	
3:00	Make copies for class	Discussed pedagogy	<input type="checkbox"/>	Russ (chair)
3:45	Entered grades on computer	Ate a snack	<input type="checkbox"/>	
4:00	Ride bus to grocery store	Graded papers		
4:30	Grocery shopping			
5:05	Walk home	Outlined lecture in mind		
5:15	Watched the news	Checked email		
5:30	Made and ate dinner			Jo (girlfriend)
6:30	Attended community meeting			Jo
8:00	Watched TV			Jo
11:00	Went to bed			
Comments: My girlfriend was sick so I left work early.				

significant amount of personal data collection, spanning two weeks. While we had a low response rate, our total number of respondent days is high, with 296 journal days, over 4,000 recorded activities, and over 395,000 recorded minutes. Thus, while our sample size was small, our data were rich.

The respondents were made up of 16 women and 10 men. The gender imbalance likely resulted from the higher participation within the humanities, where more women are employedⁱⁱ. Among the participants, one identified as Asian, and 25 identified as whiteⁱⁱⁱ. Of the individuals who identified as white, four listed that they were white/Jewish. Nineteen participants listed their sexual orientation as heterosexual, with six describing themselves as lesbian, gay, bisexual or queer. Finally, 19 of our participants grew up in middle or upper-middle class families while 7 identified their class background as lower-middle class, working-class, or poor.^{iv} Respondents were provided with closed-ended categories from which to choose when asked these questions.

Our analysis focuses on the four work-related activities of research, teaching, advising, and service, which are the tasks often considered to be the “activities of academia.” As noted above, previous studies suggest that women and faculty of color perform a disproportionate proportion of the less-rewarded and invisible labor within the academy. Invisible work includes the advising and mentoring of students, non-prestigious (often diversity-related) service work, and teaching preparation time. As such, we hypothesized that women, as a percentage of their total time, do more invisible work (advising, service, and teaching) than men at the same rank. Conversely, we hypothesized that men, as a percentage of their total time, do more visible work (specifically, research) than women at the same rank.

It is important to note that all faculty respondents typically worked full work days in addition to working most weekends and evenings. Overall, faculty reported working at least eight hours a day, seven days a week.

To compare time use across respondents, we took the total number of minutes for each respondent and used it as the denominator to assess what proportion of their reported time they spent doing a particular type of activity. This corrected for variation in number of days each respondent recorded. We used each respondent’s total awake minutes since there was some inconsistency in the way that respondents recorded sleep. Men recorded from 3,705 to 22,305 minutes of activities and women recorded from 8,975 to 20,470 minutes of activities. Men reported an average of 13,189 minutes and women reported an average of 16,479 minutes.

Few of the results presented below are statistically significant, which is likely due to the small sample size. However, we believe there are still important interpretations to be made from our findings.

Invisible Work–Teaching

Teaching, while arguably one of the main purposes of the university, is a form of invisible work required but often not rewarded in the tenure and promotion process. For the purposes of this study, “teaching” included all aspects of teaching, such as preparation, time in class, and grading. We hypothesized that women spend a disproportionate amount of time on teaching compared to men. Women recorded approximately 63 percent of the 38,360 overall teaching minutes and approximately 63 percent of the mentions. As indicated in Table 1 and Figure 2, we found that at the assistant and full levels, the men in our sample spent more time teaching than women at the same rank. At the associate level, women spent more time teaching than associate-level men. However, when comparing women and men who were teaching only one class, women spent significantly more time on teaching than men. These results are fairly inconclusive with regard to teaching, and none of the differences were statistically significant.

Invisible Work–Service

Service, as coded in this study, includes work to sustain the department, university, and discipline. Participant mentions of service work included department-level committee meetings to evaluate curricula, university-level goal development, or discipline-related article reviews or conference session organizing. Though service work in general is often regarded as invisible work, some forms of service, such as being department head or dean, are more highly regarded and rewarded. Here again, we hypothesized that women would spend more time on service than men at the same rank.

Women recorded approximately 65 percent of the 24,402 total service minutes and approximately 62 percent of all service related mentions. As Table 2 and Figure 3 reveal, we found that at the assistant and associate levels,

women spent a larger percentage of their awake time on service activities than men at the same rank. At the full professor rank, men spent more time on service than women. However, when deans and department heads (n=4) were excluded from the analysis, the gap at the full level narrowed substantially. Overall, women performed more service work on average than men; however, this finding was only statistically significant at the rank of Assistant Professor.

Invisible Work–Advising

Advising as coded in this study includes work with undergraduates, graduate students, and former students (alumni). Examples of advising noted in the time journals include meeting with undergraduates to prepare a senior thesis project, serving on dissertation committees, and writing letters of recommendation. We hypothesized that

Table 1. The average percent of awake time spent on teaching overall by rank

Rank	Men			Women		
	mean	std dev	n	mean	std dev	n
Assistant	14.15	3.97	3	12.25	2.36	3
Associate	2.94	4.16	2	7.60	7.45	5
Full	12.91	13.86	5	10.04	5.01	8
Total	11.29	10.51	10	9.69	5.49	16

Figure 2. The average percent of awake time spent on teaching overall by rank

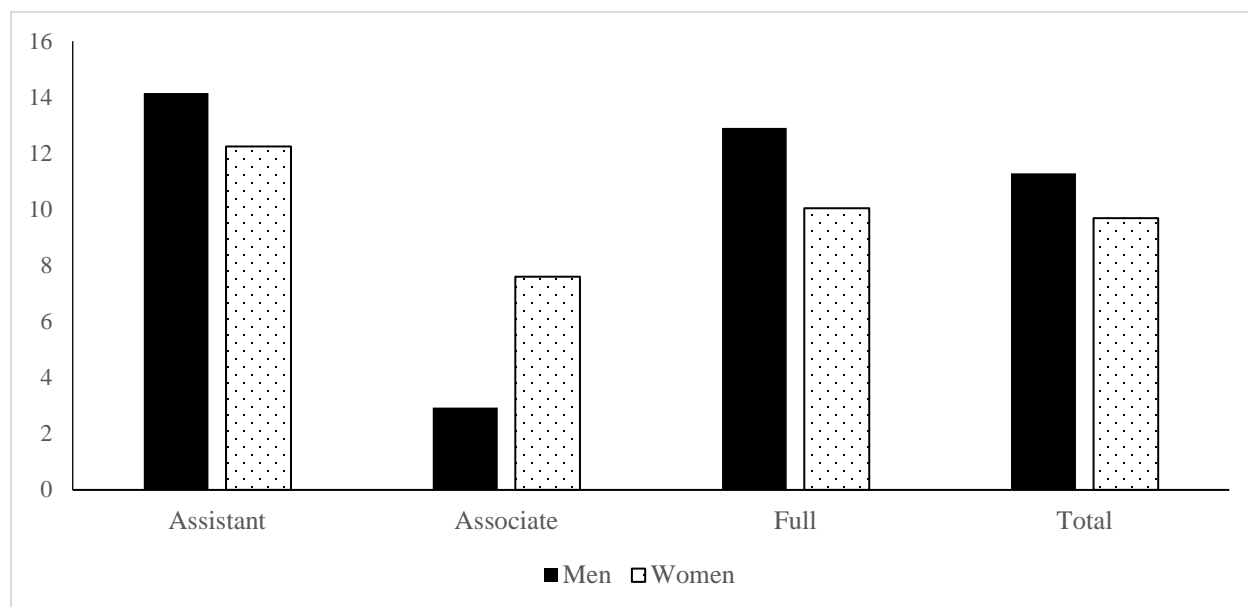
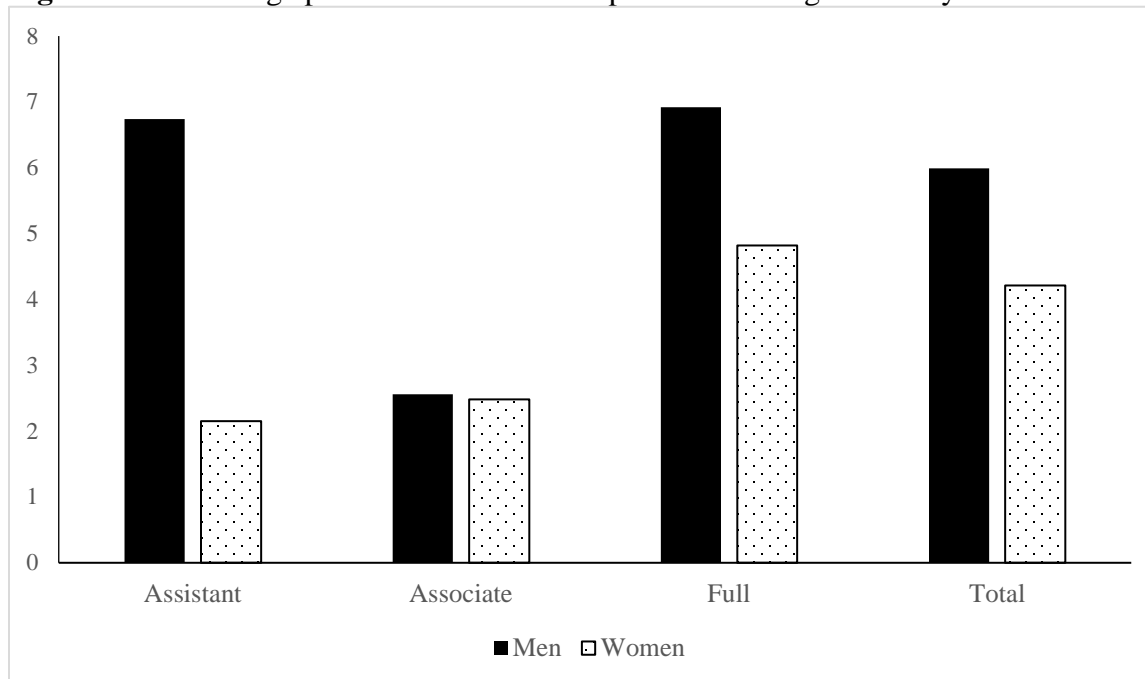


Table 2. Average percent of awake time spent on service overall by rank

Rank	Men			Women		
	mean	std dev	n	mean	std dev	n
Assistant	4.33*	3.1	3	6.87*	4.33	3
Associate	2.48	1.92	2	5.31	4.46	5
Full	8.40	0.16	5	5.41	3.17	8
Total	5.98	4.58	10	5.66	3.59	16

* $p < .05$ (two-tailed test)

Figure 3. The average percent of awake time spent on advising overall by rank

across all ranks, women would spend a larger percentage of their time on advising than men.

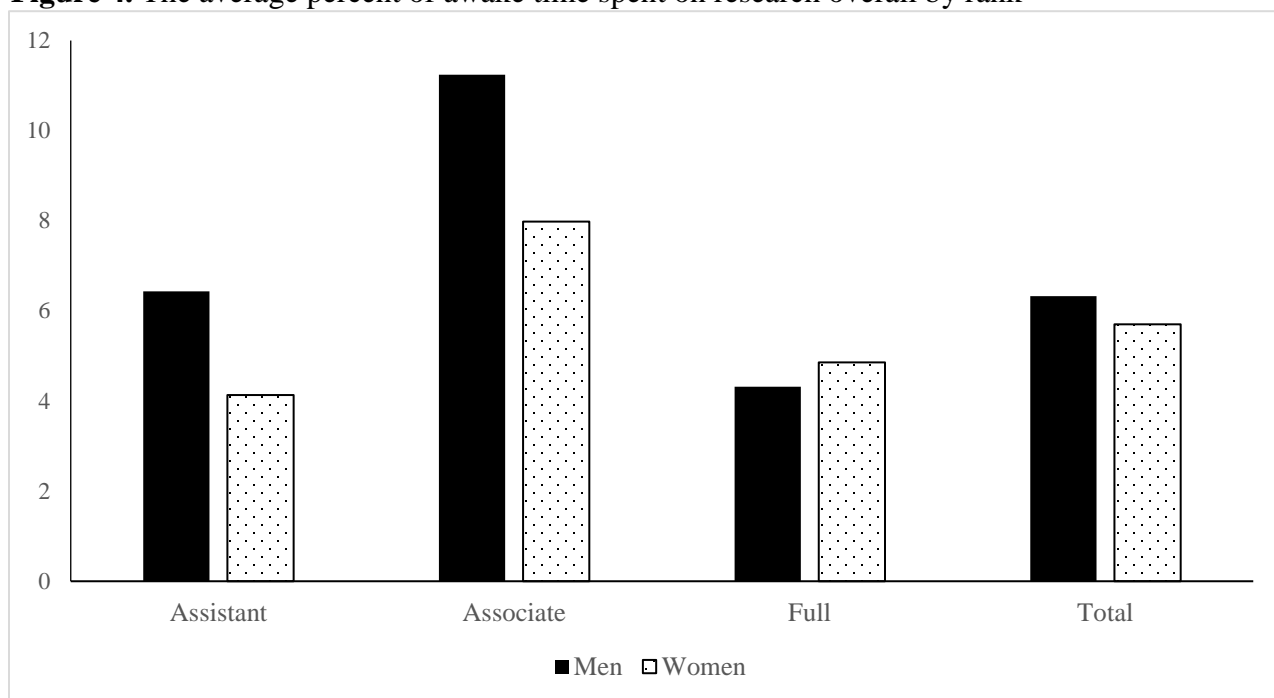
Women recorded approximately 59 percent of the 17,784 overall advising minutes and approximately 57 percent of the mentions. On average, men actually spent a larger percentage of their awake time on advising than women, across all ranks (see Table 3 and Figure 4). However, the differences between men's and women's average advising minutes was not statistically significant, except at the assistant professor level. We also examined differences by advising load.^v The above results did not change when comparing men's and women's average awake time spent on advising by advising load. Women spent more awake time doing

unspecified advising tasks (these were mentions that did not specify the type of advisee, but rather used "students"), except at the assistant level. However, men, at the assistant and full levels, spent more awake time advising graduate students. For both men and women, the percent of awake time spent advising undergraduate students is relatively small (less than 1 percent). The data do not support our initial hypothesis that women spend a disproportionate amount of time on advising than men at the same rank.

Table 3. The average percent of awake time spent on advising overall by rank

Rank	Men			Women		
	mean	std dev	n	mean	std dev	n
Assistant	6.74*	2.8	3	2.15*	0.6	3
Associate	2.56	0.68	2	2.48	3.6	5
Full	6.92	3.21	5	4.82	4.58	8
Total	5.99	3.11	10	4.21	3.79	16

* $p < .05$ (two-tailed test)

Figure 4. The average percent of awake time spent on research overall by rank

Visible Work–Research

Study respondents indicated that research is the most rewarded activity within the tenure and promotion process, a sentiment that is strongly supported in the literature on research institutions. Included in “research” are all aspects of the research process, such as data collection, analysis, reading background literature, and the actual writing of a manuscript. Because we hypothesized that women would be spending a larger portion of their time on the “invisible work” of academia than men, we also hypothesized that women would spend less of their time on research activities than the men in our sample.

Women recorded approximately 62 percent of the 14,465 overall research minutes and approximately 56 percent of the mentions. As hypothesized, at both the assistant and associate levels, men spent a higher percentage of their time on research-related activities (see Table 4 and Figure 5). However, the differences were not statistically significant.

The Marginalized Professor

The results of our data analysis provide mixed support for our research hypotheses. The men in our sample seem to defy traditional patterns of gendered work expectations within the academy. Specifically, they do more advising

and teaching. This unexpected result may be tied to the *types* of faculty who agreed to participate in this study—which was, of course, an example of invisible work.

However, these unexpected results did prompt us to take a more in-depth examination into variations in time-use among the men in our sample. Overall, men showed greater variation in the proportion of minutes they spent on the various types of work, as shown by larger standard deviations. This pattern is particularly noticeable in teaching and research. For example, in teaching (Table 3), the overall standard deviation for men is twice as large as women, suggesting greater within-group differences in reported time among men as compared to women. For time spent on research (Table 4), the standard deviation is also larger for men, especially at the associate level, where it is about three times larger than the standard deviation for women at the same level. This wide variation suggests there are some men that are doing disproportionate amounts of particular kinds of work compared to other men.

In order to further analyze this possibility, we created a category of “marginalized” faculty, which includes faculty of color, sexual minorities, and individuals from disadvantaged class backgrounds. Because we had such a small sample size, we were not able to examine specific axes of marginalization but instead put them together in one combined category. This category includes both women and men for a total of 14 respondents.

Marginalized individuals reported a total of 205,926 minutes (52 percent) and about 53 percent of all journal entries. Among women, marginalized women reported a total of 121,714 overall minutes (46 percent) and about 48 percent of all journal entries. Marginalized men recorded a total of 84,212 (64 percent) minutes and approximately 62 percent of all journal entries made by men. Marginalized faculty were evenly represented across fields (55 percent of the social sciences faculty were marginalized and 60 percent of the humanities faculty were

marginalized), with the exception of the Chemistry Department, which had no marginalized faculty participating in this study.

The results of our study indicate that non-marginalized faculty spent a disproportionate amount of their awake time on activities that count toward tenure and promotion while marginalized faculty spent more time on “invisible work.” For example, at the assistant rank, the average percent of awake time spent on research for non-marginalized professors was approximately four times the mean for marginalized professors (see Table 5). The average percent of awake time spent on service among marginalized assistant professors was also approximately four times the mean for non-marginalized professors. Thus, while non-marginalized assistant professors have more time to spend on research, an activity which is highly favored in the promotion and tenure process, marginalized assistant professors spend more time on service, an activity less favored in the tenure process and from which junior faculty are typically supposed to be “protected,” according to University of Oregon Promotion and Tenure Guidelines (2009). Furthermore, our data indicate that marginalized faculty who did make it through the “leaky pipeline” to the rank of full professor still ended up doing more than two times the amount of teaching than their non-marginalized counterparts.

Conclusion

Detailed time journals over a two-week period produced a rich view into the time use of university professors at a research institution. We initially expected that gender would be the most important factor in determining the distribution of invisible work, but our results did not support this conclusion as clearly as previous literature suggested. It appears that some of the men who participated in the study do a disproportionate amount of work that is not highly regarded in the promotion and tenure process.

Table 5. The average percent of awake time spent on activities by rank

	Non-marginalized			Marginalized		
	mean	std dev	N	mean	std dev	n
Advising						
Assistant	4.42	1.91	3	4.47	4.51	3
Associate	4.38	6.19	2	3.75	2.16	5
Full	4.62	3.30	7	6.80	4.92	6
Total	4.53	3.18	12	5.21	4.00	14
Teaching						
Assistant	11.76	0.45	3	14.64	4.20	3
Associate	7.16	10.13	2	5.91	6.44	5
Full	6.70*	5.79	7	16.32	9.69	6
Total	8.04	5.72	12	12.24	8.72	14
Research						
Assistant	8.46*	2.66	3	2.10	2.28	3
Associate	11.73	0.36	2	7.78	9.68	5
Full	5.83	4.75	7	3.28	3.42	6
Total	7.47	4.34	12	4.63	3.42	14
Service¹						
Assistant	2.68*	0.22	3	8.63	2.49	3
Associate	4.78	5.65	2	4.39	3.96	5
Full	6.02	3.34	5	5.46	3.74	3
Total	4.77	3.29	10	5.84	3.71	11

¹Service excludes Deans and Department Heads (N=4)

As noted earlier, work in the academy includes research, administration, teaching, advising, and service, but they are not equally valued. One method of plugging the leaky pipeline starts with making the invisible visible. The very nature of invisible labor means that the people who contribute their energies towards the institution are not seen, and neither is the impact of their labor. One strategy, then, is to begin to operationalize the impact of that invisible labor. For example, teaching and advising are central to student recruitment and retention. In an era where the academy is being defunded and institutions compete for students, faculty time that increases

student retention is monetarily valuable. Developing systems that link such labor with its economic value can validate faculty work and render this labor more visible. Furthermore, committee work devoted to diversity issues may reduce faculty and staff turnover and protect intuitions from costly legal battles. The work may be invisible, but it is nonetheless essential to the functioning of institutions. Given the nature of the academy, framing these issues using the business case for diversity may be an effective strategy for encouraging institutions to see, count, and reward these labors.

This work of making the invisible visible is illustrated in Brown University's Family-Friendly Scheduling Memo (2015) that gained national attention. In the memo, the Provost's Office recognizes that care work primarily falls to women and discusses the implications of scheduling events after the university's childcare center was closed. Villablanca et al.'s (2013) evaluation of the policies at University of California, Davis, School of Medicine found that these kinds of policies can be effective at keeping women in the pipeline if those policies were "fully integrated into an institution's culture such that faculty are both aware of them and willing to use them" (p.771).

Our results suggest that while it is important to examine disparities between men and women, and the impact of care work, it is also necessary to ask which men and which women are burdened with invisible work in the academy. Regardless of gender, it is easy to see how marginalized assistant professors leak out of the academic pipeline or have difficulty reaching the rank of full professor because their time is consumed with a disproportionate burden of service activities, leaving less time for research.

Much of the literature on academic inequalities has focused on gender as a primary organizing principle of work within the academy, but more needs to be done to understand the complex social locations that gendered people inhabit. The modern university system is multiply constituted by interlocking systems of domination and subordination such as race, class, gender, and sexuality (Collins 1993). In *Presumed Incompetent* (y Muhs et al. 2012), for example, the cultural taxation faced by women of color in the academy impacted every facet of their career, making it clear that there are no easy answers to creating equitable institutions. Further, there is little work on the cultural taxation of queer or transgender faculty, particularly those who are multiply marginalized. However, future research should seek to identify the specific challenges and needs of faculty who are marginalized by these various axes of

inequality. If we hope to plug the leaky pipeline, we must find ways to protect these faculty from bearing a disproportionate burden of the invisible work of academia.

The Social Science Feminist Network Research Interest Group is a non-hierarchical collaborative research group involving both faculty and graduate students in the social sciences at the University of Oregon. The group is loosely structured with two graduate student co-coordinators, a faculty advisor, and various faculty and graduate student members who participate in the group. Members on this project include: Miriam J. Abelson (co-coordinator 2010-2012, Portland State University); Joan Acker (University of Oregon); Shannon Elizabeth Bell (co-coordinator 2007-2009, University of Kentucky); Martha Camargo (University of Oregon); Sarah E. Cribbs (co-coordinator 2010-2011, Randolph-Macon College); Sue Dockstader (University of Oregon); Christina Ergas (co-coordinator 2009-2010, University of Tennessee); Nathan Erickson (Doane College); Elizabeth Miller (co-coordinator 2009-10, University of Oregon); Rob Molinar (University of Oregon); Ryanne Pilgeram (co-coordinator 2008-2009, University of Idaho); Stephanie Raymond (University of Oregon); Elizabeth Rienzi (co-coordinator 2005-2006, Humboldt State University); Katie Rodgers (Coe College); Liz Veazey (Consultant).

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ⁱ The Social Science Feminist Network RIG is a non-hierarchical collaborative research group involving both faculty and graduate students in the social sciences at the University of Oregon. During the research process, the group was loosely structured with two graduate student co-coordinators, a faculty advisor, and various faculty and graduate student members who participated in the group.

ⁱⁱ Women represent 37 percent of the tenure-track faculty at the University of Oregon. Women make-up 46 percent of the tenure-track faculty of the five sampled departments. Women represent 37 percent of the two social science departments, 63 percent of the two humanities departments, and 19 percent of the natural science department.

ⁱⁱⁱ Faculty of color represent 15 percent of the tenure-track faculty at the University of Oregon. Racial and ethnic

demographic data is not available by departments without imposing racial categories on faculty.

^{iv} Faculty were asked, "Looking back to your youth, what was the social class of the household in which you were raised?"

^v Participants were asked to specify how many students they currently mentored at each level (Undergraduate students (Honor's Thesis, McNair Scholar, etc.), Master's students (Thesis or Paper), Doctoral students (exam committee chair; exam committee but not chair; dissertation committee chair; dissertation committee but not chair), and Other (please specify)). The total number of advisees per respondent was then compared to the mean for all respondents to examine difference by advising load.