GENDERED AND RACIALIZED PERCEPTIONS OF FACULTY WORKLOADS

JOYA MISRA
University of Massachusetts, Amherst, USA
ALEXANDRA KUVAEVA
KERRYANN O'MEARA
DAWN KIYOE CULPEPPER
University of Maryland, College Park, USA
AUDREY JAEGER
North Carolina State University, USA

Faculty workload inequities have important consequences for faculty diversity and inclusion. On average, women faculty spend more time engaging in service, teaching, and mentoring, while men, on average, spend more time on research, with women of color facing particularly high workload burdens. We explore how faculty members perceive workload in their departments, identifying mechanisms that can help shape their perceptions of greater equity and fairness. White women perceive that their departments have less equitable workloads and are less committed to workload equity than white men. Women of color perceive that their departments are less likely to credit their important work through departmental rewards systems than white men. Workload transparency and clarity, and consistent approaches to assigning classes, advising, and service, can reduce women's perceptions of inequitable and unfair workloads. Our research suggests that departments can identify and put in place a number of key practices around workload that will improve gendered and racialized perceptions of workload.

Keywords: *gender; race; work; higher education; workload; equity; diversity; inclusion*

AUTHORS' NOTE: *This material is based upon work funded through the National Science Foundation ADVANCE-IHE Program, Grant 1463898. We are grateful to our many excellent colleagues who took part in this project, to the reviewers and editors for their helpful comments and suggestions, and to Courtney Jo Lennarz for her invaluable assistance. Correspondence concerning this article should be addressed to Joya Misra, University of Massachusetts, Amherst, Thompson Hall, 200 Hicks Way, Amherst, MA 01003, USA; e-mail: misr@soc.umass.edu*

GENDER & SOCIETY, Vol 35 No. 3, June, 2021 358–394
DOI: 10.1177/08912432211001387

Faculty workload inequities have important consequences for faculty diversity and inclusion. On average, women faculty spend more time engaging in service, teaching, and mentoring, while men spend more time on research (Bird 2011; Guarino and Borden 2017; Link, Swann, and Bozeman 2008; Misra, Lundquist, and Templer 2012; O'Meara 2016; Winslow 2010). This problem is exacerbated for faculty members from underrepresented minority groups, with women of color, including Black, Indigenous, Latina, and Asian women, facing particularly high workload burdens (Bird 2011; Espino and Zambrana 2019; Harley 2008; Turner, González, and Wong (Lau) 2011; Wood, Hilton, and Nevarez 2015). This division of labor leads to differences in career progression and retention, which maintains inequities in faculty representation. Where service and mentoring work is undervalued and research is more highly valued, white men are more likely to be promoted. Systematic inequities in workload have been linked to greater career dissatisfaction, as well as lower retention, and longer time to promotion (Bird 2011; Britton 2017; Misra et al. 2011; Misra, Lundquist, and Templer 2012). Indeed, faculty dissatisfaction with workload leads faculty members to plan to leave their faculty positions (Yedidia et al. 2014).

We focus on how faculty members perceive workload in their departments, identifying mechanisms that can help create greater equity and fairness. We explore whether faculty members think that workload is shared equitably in their departments, and whether they think that work is valued fairly by their department reward systems. We assess whether there are differences by race and gender, to further consider how race and gender intersect to shape faculty perceptions. We also analyze mechanisms that could lead to a stronger sense of equity and fairness, to identify strategies that can change conditions that lead to perceptions of inequitable workload and unfair valuing of differential workloads.

RACIALIZED AND GENDERED ACADEMIC WORKPLACES

Academic workplaces are increasingly diverse by gender, with women becoming a larger portion of the professoriate. There have also been slow improvements in diversity by race, although white faculty members and Asian men continue to predominate. Progress is either stalled or very slow for Black, Latinx, and Native American faculty members. The experiences of women of color have been understudied (but see Griffin and Reddick 2011; Hirshfield and Joseph 2012; Sambamurthy et al. 2016; Smith and Calasanti 2005; Turner et al. 2011; Zambrana 2018). Yet many universities

recognize that they must do more to create equitable and inclusive environments if they wish to not only recruit but also retain women faculty, including women of color (Britton 2017; Jackson 2004; Stewart, Malley, and LaVaque-Manty 2007; Stewart and Valian 2018; Zambrana 2018).

Organizations have racialized and gendered expectations of workers (Acker 2006; Ray 2019). The basic operating principles of universities, developed when faculty members were primarily upper-class white men, have not changed even as the faculty has become more diverse. Thus, the university has an "ideal worker" (Wolf-Wendel and Ward 2006), which reflects gendered and racialized stereotypes (Ridgeway 2011; Ridgeway and Correll 2004). In settings primarily populated by white (and Asian) men, white women and women of color may be disadvantaged in a variety of ways; leaders and colleagues may stereotype them as less intellectually gifted, or as undeserving by assuming that their inclusion reflects affirmative action programs rather than merit (Heilman 2001; Ridgeway 2011; Settles, Buchanan, and Dotson 2019). White women and women of color may be "redirected" into particular forms of work—for example, interdisciplinary programs or contingent jobs. Colleagues may expect women to do more emotional work with students, or faculty of color to do more diversity work for the institution (Hanasono et al. 2019; Hirshfield and Joseph 2012; O'Meara et al. 2017), leading to what has been called an "identity tax." These gendered and racialized ideologies are reflected in actual workload differences by gender and race.

Faculty workloads generally include scholarship, teaching, mentoring, and service to the institution as well as to the discipline and community (Guarino and Borden 2017; Mamiseishvili, Miller, and Lee 2016; Misra, Lundquist, and Templer 2012; O'Meara and Jaeger 2016; Seaberg 1998; Winslow 2010). At research-intensive universities, research is particularly highly valued; teaching is also a fairly widely recognized element of the faculty workload. Mentoring and service may be expected, yet not valued or rewarded. Pressure to carry out mentoring and service may reflect gendered and racialized biases (Gibbs et al. 2014; O'Meara et al. 2017).

Workload differences among faculty members by gender are widely reported (Hanasono et al. 2019; Misra, Lundquist, and Templer 2012; Seaberg 1998; Toutkoushian and Bellas 1999; Winslow 2010). On average, men spend more time on research; men may "protect" their research time more than women do, but leaders may further shield men from "less productive" forms of work (Link, Swann, and Bozeman 2008; Misra, Lundquist, and Templer 2012; Pyke 2011, 2015). Although time spent teaching is more comparable for men and women, women spend more

time mentoring and advising students, which reflects gendered expectations from leaders, colleagues, and students themselves (El-Alayli, Hansen-Brown, and Ceynar 2018; O'Meara 2016; O'Meara et al. 2017). The additional investment of women faculty into advising and mentoring may affect perceptions of fairness and thus satisfaction.

There are similarly important gendered disparities in how faculty members engage in service (Guarino and Borden 2017; Hanasono et al. 2019; O'Meara et al. 2017). Generally, faculty members tend to perceive service as less fulfilling and less valued than other types of work (Welch and Jha 2016). Widely visible disciplinary or university leadership positions may be valued but carried out more frequently by men. Everyday service work in departments and colleges, despite its critical importance, is less valued and tends to be carried out by women (Bird 2011; Bird, Litt, and Wang 2004; Guarino and Borden 2017; Valian 2004). Women may either fear penalties or actually be penalized for saying "no" to service work (Babcock et al. 2017; El-Alayli, Hansen-Brown, and Ceynar 2018; Mamiseishvili and Lee 2018; O'Meara et al. 2017; Pyke 2015). Disparate workload may result in an "ivory ceiling" that is similar to the "glass ceiling," with women finding it more difficult to advance in their academic careers (Misra et al. 2011).

These processes are exacerbated for women of color, because faculty of color often engage in more teaching, mentoring, and service, which may negatively impact their research time (Gibbs et al. 2014; Griffin and Reddick 2011; Hanasono et al. 2019; Harley 2008; Hirshfield and Joseph 2012; Jones, Hwang, and Bustamante 2015; Joseph and Hirshfield 2011; Seaberg 1998; Turner 2002; Turner et al. 2011; Wood, Hilton, and Nevarez 2015). Students of color often gravitate toward faculty of color for mentoring and support (Griffin and Reddick 2011; Harley 2008; Jones, Hwang, and Bustamante 2015). Women of color may thus face unusually intense mentoring workloads (Gibbs et al. 2014; Griffin and Reddick 2011; Hanasono et al. 2019; Turner 2002). Women of color also often engage in diversity work, though this work tends to be undervalued through university rewards systems (Griffin and Reddick 2011; Hirshfield and Joseph 2012; Joseph and Hirshfield 2011; Turner 2011).

Working with others to serve students, the institution, and the community can be meaningful work (Bird, Litt, and Wang 2004; Turner 2002). Yet if this work is not valued by the university in making personnel decisions, it nevertheless can also have negative impacts on these faculty members. Thus, if workload is unevenly distributed for women of color—who then have less time to spend on more highly valued activities such as

research—this has important material effects on the retention and promotion of women of color (Griffin and Reddick 2011).

Perceptions of Workload Equity and Evaluating Workload Fairly

We focus on perceptions of workload equity and evaluating workload fairly. By *workload equity* we mean whether faculty members perceive the distribution of workload in their department to be equitable. Workload equity addresses whether faculty members feel that the overall workload is distributed fairly, or whether certain faculty members are asked to do more than their share. By *evaluating workload fairly*, we mean whether faculty members perceive that the most important work that they do within the university is valued through their department reward system. Evaluating workload fairly addresses whether faculty members feel valued for the work that they do—for example, if women of color are rewarded when carrying out diversity work. Perceptions of workload equity are strongly related to job satisfaction, which is linked with retention in academic jobs (Bozeman and Gaughan 2011; Daly and Dee 2006). We conceptualize four groups: white men, men of color, white women, and women of color, though previous research does not allow us to make clear hypotheses about men of color. Because of data limitations, we include Asians among faculty of color; we point to differences among Asians and Latinx, Black, and Indigenous faculty whenever possible.

Theory on equity reflects the idea that "the rewards people obtain should be commensurate to the contribution they make, that is to their deservingness" (Sigel 1992, 340). Those who recognize that they receive negative inequitable outcomes (e.g., being under-rewarded for their work) experience distress; those who receive positive inequitable outcomes (e.g., being over-rewarded for their work) may experience these outcomes as fair by rationalizing them even if they do not realize they are doing so (Cook 1975; Cook and Hegtvedt 1983; Sigel 1992). Research further suggests that women are more conscious of and concerned about equity (Cook and Emerson 1978) and may feel resentment as well as distress when they perceive that they are being treated inequitably (Sigel 1992). Given that existing research indicates that white women and women of color do, on average, more advising and service work than white men, the literature on equity leads us to expect:

Hypothesis 1: White women and women of color will be less likely than white men to view their department as having equitable workloads and being committed to equitable workloads.

We explore whether white women and women of color are less likely than white men to perceive their departments as distributing workload equitably and being committed to equitable workloads.

Distribution rules refer to how a set of outcomes are allocated through a system, as related to evaluation, as well as statuses such as seniority, skill, and other factors (Cook 1975). Fair distribution rules might expect that faculty members have comparable workloads, adjusting for rank and position, and are evaluated accordingly. The social-psychological literature further notes that equity has both structural and normative consequences (Cook and Hegtvedt 1983). An unfair workload may not only mean different workloads, but that some work is devalued or less recognized. Status expectations theory further points to how status beliefs, "shared cultural schemas about the status position in society of groups such as those based on gender, race, ethnicity, education, or occupation" (Ridgeway 2001, 637), may lead to differential evaluation of the work of members of certain groups. Thus, if white women and women of color in academia are encouraged to engage in different kinds of work, and then not rewarded for that work, faculty from these groups, then, may perceive that their workload is not fairly compensated through reward systems. Therefore, we explore whether faculty members feel valued by their colleagues.

Hypothesis 2: White women and women of color will be less likely than white men to view their department as evaluating workload fairly.

We explore whether white women and women of color are more likely than white men to perceive that their workload is not valued by departmental reward structures.

A range of other factors may be related to these perceptions of *workload equity* and *evaluating work fairly*. For example, these perceptions may vary according to institutional type, with faculty members at research-intensive institutions perceiving less equitable workloads and less fair evaluation of workload. Faculty members in larger departments may be more likely to perceive workload inequities, and less fair evaluation of workload, because of limited understanding of how each faculty member contributes to department workload. Rank may also matter; faculty members at the associate level tend to be most dissatisfied (Misra et al. 2011). Faculty members in departments with a higher proportion of women may find their settings to be more equitable concerning workload and how workload is valued. Disciplinary field may also shape perceptions, as STEM (science, technology, engineering, mathematics) departments may be particularly focused on rewarding research as opposed to teaching

and service (Austin et al. 2005). Thus, controlling for other factors that might shape faculty perceptions, we test whether race and gender are associated with how faculty members perceive workload equity and fair evaluation of workload in their departments.

Solving Workload Inequities: Transparency, Clarity, and Fair Assignment Protocols

We are interested in understanding whether departments can adopt practices that lead to fewer perceptions of workload inequities or devaluing of workload. Poor decision making is often driven by cognitive and social bias (Kahneman 2011; Ridgeway 2001, 2011). Thus, creating systems where faculty workload is based on informed decision making and discussion can help solve these inequalities (Kahneman 2011; Thaler and Sunstein 2009). We focus on three approaches to ensuring that faculty perceive more equitable and more equitably valued workloads: transparency, clarity, and fair assignment protocols.

Transparency in workload should increase trust among faculty members, facilitating perceptions of procedural and distributive justice (Bilimoria, Joy, and Liang 2008; Daly and Dee 2006; Norman, Avolio, and Luthans 2010). Transparency might mean that the department shares the lists of teaching and service assignments and compensation associated with these tasks, providing access to the information necessary to ensure a fair distribution and evaluation of workload. Where workload is very transparent (e.g., faculty members know their colleagues' workloads as well as their own), faculty members may perceive less inequity and greater fairness (Wilborn et al. 2013). Thus, we hypothesize:

Hypothesis 3: Faculty members who individually perceive greater transparency in workload in their departments will also perceive their departments as having more equitable workloads.

Hypothesis 4: Faculty members who individually perceive greater transparency in workload in their departments will also perceive their departments as evaluating workload more fairly.

We have stronger expectations for hypothesis 3 than hypothesis 4. Greater perception of transparency in workload may lead to a greater perception of equitable workload, but not to greater perception of fair evaluation. A transparent system may make the distribution of workload fairer but may have no impact on how the department values certain kinds of work.

Second, clarity in workload is related to transparency, but distinct, and refers to creating clear rules or benchmarking for how workload is to be

distributed and compensated. Bias is most likely to occur when there is ambiguity (Kahneman 2011; Ridgeway 2011). Lack of structure in decision making can lead to unfair evaluation of performance (Heilman 2001). Clarity also helps faculty members by developing a consensus on priorities for faculty time, clarifying expectations by, for example, rank, and compensation for particular types of workload (e.g., one course release for serving as undergraduate program director). Thus, we hypothesize:

Hypothesis 5: Faculty members who individually perceive greater clarity in workload in their departments will also perceive their departments as having more equitable workloads.

Hypothesis 6: Faculty members who individually perceive greater clarity in workload in their departments will also perceive their departments as evaluating workload more fairly.

We expect that greater workload clarity will be positively associated with perceptions of equitable workload and whether workload is evaluated fairly.

Related to both transparency and clarity are fair assignment protocols. In some departments, chairs simply assign teaching; in others, they consider faculty priorities when assigning courses (Olmstead 1993). Where service assignments are inconsistently managed, white women and women of color may end up with additional service (Babcock et al. 2017; El-Alayli, Hansen-Brown, and Ceynar 2018; Mamiseishvili and Lee 2018; O'Meara et al. 2017; Pyke 2011, 2015). Where faculty members are satisfied with their workloads and with workload assignment, faculty members may also believe that workloads are fairer and more equitable. Thus, we hypothesize:

Hypothesis 7: Faculty members who individually perceive fair workload assignment processes in their departments will also perceive their departments as having more equitable workloads.

Hypothesis 8: Faculty members who individually perceive fair workload assignment processes in their departments will also perceive their departments as evaluating workload more fairly.

We expect that perceptions of fair workload assignment protocols will have more positive associations with whether faculty members perceive their departments as having equitable workloads than whether they perceive evaluation in their department to be fair.

Finally, we expect that the race and gender effects on perceptions of workload equity and fair workload evaluation are mediated by transparency,

clarity, and satisfaction with teaching and service assignments. Thus, while we expect that white women and women of color will perceive less equity and fairness in workload and how workload is evaluated, we suggest that these racialized and gendered effects may disappear in departments with good practices around transparency, clarity, and fair assignments in workloads.

Hypothesis 9: White women and women of color will be comparable to white men, as individuals, in viewing their departments as having equitable workloads and being committed to equitable workloads, when they individually perceive their departments as having good practices regarding workload transparency, clarity, and fair workload assignment.

Hypothesis 10: White women and women of color will be comparable to white men, as individuals, in viewing their departments as evaluating workload fairly, when they individually perceive their departments as having good practices regarding workload transparency, clarity, and fair workload assignment.

Our focus is on faculty perceptions of workload equity and fairness in evaluating workload. These perceptions are important, insofar that faculty members are more likely to remain in academic positions if they are satisfied with their jobs; job satisfaction differs by race and gender (Bozeman and Gaughan 2011; Daly and Dee 2006; Rosser 2004; Seifert and Umbach 2008; Webber 2019; Yedidia et al. 2014). Faculty members who perceive that they are doing higher levels of service than their colleagues are less satisfied with their jobs (Kyvik 2013; Welch and Jha 2016), as are those who feel that their service work is not appropriately rewarded by their universities (Williams, Phillips, and Hall 2014). Therefore, we explore how faculty members understand their workload, through analyzing survey data from faculty members from departments in 22 colleges and universities. We focus on the question of whether white women and women of color differ from white men and men of color in their perceptions of equitable workload and fairness in evaluating workload. We further examine *mechanisms*—transparency, clarity, and effective assignments of teaching and service—that might reduce differential perceptions of equity and fairness in workload.

METHODS

Sample

We designed a cross-sectional survey to collect data needed to examine the research questions regarding workload inequities. We advertised our

National Science Foundation (NSF)–funded study of workload equity to public universities in three states. STEM departments (mathematics, natural sciences, engineering, computer and information sciences, and the social and behavioral sciences, as defined by NSF) could apply to take part in the study. In the second round, we also opened the study to a handful of non-STEM departments, primarily in humanities and fine arts. We received applications from 53 departments in 22 institutions: one baccalaureate institution, five master's, and 16 doctoral/research institutions, including one HBCU (historically Black college/university). The data reported in this paper are drawn from the initial survey, before any interventions. Survey invitations were sent out to 1,308 faculty members. Our data best represent STEM faculty members at master's level and doctoral institutions.

Of 1,308 invited faculty members who work in these 53 departments, 73.2 percent ($n = 957$) responded to the survey. This is an unusually high response rate for a faculty survey across multiple institutions. Those who did not fill out the survey do not appear to differ from other faculty in important ways, although fewer non-tenure-track faculty responded. Faculty members came from departments that had "applied" to take part in the project and may represent faculty in departments that are motivated to address faculty workload inequity—either because they are particularly fair-minded, or because they are in departments that need reform. Additionally, if we could survey faculty members who have since left the academy, the findings may differ.

Respondents varied by rank, gender, and race, which has implications for the research questions. Generally, the sample includes similar numbers of non-tenure-track faculty ($n = 176$) assistant professors ($n = 220$), associate professors ($n = 238$), and full professors ($n = 253$). While white men and white women make up the largest portion of the sample ($n = 384$ and 325, respectively), there are a reasonably large number of men and women of color ($n = 85$ and 72, respectively) in the sample as well, which allows us to consider how race and gender intersect. Faculty of color include those who identify as Native American, Black/African American, Latinx, Asian, and Multiracial. However, we were not able to further disaggregate into separate racial groups in the analysis due to small numbers, which is a limitation of this study. In particular, we had hoped to analyze Asians separately from Black, Latinx, and Indigenous faculty members, but this limited the statistical power too much. The 47 Asian men in the sample (composing 55 percent of the "men of color") appear more positive than white men in their perceptions, whereas the 27 Asian women

(composing 37 percent of the "women of color") appear more similar to Black, Latinx, and Indigenous women in their perceptions.

Measures

The dependent variables focus on faculty perceptions of workload equity, department commitment to workload equity, and fairness in evaluating workload. We measure faculty perceptions of workload equity through two separate measures: perceptions that "most people in our department feel that work is distributed fairly" and that "there is a strong commitment within our department faculty that workload be fair." We measure perceptions of fairness in evaluating workload through one measure: perceptions that "the most important teaching, mentoring and campus service work I do is credited within my department reward system." We measured each item using a 3-point Likert-type response scale. The higher the scores across the items, the stronger we assessed faculty perceptions of equity and fairness to be. Table 1 summarizes information about the dependent, independent, and control variables. More detailed information appears in Appendix Table A1.

The key independent measures are indices, made up of several different survey questions. To reduce data into meaningful composites, we conducted confirmatory factor analysis (CFA) (Hancock and Mueller 2013), confirming the way that survey items group together within our originally envisioned theoretical structure of latent factors. Following Comrey and Lee's (1992) approach in using cut-offs, we determined standardized item loadings on each latent factor and retained items with standardized loadings of 0.5 and higher (Table 1). Based on the CFA results, we created composite scales of three extracted latent factors, the key independent variables of transparency (Cronbach's alpha = 0.80), clarity (Cronbach's alpha = 0.72), and fair workload assignment (Cronbach's alpha = 0.75), which all show acceptable levels of internal consistency (George and Mallery 2016).

These indices of perceptions of transparency, clarity, and fairness with teaching and service assignments capture processes that may lead faculty members to feel that workload is treated equitably and evaluated fairly in their departments. Perceptions of transparency and clarity are measured as 1 = "No, not in place"; 2 = "Yes, in place but new"; and 3 = "Yes, in place for at least two years." Fair workload assignment is operationalized as a second-level construct encompassing variables of faculty satisfaction with their teaching, advising, and service workload, and assignment of

TABLE 1: Descriptive Statistics

Constructs[a] *Measuring Perceptions of Fairness, Transparency, and Clarity*	*Minimum Value*	*Maximum Value*	*Median*	*Mean*	*Standard Deviation*
I think most people in our department feel work is distributed fairly.	1.00	3.00	2.00	1.97	.79
There is a strong commitment within our department faculty that workload be fair.	1.00	3.00	2.00	2.15	.83
The most important teaching, mentoring, and campus service work I do is credited within my department reward system.	1.00	3.00	2.00	2.15	.85
Transparency	1.00	3.00	1.25	1.52	.65
Clarity	1.00	3.00	1.50	1.72	.60
Fair workload assignment policies	1.62	5.00	3.60	3.56	.65
	n	%			
Department size					
Small department	111	11.6			
Medium department	285	29.8			
Large department	561	58.6			
Institution type					
Bachelor's	30	3.1			
Master's	114	11.9			
Doctoral/research	813	84.9			
Percentage of women in department					
Low percentage of women	222	23.2			
Medium percentage of women	485	50.7			
High percentage of women	250	26.1			
Discipline					
Non-STEM	344	35.9			
STEM	613	64.1			

a. For the constructs, higher values indicate higher perceptions of fairness, transparency, and clarity depending upon the measure.

that workload. The level of satisfaction with these items was measured on a scale from 1 = "Very dissatisfied" to 5 = "Very satisfied."

To control for other institutional and departmental characteristics that may shape perceptions of workload, we included rank (lecturers, assistant professors, associate professors, and full professors), discipline (STEM and non-STEM disciplines), department size (small 0–15, medium 16–30, and large 31–60), institution type (baccalaureate, master's, and doctoral/research institutions), and percentage of women in the department (low 1–34 percent, medium 35–50 percent, high 51–100 percent).

Next, we ran multivariate regression analyses to reveal the effect of gender and race on dependent variables. In each table, the first model includes only the race and gender of the faculty member. In the second model, we add control variables, such as institutional and departmental characteristics. In the third model, we include the key independent variables. Our goal is to understand whether race and gender are associated with perceptions of workload equity and fair evaluation of workload and whether strategies of transparency, clarity, and fair workload assignment policies reduce these associations.

RESULTS

As illustrated by Figure 1, without controlling for any factors, men of color are more likely to see workload as fair, followed by white men, white women, and finally women of color. These positive perceptions of men of color reflect perceptions of Asian and Asian-American men, who make up the majority of men of color (men from URM [underrepresented minority] groups are not significantly different from those of white men). White women are less likely to view their department as committed to dividing work equitably and are less likely even than women of color to see the workload as equitable. Women of color, in particular, are less likely to view the important teaching, mentoring, and campus service work they do as valued in their departmental reward system (this is particularly true for URM women);[1] this reflects what the literature suggests about substantial commitment by women of color to work that tends to be undervalued.

We estimated models to determine the association of race and gender with perceptions of fairness and to assess whether the associations are explained by equitable workload practices. In the first model of each table, we simply look at how race and gender are associated with a faculty member's perceptions. In the second model, we add in controls that are often associated with workload differences, including rank, discipline,

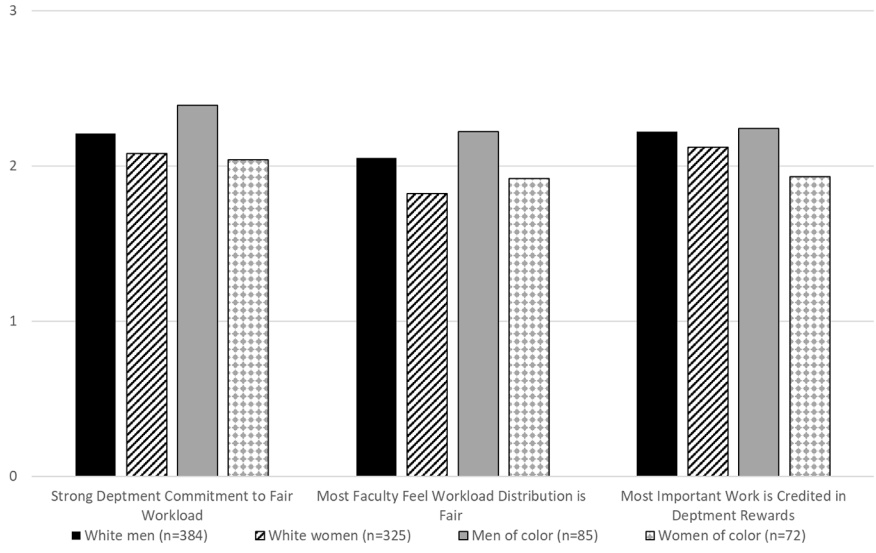

FIGURE 1: Race and Gender Differences in Perceptions of Workload Equity and Fairness in Evaluating Workload

department size, institution type, and gender composition in the department. In the third and final model, we include the key independent variables of transparency, clarity, and fair assignment of teaching and service. We are interested in whether transparency—visible information about faculty work activities—might mediate the association of race and gender with these perceptions. Similarly, we wonder whether clarity—such as benchmarks regarding service and advising, or consensus on priorities for faculty time—might mediate these associations. Finally, we are curious whether the respondent's perceptions of fair assignment of teaching and service activities might mediate these associations.

Do faculty differ in their perceptions of equitable workload practices by race and gender? Faculty turnover and attrition are connected to perceptions of unfair workload; thus, we need more evidence as to whether race and gender are associated with perceptions of workload—and whether greater transparency, clarity, and satisfaction in teaching and service assignments might be mechanisms used to decrease gender and racialized perceptions of unfair workload. As noted in Figure 1, there are significant gaps by race and gender in perceptions of workload equity and fairness in evaluating workload. However, when we control for other factors, do these differences remain?

TABLE 2: Perceptions of Department Fairness Regressed on Gender and Race, Perceptions of Workload Equity and Fairness in Evaluating Workload, and Control Variables

	Distributed Fairly, Model 1		*Distributed Fairly, Model 2*		*Distributed Fairly, Model 3*	
Variables	*Coefficient*	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
White women	–.23***	.06	–.21**	.06	–.12	.08
Minority men	.17	.10	.18	.10	–.02	.13
Minority women	–.14	.10	–.06	.11	–.18	.16
Transparency					.24**	.08
Clarity					.28**	.08
Fair workload assignment					.16*	.06
Medium department			.38**	.11	.20	.15
Large department			.19	.11	.22	.14
Master's			–.39*	.19	–.15	.27
Doctoral/research			–.55**	.19	–.37	.26
Medium percentage of women			–.07	.07	–.09	.10
High percentage of women			–.22	.09*	–.30*	.12
STEM			.10	.07	.13	.09
Associate professors			–.12	.08	–.03	.11
Full professors			.06	.08	.06	.11
Non-tenure-track faculty			.03	.08	.06	.13
Constant	2.05	.04	2.36	.18	.69	.33
Adjusted R^2	.02		.05		.24	

NOTE: Dependent variables wording: Most people in our department feel work is distributed fairly. Reference groups: white men, small-size department, baccalaureate institution, low percentage of women in department, non-STEM, assistant professors. SE = standard error.
*$p < .05$, **$p < .01$, ***$p < .001$.

Tables 2 and 3 summarize the multivariate findings regarding perceptions of equitable workload. In Model 1 for Table 2, we examine whether race and gender are associated with greater perceptions of equitable workload practices, as measured through their perception of whether "most people in their department feel work is distributed fairly." The reference group is white men. White women perceive less equity than white men, though both men and women of color have perceptions of equity in workload practices that do not differ from perceptions of white men ($p > 0.05$).[2] Similarly, in Model 1 of Table 3 we find that white women are significantly less likely than white men to view their departments as committed to workload equity. [3] We expected (hypothesis 1) that both

TABLE 3: Perceptions of Workload Fairness Commitment Regressed on Gender and Race, Perceptions of Workload Equity and Fairness in Evaluating Workload, and Control Variables

	Commitment Fair, Model 1		*Commitment Fair, Model 2*		*Commitment Fair, Model 3*	
Variables	*Coefficient*	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
White women	–.13*	.06	–.15*	.07	–.07	.09
Minority men	.18	.10	.14	.10	–.23	.13
Minority women	–.17	.11	–.22	.11	–.25	.17
Transparency					.29***	.08
Clarity					.42***	.09
Fair workload assignment					.27***	.06
Medium department			.15	.12	–.09	.15
Large department			.00	.12	.00	.14
Master's			–.21	.20	–.02	.28
Doctoral/research			–.40*	.20	–.29	.27
Medium percentage of women			–.11	.08	.04	.10
High percentage of women			–.03	.10	–.02	.13
STEM			.06	.07	.05	.10
Associate professors			–.11	.08	.06	.11
Full professors			.01	.08	.03	.11
Non-tenure-track faculty			.10	.09	.00	.14
Constant	2.21	.04	2.59	.19	.26	.34
Adjusted R^2	.01		.03		.31	

NOTE: Dependent variable wording: Strong commitment within our department faculty that workload be fair. Reference groups: white men, small-size department, baccalaureate institution, low percentage of women in department, non-STEM, assistant professors. SE = standard error.
*$p < .05$, ***$p < .001$.

white women and women of color would perceive more inequity than white men, yet found that only white women perceive more inequity. It is unclear whether this finding reflects the small sample of women of color ($n = 72$) or a true lack of difference.

In Model 2 of Table 2 and 3, we incorporate other variables that might explain perceptions of equitable workload. Faculty members in medium-size departments perceive greater equity than their colleagues in small-

size departments. Relative to faculty in 4-year colleges, faculty members in master's and, especially, doctoral/research institutions have lower perceptions of equitable workload practices; faculty in doctoral/research institutions are also less likely to see their departments as committed to workload equity. This may reflect that faculty members in 4-year colleges have more similar workloads, whereas faculty in master's and doctorate-granting institutions may experience more varied workloads. Faculty in departments with a high percentage of women appear to have lower perceptions of equitable workload. Importantly, the statistically significant negative effect for white women remains, supporting hypothesis 1's assumptions that white women would be less likely to perceive workload equity.

Finally, in Model 3 of Tables 2 and 3, we explore whether the key independent variables of transparency, clarity, and fair assignment of workload are associated with lower perceptions of workload inequity (hypotheses 3, 5, and 7). The positive and significant coefficients for perceived transparency, clarity, and fair assignment of workload suggest that these could be mechanisms that contribute to fewer concerns of workload inequity. If respondents see their department workload policies as transparent and clear, and providing them with reasonable teaching, advising, and service workloads, they are more likely to see their department as having equitable practices. The final models have larger *R*-squares than the prior models (from 0.05–0.24 for department distributes fairly and 0.03–0.31 for commitment to workload fairness) indicating that they explain a quarter to almost a third of the variance in perceptions of workload equity.

Model 3 in Tables 2 and 3 also allows us to test hypothesis 9, which argues that race and gender effects on perceptions of workload equity will be mediated by effective workload policies and practices. Our goal is to understand whether measures that departments can take to ensure perceptions of equity and fairness may help reduce perceptions of inequality by race and gender. In model 3, the negative coefficient for white women is substantially smaller than in the prior models and is no longer statistically significant, indicating support for hypothesis 9. This means that after controlling for these key factors, white women's perceptions become comparable to their white men colleagues. These findings suggest the potential value of incorporating transparency and clarity workplace practices to improve the conditions that decrease gender- and race-based perceptions of inequity for white women.

TABLE 4: Perceptions of Fair Evaluation of Workload Regressed on Gender and Race, Perceptions of Workload Equity and Fairness in Evaluating Workload, and Control Variables

	Work Credited Fairly, Model 1		*Work Credited Fairly, Model 2*		*Work Credited Fairly, Model 3*	
Variable	*Coefficient*	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
White women	–.09	.07	–.08	.07	.07	.09
Minority men	.02	.10	.04	.11	–.14	.14
Minority women	–.29*	.11	–.24*	.12	–.20	.18
Transparency					.06	.09
Clarity					.41***	.09
Fair workload assignment					.40***	.07
Medium department			.47***	.12	.21	.16
Large department			.25*	.12	.11	.15
Master's			–.58**	.21	–.64*	.30
Doctoral/research			–.63**	.20	–.90**	.29
Medium percentage of women			–.06	.08	–.01	.11
High percentage of women			–.15	.10	–.12	.14
STEM			.01	.07	.02	.10
Associate professors			–.19*	.08	–.03	.12
Full professors			.00	.08	.00	.12
Non-tenure-track faculty			–.08	.09	–.01	.15
Constant	2.22	.04	2.66	.20	.68	.37
Adjusted R^2	.01		.03		.26	

NOTE: Dependent variable wording: The most important teaching, mentoring and campus service work I do is credited within my department reward system. Reference groups: white men, small-size department, baccalaureate institution, low percentage of women in department, non-STEM, assistant professors. SE = standard error.
*$p < .05$, ***$p < .001$.

Do faculty see the evaluation of workload in their department as fair? These findings appear in Table 4. Again, in Model 1, we simply explore whether race and gender are associated with a greater propensity to see the evaluation of workload as fair, particularly whether the work they do on campus is credited in the department reward system. Interestingly, there

are negative and significant coefficients for women of color, suggesting that women of color see this distribution as less fair than do white men.[4] Yet here the perceptions of white women and men of color are not significantly different from those of white men. This suggests that while white women are more likely to view workload as inequitable, women of color are more likely to see the work that they engage in as not "counted" or credited by their colleagues. This reflects the literature which shows that women of color may be carrying out more "invisible work"—work that is not counted or recognized, such as informal mentoring of students of color or community-engaged work. In hypothesis 2, we expected that both white women and women of color would differ in these perceptions; these findings may mean that while white women have concerns about workload equity, they believe that their workload is fairly counted in evaluations; on the other hand, women of color do not perceive that their workload is fairly counted in evaluations.

In Model 2, we include other control variables such as faculty and department characteristics. Once we include these factors, the significant negative association of women of color with perceptions that work is credited is smaller, although the association remains statistically significant. Faculty members in medium-size and large departments perceive greater fairness in evaluating workload than their colleagues in small departments. Similar to perceptions of equity in Table 3, faculty in master's and doctoral/research institutions perceive less fairness in the evaluation of workload than do faculty in baccalaureate institutions. Associate professors are also less likely than assistant professors to agree about fair evaluation of workload in departments; associate professors are particularly affected by workload differences (Misra, Lundquist, and Templer 2012).

Model 3 includes the key independent variables. The final model again has a substantially larger *R*-square than the previous model (from 0.03 to 0.26), thus explaining 26 percent of the variance in perception of fairness. Here, two of the three variables—clarity and fair assignment of workload—are significantly associated with perceived fairness of evaluation of workload. Hypothesis 4 predicts that greater transparency in workload—knowing how workload is distributed in their department—is related to a greater perception of fair workload evaluation but is not borne out. There is support for hypotheses 6 and 8, which predict that greater clarity and more fair workload assignments will be associated with higher perceptions of fair workload evaluations. Clear workload policies and fair assignment of workload appear to help faculty feel that the work that they do will be evaluated fairly through departmental rewards systems.

Hypothesis 10 predicted that these key independent variables would reduce the association of race and gender with perceptions of fair workload evaluation. Indeed, the significant negative association for women of color is no longer statistically significant once the model controls for these factors. Thus, the adoption of these practices—particularly in clarity and fair assignment protocols—are associated with lower perceptions of unfairness in evaluating workload for women of color.

Robustness Tests

Because there are non-tenure-track faculty in the sample, we conducted robustness tests to ascertain whether the results are sensitive to restricting the sample to tenured and tenure-track faculty. Appendix Tables A5, A6, and A7 show that the results for perceptions of equitable workload are similar with or without the non-tenure-track faculty members. There is a significant negative effect for white women, relative to white men, but not for women of color in terms of perceptions of workload equity. There remains a significant negative effect for women of color, but not for white women in terms of perceptions of fair workload evaluation. Thus, it appears that the non-tenure-track faculty in the sample are not driving the results.

We also analyze the data using multilevel modeling. While these faculty members are clustered in departments, the analyses in Appendix Table 8 show that using multilevel modeling does not change the results. Multilevel modeling accounts for the multilevel structure of the data, testing whether faculty outcomes are influenced by individual- and department-level predictors. At level one, we use group-centered variables of gender/race, rank, transparency, clarity, and fair workload assignment policies. As level 2 predictors we use discipline, department size, and percentage of women in the department. The fully unconditional hierarchical linear modeling model is presented below:

Level-1 model: $Y_{ij} = \beta_{0j} + r_{ij}$
Level-2 model: $\beta_{0j} = \gamma_{00} + u_{0j}$

The model specifies that a survey response score Y_{ij} of a faculty member i in department j is a function of the mean response score across departments γ_{00}, the random effect of department u_{0j} (variation between departments), and the random effect of a faculty member r_{ij} (individual variation). Appendix Table A8 shows that transparency is associated with perceptions of workload equity, whereas clarity and fair workload assignment are associated with perceptions of workload equity *and* work being credited fairly.

CONCLUSIONS

In this article, we explore faculty members' perceptions of greater equity and fairness in their departments. These measures capture whether faculty members feel that the workload is equitably distributed, as well as fairly rewarded in their department's rewards systems. Given important differences in workload by race and gender, we focus on whether gendered and racialized processes at universities may lead to greater perceptions of workload inequity and unfairness for white women and, particularly, women of color.

We examine 10 hypotheses with data from 947 respondents in 53 departments from 22 institutions. The data allow us to examine differences by race and gender. We see mixed confirmation of hypotheses 1 and 2. White women are less likely than white men to see their departments as having equitable workloads or that their departments are committed to fair workloads, yet these effects are not statistically significant for women of color. Compared with white men, women of color have lower scores on the measure of how fairly their department reward system evaluates their workload; the association is not significant for white women. Therefore, white women have higher concerns about workload equity, and women of color have higher concerns about fair evaluation of workload than white men.

We find strong support for hypothesis 3, which posits that faculty members in departments with greater transparency in workload would perceive their departments as having more equitable workloads. This is important because it serves as a clear indicator that there are ways to mitigate inequitably assigned workloads and unfairly evaluated performances. Yet hypothesis 4 is not supported, because transparency is not associated with fairer evaluation of workload. It makes sense that creating more transparency, such as publicly available data on faculty workload, is more effective at addressing perceptions of workload equity than in addressing perceptions of whether workload is evaluated fairly because transparency is more linked to perceptions of what others are doing, and less linked to the evaluation process.

Hypotheses 5 and 6 posit that faculty members in departments with greater clarity in workload see their departments as having more equitable workloads and fairer evaluation of workload. These hypotheses are also supported by the data. This finding matters because it provides departments with another set of tools for how to increase faculty perceptions of workload. For example, departments can have explicit conversations about what activities are valued and compensated by the department; they can also publish benchmarks, perhaps by rank, to clarify expectations for faculty in

teaching, advising, and service. Importantly, this helps address whether women of color perceive their work as being credited in evaluations.

We find very strong support for hypotheses 7 and 8, which suggest that fair workload assignment is another key explanation for how faculty members perceive workload equity and fairness in their departments. Where there are approaches to assigning teaching, service, and advising that faculty find effective, faculty members also perceive greater equity in workload and fairness in evaluating workload. Department chairs and administrators should use best practices in assigning teaching, advising, and service.

Finally, hypotheses 9 and 10 suggest that the race and gender effects on perceptions of faculty workload can be driven out in departments incorporating good practices around transparency, clarity, and assignment of teaching and service. Here, the findings are as expected. Although there is originally a negative association between white women and perceptions of equitable workload, these effects disappear once we control for good departmental practices. Similarly, the negative association between women of color and perceptions of fair evaluation of workload disappears once we control for good departmental practices. It is possible to improve the perceptions of white women and women of color around workload equity and fairness in evaluating workload.

Causal direction is, of course, difficult to assess with a cross-sectional survey. It may be that departments with unfair and unequal work assignments intentionally avoid making their workload processes clear. However, all of the departments in this study committed to address issues of workload equity through their participation in this project. Although some faculty benefit from unclear and opaque processes and may be resistant to change, most departmental leaders, and most faculty, are enthusiastic about bringing greater transparency and clarity to their practices. Many departments appear to follow unclear and opaque processes primarily because that is how workload has always been addressed. While the analysis in this article focuses on data collected before any interventions, in our larger study, we find that most department leaders and faculty are enthusiastic about bringing greater transparency to workload. Faculty rate workload equity and fairness much more positively in the post-survey for our "treatment" group of departments than the control departments that had also applied to take part in the study (O'Meara et al. 2018, 2019).

This article supports existing research that suggests that there are gender differences in perceptions of workload equity and fairness (Bird 2011; Guarino and Borden 2017; Link, Swann, and Bozeman 2008; Misra, Lundquist, and Templer 2012; O'Meara 2016; Winslow 2010). Although

our research does not uncover negative perceptions of women of color regarding workload equity, this may reflect a small sample size for women of color. There remains substantial research that does suggest that women of color face particularly high workload challenges (Bird 2011; Espino and Zambrana 2019; Harley 2008; Turner 2011; Wood, Hilton, and Nevarez 2015). More important, our research provides evidence that women of color *particularly* do not believe that their work is appropriately credited by their department rewards system. Thus, while substantial research suggests that women of color face pressure to engage in mentoring, service, and diversity work on their campuses, this work may, indeed, be "invisible" in systems that reward faculty members for their work.

This research allows us to make contributions to the literature on gendered and racialized organizations (Acker 2006; Ray 2019). Academic workplaces are not unusual in their tendency to idealize a particular worker: white men unencumbered by caregiving responsibilities. These workplaces are also not unusual in expecting women to do more of the "carework" in the workplace, the housekeeping necessary for the successful running of the institution (Hanasono et al. 2019; O'Meara et al. 2017). In addition, solutions that work in universities may work more broadly. Creating greater transparency and clarity in workload and assignments of workload may allow women to be more successful in a wide range of occupations. While women, and especially women of color, may still experience stereotypes from their coworkers (Heilman 2001; Ridgeway 2011; Ridgeway and Correll 2004), they may be able to compete with their colleagues on fairer terms when workloads are clearly spelled out and apportioned.

Finally, our work makes important contributions to attempts to undo these difficult gendered and racialized processes. Existing literature makes it quite clear that women experience gendered expectations in academic work for greater service and mentoring. Workload transparency and clarity, and consistent approaches to assigning classes, advising, and service, are associated with lower perceptions of inequitably assigned workloads and unfairly evaluated performances. By addressing these issues concretely, women faculty members may be more likely to be satisfied with and stay in their workplaces. Although we do not uncover a "magic bullet," our research suggests that departments can identify and put in place key workload practices that improve faculty perceptions of workload. By improving these perceptions, we hope that departments will also be more likely to retain and promote white women and women of color (Bird 2011; Britton 2017; Misra et al. 2011; Misra, Lundquist, and Templer 2012; Yedidia et al. 2014). Creating fairer and more equitable practices has important long-term impacts on the goals of diversity and inclusion in academia.

APPENDIX TABLE A1: Descriptive Statistics for All Variables by Gender and Race

Constructs	*White Men (n = 384)*	*White Women (n = 325)*	*Men of Color (n = 85)*	*Women of Color (n = 72)*	*p Value*	*Standard. Item Loading*
I think most people in our department feel work is distributed fairly.	2.05 (.81)[ac]	1.82 (.78)[b]	2.22 (.81)[c]	1.92 (.82)[abc]	< .001	
There is a strong commitment within our department faculty that workload be fair.	2.21 (.87) [ab]	2.08 (.84)[a]	2.39 (.76)[b]	2.04 (.83) [ab]	.008	
The most important teaching, mentoring and campus service work I do is credited within my department reward system.	2.22 (.88)[a]	2.12 (.88)[a]	2.24 (.81)[a]	1.93 (.83)[a]	.051	
Transparency (Cronbach's alpha = 0.80)	1.49 (.64)[a]	1.38 (.57)[a]	2.05 (.71)[b]	1.60 (.65)[a]	< .001	
Our department has transparent information about faculty work activities for all department faculty to see (e.g., no. of advisees, committees, size of classes).	1.65 (.92)[abd]	1.48 (.83)[ab]	2.20 (.94)[cd]	1.96 (.98)[acd]	< .001	.828
Our department has transparent information about compensation for key roles (e.g., the agreed upon overload or support for taking on specific administrative roles).	1.49 (.84)[a]	1.46 (.82)[a]	2.07 (.94)[b]	1.44 (0.81)[a]	< .001	.726

(continued)

APPENDIX TABLE A1: (continued)

Constructs	*White Men (n = 384)*	*White Women (n = 325)*	*Men of Color (n = 85)*	*Women of Color (n = 72)*	*p Value*	*Standard. Item Loading*
Our workload decisions tend to be informed by data that is visible and widely available to everyone.	1.51 (.76)[a]	1.45 (.66)[a]	1.88 (.85)[b]	1.67 (0.80)[ab]	< .001	.785
There is transparency related to faculty workload (e.g., data about faculty teaching, mentoring, and campus service activities available for public scrutiny).	1.57 (.78)[abd]	1.45 (.69)[ab]	1.98 (.87)[cd]	1.76 (.81)[acd]	< .001	.896
Clarity (Cronbach's alpha = 0.72)	1.68 (.60)[a]	1.62 (.57)[a]	2.03 (.67)[b]	1.76 (.58)[a]	< .001	
There are clearly identified benchmarks for expected campus service contributions.	1.46 (.75)[a]	1.44 (.70)[a]	1.79 (.83) [b]	1.64 (.75)[ab]	< .001	.853
There are clearly identified benchmarks for expected advising contributions.	1.69 (.83)[a]	1.76 (.84)[a]	1.99 (.86)[b]	1.72 (.83)[a]	.030	.669
Our department chair and faculty have discussed and agreed upon which roles faculty will be compensated for (with additional resources), and which are simply part of their jobs.	1.80 (.88)[a]	1.67 (.78)[a]	2.21 (.90)[b]	1.74 (.80)[a]	< .001	.673
Our department has consensus on a clear set of priorities for faculty time.	1.79 (.86)[ad]	1.61 (.81)[b]	2.15 (.89)[cd]	1.96 (.88)[acd]	< .001	.774

(continued)

APPENDIX TABLE A1: (continued)

Constructs	*White Men (n = 384)*	*White Women (n = 325)*	*Men of Color (n = 85)*	*Women of Color (n = 72)*	*p Value*	*Standard. Item Loading*
Fair Workload Assignment (Cronbach's alpha = 0.75)	3.60 (.66)[a]	3.53 (.62)[ab]	3.77 (.62)[a]	3.31(.76)[b]	.002	.742
Number of classes taught	3.96 (1.08)[a]	3.94 (1.01)[a]	3.88 (1.04)[ab]	3.49(1.27)[b]	.006	.714
Class sizes	3.78 (1.09)[a]	3.73 (1.09)[a]	3.71 (.99)[ab]	3.34(1.28)[b]	.007	.580
Support for classes (TAs, RAs)	3.11 (1.33)[a]	3.08 (1.25)[a]	3.18 (1.13)[a]	2.97 (1.37)[a]	.753	.541
The kinds of classes you teach	4.40 (.82)[a]	4.32 (.79)[a]	4.15 (.77)[ab]	3.97 (1.04)[b]	< .001	.673
The process in which classes are assigned	3.85 (1.13)[a]	3.72 (1.12)[a]	3.86 (.91)[a]	3.55 (1.27)[a]	.154	.755
The number of advisees you have	3.62 (1.10)[ab]	3.66 (1.01)[ab]	3.86 (.84)[a]	3.29 (1.15)[b]	.013	.811
The process in which advisees are assigned	3.68 (1.03)[a]	3.69 (1.00)[a]	3.63 (.89)[a]	3.50 (1.03)[a]	.616	.823
The number of committees on which you serve	3.62 (.91)[ab]	3.52 (.97)[b]	3.86 (.75)[a]	3.38 (1.05)[b]	.008	.819
The amount of work you do on committees versus the amount others do	3.39 (.99)[a]	3.20 (1.07)[a]	3.73 (.90) [c]	3.22 (1.10)[a]	.001	.788
The attractiveness (e.g., value, visibility, importance, personal preference) of the committees on which you serve	3.54 (.89)[ab]	3.40 (.97)[ab]	3.68 (.79)[a]	3.24 (1.05)[b]	.013	.728
The process in which committee assignments are made	3.43 (.97)[acd]	3.16 (1.02)[bd]	3.70 (.79)[ac]	3.12 (1.02)[abd]	< .001	.778

NOTE: Means and standard deviations, analyses of variance; percentages, chi-square tests. Means that do not share a superscript letter (a, b, c, d) differ by $p < 0.05$ according to Tukey's honestly significant difference (HSD). TAs = teaching assistants; RAs = research assistants.

APPENDIX TABLE A2: Perceptions of Department Fairness Regressed on Gender and Race

	Distributed Fairly, Model 1	
Variable	*Coefficient*	*SE*
White women	–.23***	.06
Asian men	.25*	.12
Asian women	–.05	.16
Underrepresented minority men	.08	.14
Underrepresented minority women	–.19	.14
Adjusted R^2	.02	

NOTE: Dependent variable wording: Most people in our department feel work is distributed fairly. SE = standard error. Reference group: white men. Significant items at *$p < 0.05$, ***$p < 0.001$.

APPENDIX TABLE A3: Perceptions of Workload Fairness Commitment Regressed on Gender and Race

	Commitment Fair, Model 1	
Variable	*Coefficient*	*SE*
White women	–.13*	.06
Asian men	.21	.13
Asian women	–.03	.17
Underrepresented minority men	.13	.14
Underrepresented minority women	–.26	.13
Adjusted R^2	.01	

NOTE: Dependent variable wording: Strong commitment within our department faculty that workload be fair. SE = standard error. Reference group: white men. Significant items at *$p < 0.05$.

APPENDIX TABLE A4: Perceptions of Fair Evaluation of Workload Regressed on Gender and Race

	Work Credited Fairly, Model 1	
Variable	*Coefficient*	*SE*
White women	–.09	.07
Asian men	–.02	.13
Asian women	–.14	.17
Underrepresented minority men	.07	.15
Underrepresented minority women	–.37**	.14
Adjusted R^2	.01	

NOTE: Dependent variable wording: The most important teaching, mentoring and campus service work I do is credited within my department reward system. SE = standard error. Reference group: white men. Significant items at **$p < .01$.

APPENDIX TABLE A5: Perceptions of Department Fairness for TT Faculty Only Regressed on Gender and Race, Perceptions of Transparency, Clarity, and Satisfaction with Teaching and Service, and Control Variables

	Distributed Fairly, Model 1		*Distributed Fairly, Model 2*		*Distributed Fairly, Model 3*	
Variable	*Coefficient*	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
White women	–.23**	.07	–.19**	.07	–.06	.09
Minority men	.18	.11	.19	.11	.01	.14
Minority women	–.16	.11	–.09	.12	–.18	.17
Transparency					.27**	.08
Clarity					.28**	.09
Fair workload assignment					.17*	.07
Medium department			.34**	.12	.18	.00
Large department			.18	.12	.26	.14
Master's			–.31	.21	–.09	.29
Doctoral/research			–.48*	.20	–.33	.29
Medium percentage of women			–.01	.08	–.06	.10
High percentage of women			–.16	.10	–.28*	.13
STEM			.13	.07	.11	.10
Associate professors			–.12	.08	–.02	.10
Full professors			.06	.08	.07	.11
Adjusted R^2	.02		.04		.25	

NOTE: Dependent variable wording: I think most people in our department feel work is distributed fairly. Reference groups: white men, small size department, baccalaureate institution, low percentage of women department, non-STEM, Assistant Professors. SE = standard error; STEM = science, technology, engineering, medicine.

*$p < .05$, **$p < .01$, ***$p < .001$.

APPENDIX TABLE A6: ***Perceptions of Workload Fairness Commitment for Tenure Track Faculty Only*** **Regressed on Gender and Race, Perceptions of Transparency, Clarity, and Satisfaction with Teaching and Service, and Control Variables**

	Commitment Fair Model 1		*Commitment Fair Model 2*		*Commitment Fair Model 2*	
Variable	*Coefficient*	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
White women	–.16*	.07	–.15*	.08	–.04	.09
Minority men	.20	.11	.15	.12	–.24	.14
Minority women	–.18	.12	–.22	.13	–.21	.18
Transparency					.34***	.09
Clarity					.38***	.09
Fair workload assignment					.26***	.07
Medium department			.18	.13	–.05	.16
Large department			–.01	.13	.03	.15
Master's			–.23	.22	–.03	.31
Doctoral/research			–.40	.22	–.33	.30
Medium percentage of women			–.07	.09	–.03	.11
High percentage of women			–.05	.11	–.09	.14
STEM			.01	.08	.03	.10
Associate professors			–.11	.08	.06	.11
Full professors			.00	.08	.03	.11
Adjusted R^2	.01		.02		.30	

Note: Dependent variable wording: There is a strong commitment within our department faculty that workload be fair. Reference groups: white men, small size department, baccalaureate institution, low percentage of women department, non-STEM, assistant professors. SE = standard error. *$p < .05$, ***$p < .001$.

APPENDIX TABLE A7: Perceptions of Evaluating Workload Fairly for Tenure Track Only, Regressed on Gender and Race, Perceptions of Transparency, Clarity, and Satisfaction with Teaching and Service, and Control Variables

	Work Credited Fairly, Model 1		*Work Credited Fairly, Model 2*		*Work Credited Fairly, Model 3*	
Variables	*Coefficient*	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
White women	–.07	.07	–.06	.05	.06	.10
Minority men	.02	.11	.05	.08	–.14	.15
Minority women	–.33**	.12	–.30*	.09	–.15	.20
Transparency					.10	.09
Clarity					.42***	.10
Satisfaction with teaching and service activities					.38***	.07
Medium department			.46**	.09	.26	.17
Large department			.28*	.09	.15	.16
Master's			–.55*	.16	–.71*	.33
Doctoral/research			–.62**	.15	–.75**	.32
Medium percentage of women			–.03	.06	–.05	.12
High percentage of women			–.09	.08	–.15	.15
STEM			.04	.05	.01	.11
Associate professors			–.19*	.06	–.03	.12
Full professors			.00	.06	.00	.12
Adjusted R^2	.01		.03		.26	

NOTE: Dependent variable wording: The most important teaching, mentoring, and campus service work I do is credited within my department reward system. Reference groups: white men, small size department, baccalaureate institution, low percentage of women department, non-STEM, assistant professors. SE = standard error. *$p < .05$, **$p < .01$, ***$p < .001$.

APPENDIX TABLE A8: Results from Final 2-Level Hierarchical Linear Models

	Distributed Fairly Model 1		*Commitment to Fairness Model 2*		*Work Credited Fairly Model 3*	
Variable	*Coefficient*	*SE*	*Coefficient*	*SE*	*Coefficient*	*SE*
Fixed effects						
White women	–.056	.075	–.015	.076	.102	.100
Men of color	.024	.111	–.115	.141	–.042	.148
Women of color	–.191	.127	–.177	.131	–.094	.164
Transparency	.245***	.070	.269**	.083	.003	.086
Clarity	.197**	.081	.392***	.072	.404***	.106
Fair workload Assignment	.128*	.059	.379***	.071	.379***	.078
Associate professors	.038	.086	.095	.092	.067	.093
Full professors	.032	.079	.095	.128	.111	.127
Non-tenure-track	.080	.144	–.121	.135	.137	.105
	Model 1		Model 2		Model 3	
Random effects	*SD*	*Variance Component*	*SD*	*Variance Component*	*SD*	*Variance Component*
White women	.222	.049	.160	.026	.305	.093
Men of color	.186	.034	.459	.210	.397	.157
Women of Color	.276	.076	.227	.052	.381	.145
Transparency	.156*	.024	.216**	.047	.119	.014
Clarity	.215	.046	.221	.049	.329	.108
Fair workload assignment	.152	.023	.236	.056	.253	.064
Associate professors	.205	.042	.276	.076	.129	.017
Full professors	.122	.015	.562	.316	.450	.202
Non-tenure-track	.498	.248	.400	.160	.144	.021
Variance within departments	.615	.378	.628	.394	.729	.531
ICC	.330		.261		.192	

NOTE: SD = standard deviation; SE = standard error. Significant items at $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$. The partitioning of variance in the models found that 33.0 percent of the variance was explained at level 2, an intraclass correlation coefficient (ICC) = 0.330, in model 1, meaning that 33.0 percent of total variance in faculty responses occurred between departments; 26.1 percent in model 2 (ICC = 0.261), and 19.2 percent (ICC = 0.192) in model 3. Perception of transparency was a significant positive predictor in model 1 (γ_{20} = 0.245, SE = 0.070, p = 0.001) and model 2 (γ_{20} = 0.269, SE = 0.083, p = 0.002), and perception of clarity and fair workload assignment were significant positive predictors in all three models. Level-2 predictors were not found to be significant and we did not retain them in the final models.

ORCID ID

JOYA MISRA https://orcid.org/0000-0002-9427-3952

NOTES

1. URM women (mean = 1.84, standard deviation = 0.85) are less likely than Asian women (mean = 2.07, standard deviation = 0.78) to agree that the important teaching, mentoring, and campus service work they do is valued in their departmental reward system ($p = 0.101$, analysis of variance).

2. As shown in Appendix Table A2, relative to white men, there is a significant positive effect for Asian men, a significant negative effect for white women, and no significant effect for URM men, URM women, or Asian women.

3. As shown in Appendix Table A3, relative to white men, there is a significant negative effect for white women, and no significant effect for URM men, URM women, Asian men, or Asian women.

4. As shown in Appendix Table A4, relative to white men, there is a significant negative effect for URM women, and no significant effect for white women, URM men, Asian men, or Asian women.

REFERENCES

Acker, Joan. 2006. Inequality regimes: Gender, class, and race in organizations. *Gender & Society* 20 (4): 441–64.

Austin, Ann E., Lotte Bailyn, Kathleen Christensen, John W. Curtis, Marc Goulden, Muriel Poston, and Cathy Trower. 2005. *An agenda for excellence: Creating flexibility in tenure-track faculty careers*. Washington, DC: American Council on Education.

Babcock, Linda, Maria P. Recalde, Lise Vesterlund, and Laurie Weingart. 2017. Gender differences in accepting and receiving requests for tasks with low promotability. *American Economic Review* 107 (3): 714–47.

Bilimoria, Diana, Simy Joy, and Xiangfen Liang. 2008. Breaking barriers and creating inclusiveness: Lessons of organizational transformation to advance women faculty in academic science and engineering. *Human Resource Management* 47 (3): 295–308.

Bird, Sharon R. 2011. Unsettling universities' incongruous, gendered bureaucratic structures: A case-study approach. *Gender, Work & Organization* 18 (2): 202–30.

Bird, Sharon R., Jacquelyn Litt, and Yong Wang. 2004. Creating status of women reports : Institutional housekeeping as "women's work." *NWSA Journal* 16 (1): 194–206.

Bozeman, Barry, and Monica Gaughan. 2011. Job satisfaction among university faculty: Individual, work, and institutional determinants. *Journal of Higher Education* 82 (2): 154–86.

Britton, Dana M. 2017. Beyond the chilly climate: The salience of gender in women's academic careers. *Gender & Society* 31 (1): 5–37.

Comrey, Andrew L., and Howard B. Lee. 1992. *A first course in factor analysis*. New York: Lawrence Erlbaum.

Cook, Karen S. 1975. Expectations, evaluations and equity. *American Sociological Review* 40 (3): 372–88.

Cook, Karen S., and Richard M. Emerson. 1978. Power, equity and commitment in exchange networks. *American Sociological Review* 43 (5): 721–39.

Cook, Karen S., and Karen A. Hegtvedt. 1983. Distributive justice, equity, and equality. *Annual Review of Sociology* 9:217–41.

Daly, Cheryl J., and Jay R. Dee. 2006. Greener pastures: Faculty turnover intent in urban public universities. *Journal of Higher Education* 77 (5): 776–803.

El-Alayli, Amani, Ashley A. Hansen-Brown, and Michelle Ceynar. 2018. Dancing backwards in high heels: Female professors experience more work demands and special favor requests, particularly from academically entitled students. *Sex Roles* 79 (3/4): 136–50.

Espino, Michelle M., and Ruth E. Zambrana. 2019. "How do you advance here? How do you survive?" An exploration of underrepresented minority faculty perceptions of mentoring modalities. *Review of Higher Education* 42 (2): 457–84.

George, Darren, and Paul Mallery. 2016. *IBM SPSS statistics 23 step by step: A simple guide and reference*. New York: Routledge.

Gibbs, Kenneth D., Jr., John McGready, Jessica C. Bennett, and Kimberly Griffin. 2014. Biomedical science Ph.D. career interest patterns by race/ethnicity and gender. *PLoS One* 9 (12): e114736.

Griffin, Kimberly A., and Richard J. Reddick. 2011. Surveillance and sacrifice: gender differences in the mentoring patterns of black professors at predominantly white research universities. *American Educational Research Journal* 48 (5): 1032–57.

Guarino, Cassandra M., and Victor M. H. Borden. 2017. Faculty service loads and gender: Are women taking care of the academic family? *Research in Higher Education* 58 (6): 672–94.

Hanasono, Lisa K., Ellen M. Broido, Margaret M. Yacobucci, Karen V. Root, Susana Peña, and Deborah A. O'Neil. 2019. Secret service: Revealing gender biases in the visibility and value of faculty service. *Journal of Diversity in Higher Education* 12 (1): 85–98.

Hancock, Gregory R., and Ralph O. Mueller, eds. 2013. *Structural equation modeling: A second course*, 2nd ed. Charlotte, NC: Information Age.

Harley, Debra A. 2008. Maids of academe: African American women faculty at predominately white institutions. *Journal of African American Studies* 12 (1): 19–36.

Heilman, Madeline E. 2001. Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social Issues* 57 (4): 657–74.

Hirshfield, Laura E., and Tiffany D. Joseph. 2012. "We need a woman, we need a black woman": Gender, race, and identity taxation in the academy. *Gender and Education* 24 (2): 213–27.

Jackson, Judy. 2004. The story is not in the numbers: Academic socialization and diversifying the faculty. *NWSA Journal* 16 (1): 172–85.

Jones, Brandolyn, Eunjin Hwang, and Rebecca M. Bustamante. 2015. African American female professors' strategies for successful attainment of tenure and promotion at predominately white institutions: It can happen. *Education, Citizenship and Social Justice* 10 (2): 133–51.

Joseph, Tiffany D., and Laura E. Hirshfield. 2011. "Why don't you get somebody new to do it? " Race and cultural taxation in the academy. *Ethnic and Racial Studies* 34 (1): 121–41.

Kahneman, Daniel. 2011. *Thinking fast and slow*. New York: Farrar, Straus and Giroux.

Kyvik, Svein. 2013. Academic workload and working time: Retrospective perceptions versus time-series data. *Higher Education Quarterly* 67 (1): 2–14.

Link, Albert N., Christopher A. Swann, and Barry Bozeman. 2008. A time allocation study of university faculty. *Economics of Education Review* 27 (4): 363–74.

Mamiseishvili, Ketevan, and Donghun Lee. 2018. International faculty perceptions of departmental climate and workplace satisfaction. *Innovative Higher Education* 43 (5): 323–38.

Mamiseishvili, Ketevan, Michael T. Miller, and Donghun Lee. 2016. Beyond teaching and research: Faculty perceptions of service roles at research universities. *Innovative Higher Education* 41 (4): 273–85.

Misra, Joya, Jennifer Hickes Lundquist, Elissa Holmes, and Stephanie Agiomavritis. 2011. The ivory ceiling of service work. *Academe* 97 (1): 22–26.

Misra, Joya, Jennifer Hickes Lundquist, and Abby Templer. 2012. Gender, work time, and care responsibilities among faculty. *Sociological Forum* 27 (2): 300–23.

Norman, Steven M., Bruce J. Avolio, and Fred Luthans. 2010. The impact of positivity and transparency on trust in leaders and their perceived effectiveness. *Leadership Quarterly* 21 (3): 350–64.

Olmstead, Marjorie A. 1993. Mentoring new faculty: Advice to department chairs. *CSWP Gazette* 13 (1): 1–6.

O'Meara, KerryAnn. 2016. Whose problem is it ? Gender differences in faculty thinking about campus service. *Teachers College Record* 118 (8): 1–38.

O'Meara, KerryAnn, and Audrey J. Jaeger. 2016. Preparing future faculty for community engagement: Barriers, facilitators, models, and recommendations. *Journal of Higher Education Outreach and Engagement* 20 (1): 127–50.

O'Meara, KerryAnn, Audrey Jaeger, Joya Misra, Courtney Lennartz, and Alexandra Kuvaeva. 2018. Undoing disparities in faculty workloads: A randomized trial experiment. *PLoS One* 13 (12): e0207316.

O'Meara, KerryAnn, Alexandra Kuvaeva, Gudrun Nyunt, Chelsea Waugaman, and Rose Jackson. 2017. Asked more often: Gender differences in faculty workload in research universities and the work interactions that shape them. *American Educational Research Journal* 54 (6): 1154–86.

O'Meara, KerryAnn, Courtney Jo Lennartz, Alexandra Kuvaeva, Audrey Jaeger, and Joya Misra. 2019. Department conditions and practices associated with faculty workload satisfaction and perceptions of equity. *Journal of Higher Education* 90 (5): 744–72.

Pyke, Karen. 2011. Service and gender inequity among faculty. *PS: Political Science and Politics* 44 (1): 85–87.

Pyke, Karen. 2015. Faculty gender inequity and the "just say no to service" fairy tale. In *Disrupting the culture of silence: Confronting gender inequality and making change in higher education*, edited by Kristine De Welde, and Andi Stepnick. Sterline, VA: Stylus.

Ray, Victor. 2019. A theory of racialized organizations. *American Sociological Review* 84 (1): 26–53.

Ridgeway, Cecilia L. 2001. Gender, status, and leadership. *Journal of Social Issues* 57 (4): 637–55.

Ridgeway, Cecilia L. 2011. *Framed by gender: How gender inequality persists in the modern world*. New York: Oxford University Press.

Ridgeway, Cecilia L., and Shelley J. Correll. 2004. Unpacking the gender system: A theoretical perspective on gender beliefs and social relations. *Gender & Society* 18 (4): 510–31.

Rosser, Sue V. 2004. Using POWRE to ADVANCE: Institutional barriers identified by women scientists and engineers. *NWSA Journal* 16 (1): 50–78.

Sambamurthy, Nikitha, Joyce B. Main, Matilde Sanchez-Peña, Monica F. Cox, and Ebony McGee. 2016. Asian-American women engineering faculty: A literature review using an intersectional framework of race, class, and gender. Proceedings, IEEE Frontiers in Education Conference, Erie, Pennsylvania. https://doi.org/10.1109/FIE.2016.7757518.

Seaberg, James R. 1998. Faculty reports of workload: Results of a national survey. *Journal of Social Work Education* 34 (1): 7–19.

Seifert, Tricia A., and Paul D. Umbach. 2008. The effects of faculty demographic characteristics and disciplinary context on dimensions of job satisfaction. *Research in Higher Education* 49 (4): 357–81.

Settles, Isis H., NiCole T. Buchanan, and Kristie Dotson. 2019. Scrutinized but not recognized: (In)visibility and hypervisibility experiences of faculty of color. *Journal of Vocational Behavior* 113:62–74.

Sigel, Roberta S. 1992. How men and women cope when gender role orientations change. *Political Psychology* 13 (3): 337–52.

Smith, Janice Witt, and Toni Calasanti. 2005. The influences of gender, race and ethnicity on workplace experiences of institutional and social isolation: An exploratory study of university faculty. *Sociological Spectrum* 25 (3): 307–34.

Stewart, Abigail J., Janet E. Malley, and Danielle LaVaque-Manty, eds. 2007. *Transforming science and engineering: Advancing academic women*. Ann Arbor: University of Michigan Press.

Stewart, Abigail J., and Virginia Valian. 2018. *An inclusive academy: Achieving diversity and excellence*. Cambridge, MA: MIT Press.

Thaler, Richard H., and Cass R. Sunstein. 2009. *Nudge: Improving decisions about health, wealth, and happiness*. New York: Penguin Books.

Toutkoushian, Robert Kevin, and Marcia L. Bellas. 1999. Faculty time allocations and research productivity: Gender, race and family effects. *Review of Higher Education* 22 (4): 367–90.

Turner, Caroline Sotello Viernes. 2002. Women of color in academe: Living with multiple marginality. *Journal of Higher Education* 73 (1): 74–93.

Turner, Caroline Sotello Viernes, Juan Carlos González, and Kathleen Wong (Lau). 2011. Faculty women of color: The critical nexus of race and gender. *Journal of Diversity in Higher Education* 4 (4): 199–211.

Valian, Virginia. 2004. Beyond gender schemas: Improving the advancement of women in academia. *NWSA Journal* 16 (1): 207–20.

Webber, Karen L. 2019. Does the environment matter? Faculty satisfaction at 4-year colleges and universities in the USA. *Higher Education* 78 (2): 323–43.

Welch, Eric W., and Yamini Jha. 2016. Network and perceptual determinants of satisfaction among science and engineering faculty in US research universities. *Journal of Technology Transfer* 41 (2): 290–328.

Wilborn, Teresa W., Erin M. Timpe, Susanna Wu-Pong, Michael L. Manolakis, James A. Karboski, David R. Clark, and Ralph J. Altiere. 2013. Factors influencing faculty perceptions of teaching workload. *Currents in Pharmacy Teaching and Learning* 5 (1): 9–13.

Williams, Joan C., Katherine W. Phillips, and Erika V. Hall. 2014. *Double jeopardy? Gender bias against women of color in science*. Berkeley, CA: WorkLifeLaw, UC Hastings College of the Law.

Winslow, Sarah. 2010. Gender inequality and time allocations among academic faculty. *Gender & Society* 24 (6): 769–93.

Wolf-Wendel, Lisa Ellen, and Kelly Ward. 2006. Academic life and motherhood: Variations by institutional type. *Higher Education* 52 (3): 487–521.

Wood, J. Luke, Adriel A. Hilton, and Carlos Nevarez. 2015. Faculty of color and white faculty: An analysis of service in colleges of education in the Arizona public university system. *Journal of the Professoriate* 8 (1): 85–109.

Yedidia, Michael J., Jolene Chou, Susan Brownlee, Linda Flynn, and Christine A. Tanner. 2014. Association of faculty perceptions of work–life with emotional exhaustion and intent to leave academic nursing: Report on a national survey of nurse faculty. *Journal of Nursing Education* 53 (10): 569–79.

Zambrana, Ruth Enid. 2018. *Toxic ivory towers: The consequences of work stress on underrepresented minority faculty*. New Brunswick, NJ: Rutgers University Press.

Joya Misra is a Professor of Sociology and Public Policy and the Director of the Institute for Social Science Research at the University of Massachusetts, Amherst.

Alexandra Kuvaeva was a research assistant for the ADVANCE program and recently earned her PhD in international education policy at the University of Maryland, College Park.

KerryAnn O'Meara is a Professor of Higher Education at the University of Maryland and was 2020 President of the Association for the Study of Higher Education.

Dawn Kiyoe Culpepper is a doctoral candidate in higher education and Faculty Specialist for the ADVANCE Program at the University of Maryland.

Audrey Jaeger is the W. Dallas Herring Professor and Executive Director for the Belk Center for Community College Leadership and Research at North Carolina State University.