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Is the Tenure Process Fair? What Faculty Think

A conceptual framework grounded on procedural justice theory was created to explain how judgments about the fairness of tenure decision-making evolved among faculty who had not yet undergone the review. The framework posits that faculty beliefs about fairness are influenced directly by their workplace experiences and both directly and indirectly by their socio-demographic characteristics. Structural equation modeling (SEM) was used to assess the proposed direct and indirect effects with data from 2,247 pre-tenure assistant professors at 21 research universities. The results substantiate the importance of perceived campus and department conditions in shaping faculty members' views of tenure reviews and as mediators of faculty members' socio-demographic characteristics. Equitable treatment of junior faculty at the department level and effectiveness of feedback have the strongest relationships with beliefs about the equity of tenure decision-making. Generally speaking, an individual's sense of control during the process of constructing the tenure dossier predicts his or her judgments about the fairness of tenure reviews. Practical suggestions for campus leaders regarding the conditions that inform faculty beliefs about tenure reviews and implications for future research are discussed.

A milestone career event for faculty (Youn & Price, 2009), earning tenure has been described as “an odd potpourri of folk wisdom and half truths that far too often provoke bewilderment in a candidate trying to balance a multitude of duties” (Tierney & Bensimon, 1996, p. 45). Decision-making has been called “archery in the dark” (Rice 1996, p.

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31, quoted in O'Meara, 2002), a process "fraught with contradictory criteria and unwritten rules" (Rice, Sorcinelli, & Austin, 2000, p. 9), and a "mysterious, politicized, and stressful crapshoot" (Chait, 1997, p. B4). Despite initiatives to identify endemic issues and suggest solutions (e.g., Gappa, Austin, & Trice, 2007; June, 2012; McPherson & Schapiro, 1999; Sorcinelli, Austin, Eddy, & Beach, 2006; Youn & Price, 2009), concerns about tenure persist within and outside academe (Brown, 2012; Fogg, 2006; Riley & Nelson, 2012).

Overall, studies show that faculty believe the tenure process is problematic (e.g., Edwards, 1999; Gappa & Trice, 2009; Garza, 1993; Hurtado & Sharkness, 2008; Jackson, 2004; Olsen & Crawford, 1998; O'Meara, 2002; Rice, Sorcinelli, & Austin 2000; Valladares, 2007; Williams & Williams, 2006). Some researchers find that collegial tensions and negative perceptions of tenure decision-making lead to unintended and undesirable organizational outcomes (e.g., Hearn & Anderson, 2002). Faculty who have not yet earned tenure and believe campus decisions are inequitable depart prior to the review, especially women and minority group members. Among those who achieve tenure, negative experiences during the tenure process result in diminished citizenship behavior, productivity, and job satisfaction (e.g., Boice, 1993; Bronstein & Farnsworth, 1998; Cameron & Hyer, 2010; Dooris & Guidos, 2006; Huston, Norman, & Ambrose, 2007; Johnsrud, 1993; Johnsrud & Atwater, 1993; Johnsrud & Des Jarlais, 1994; O'Meara, 2002; Rausch, Ortiz, Douthitt, & Reed, 1989; Sax, Astin, Arredondo, & Korn, 1996). However, faculty experiences and perceptions vary, and sampling and measurement issues make it difficult to draw generalizations about campus conditions that promote negative opinions about the tenure process (e.g., Barnes & Mertz, 2012; Jayakumar, Howard, Allen, & Han, 2009; Ponjuan, Conley, & Trower, 2011; Turner, Gonzalez, & Wood, 2008; Xu, 2008).

Given institutional concerns about faculty diversity, professors' citizenship behavior, and the costs associated with turnover (Ehrenberg, Rizzo, & Jackson, 2003; Johnsrud & Rosser, 2002; Kaminski & Geisler, 2012; Kennedy, 1997; Lawrence, Ott, & Bell, 2012), higher educators need to better understand how campus environments foster unfavorable perceptions of tenure reviews among early career faculty. In the present study, we utilize prior research on faculty to identify work-related experiences that vary across socio-demographic groups and shape faculty opinions about tenure process equity. We juxtapose this literature with organizational studies of procedural fairness and abstract those workplace conditions that potentially shape beliefs about the justness of tenure reviews among tenure-track faculty who have not yet undergone the

review (i.e., probationary faculty). Using data from the Collaborative on Academic Careers in Higher Education (COACHE), from the Harvard Graduate School of Education, we employ structural equation modeling (SEM) to answer the overarching question: How do workplace experiences affect judgments about the equity of tenure decision-making among probationary faculty? Specifically, we ask:

- Do probationary faculty members' perceptions of campus conditions that affect their capacity to prepare strong tenure cases—job autonomy, collegiality, equitable treatment of junior faculty, effectiveness of feedback, effectiveness of mentoring, and quality of resources—shape their beliefs about the fairness of tenure reviews at their universities?
- How do probationary faculty members' gender, race, disciplinary affiliations, and years on the tenure track influence their perceptions of the workplace and tenure review fairness?
- To what extent do workplace perceptions mediate the impact of probationary faculty members' socio-demographic characteristics on their beliefs about the equity of tenure decision-making?

Conceptual Framework

The conceptual framework that guides our inquiry integrates scholarship on faculty views of the tenure process with studies of employees' beliefs about the fairness of personnel performance appraisals conducted in nonacademic settings. In our literature review, we first highlight key findings regarding how faculty comprehend and judge the equity of the tenure process. We include both studies where faculty perceptions of tenure are the primary focus (e.g., Williams & Williams, 2006) and inquiries where these perceptions are variables used to predict differences in outcomes, such as overall job satisfaction and retention (e.g., August & Waltman, 2004). We then summarize results of inquiries that explain how aspects of the workplace shape beliefs about the justness of personnel review procedures among those who have not yet been evaluated. We conclude with a conceptual framework we developed to explicate how judgments about tenure decision-making fairness might evolve among probationary faculty.

Faculty Perceptions of the Tenure Process

The tenure process involves both the socialization of new faculty members to their disciplines and campuses (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007; Becher, 1989; Rice, Sorcinelli, & Austin,

2000; Tierney & Bensimon, 1996) and an organizational decision about whether to grant continuing membership to a colleague (Youn & Price, 2009). Tierney and Rhoads (1993) observed, "From a cultural perspective, promotion and tenure is a ritual process that serves as a rite of passage for new faculty" (p. 41). It socializes new faculty to campus norms and values (Tierney & Bensimon, 1996; Tierney & Rhoads, 1993) and functions as a status-elevation process with fixed and "identifiable steps." Those who enter the academy are aware that eventually a judgment will be made about whether they will be promoted and receive tenure. Furthermore, passage to full membership involves "winning the approval of organizational gatekeepers who evaluate each participant on an individual basis" (Tierney & Rhoads, 1993, pp. 39–41).

Writing for the American Association of College and University Professors, Euben (2002) captured the bureaucratic decision-making aspects of the tenure process. The personnel decision to grant tenure is usually made after a probationary period of seven to ten years by an institution's governing board. Typically, a collegial review of candidates' performance in relation to established criteria is a critical aspect of a board's decision (Euben, 2002). Euben concluded, "Faculty tenure is, in its essence, a presumption of competence" (para. 7) that carries with it a kind of civil service protection, although it is not a lifetime guarantee of employment.

Whether tenure is viewed as a cultural rite of passage or personnel decision-making, writers share a key assumption. The tenure process can be subdivided into two theoretically distinct phases: (1) a probationary period during which early career faculty strive to discern performance expectations and generate "evidence" that they perform at desired levels and (2) an appraisal phase, the tenure review, when organizational decision-makers evaluate candidates' portfolios and decide if tenure should be granted. Our review of the higher education literature is organized around these two phases. Because we are also interested in how faculty members' socio-demographic characteristics may influence their perceptions of the process, we conclude with a brief discussion of variations in the perspectives of different groups.

Probationary Period. Working conditions early in the faculty career shape campus interactions and affect one's capacity to construct a strong tenure dossier. While some faculty believe experiences during the probationary period provide insights into the professional contributions deemed important by their disciplines and campuses (e.g., Cawyer, Simonds, & Davis, 2002), others paint a less favorable picture (e.g., Kaminski & Geisler, 2012). The findings from qualitative studies

with pre-tenure and tenured faculty (e.g., Ambrose, Huston, & Norman, 2005; Tierney & Bensimon, 1996) and surveys conducted in single and multiple institutions (e.g., August & Waltman, 2004; Johnsrud & Des Jarlais, 1994) consistently underscore collegial relations, organizational climate, role expectations, performance feedback, and resources that can be problematic and affect one's capacity to assemble a strong tenure portfolio.

A lack of collegial support is a source of discouragement that regrettably, for some individuals, lasts throughout the entire tenure process (Jackson, 2004; Johnsrud & DesJarlais, 1994). Figuring out the "rules of the game" is challenging to new faculty (Schrodt, Cawyer, & Sanders, 2003). They are attuned to tacit and explicit organizational messages about what it means to be a member of their campus communities (Tierney & Bensimon, 1996). Role ambiguity (Olsen, 1993) and feelings of social isolation are upsetting (Cawyer & Friedrich, 1998), and professional and social interactions with both junior and senior faculty members are often disappointing and stressful (Sorcinelli, 1992; Turner & Boice, 1987; Witt, 1991). Early career faculty turn to their peers for emotional support and to senior colleagues for answers to professional questions about their teaching and research. Junior faculty who lack open communication with senior colleagues believe they are disadvantaged, especially with regard to interpreting organizational expectations (Cawyer & Friedrich, 1998; Feldman, 1976; Olsen & Sorcinelli, 1992; Philip & Hendry, 2000). Collegiality is eroded by perceptions that senior faculty are preoccupied, unavailable to give advice on campus or departmental matters or are disinterested in their junior colleagues' work (Norman, Ambrose, & Huston, 2006). A lack of collaboration on research and teaching disappoints early career faculty who understand that these opportunities can ultimately affect their research productivity (Sorcinelli, 1992).

Looking for signs of group acceptance, new faculty are particularly sensitive to departmental actions that signal inequitable treatment (Bronstein & Farnsworth, 1998; Fenelon, 2003). Throughout the probationary period, relationships with campus administrators, particularly department chairs, are important (Ambrose et al., 2005; Gmelch & Schuh, 2004). Chairs can impact workload, access to resources, and inclusion in decision-making as well as collegial relations (Ambrose et al., 2005; August & Waltman, 2004), and the uneven distribution of teaching, advising, and service demands is a longstanding concern (Johnsrud & Des Jarlais, 1994; Misra, Lundquist, Holmes, & Agiomavritis, 2011). Furthermore, chair turnover near the end of the probation-

ary period and before the tenure review can affect the strength of a candidate's case if the new chair is unfamiliar with an individual (Ambrose et al., 2005; August & Waltman, 2004; Austin & Rice, 1998).

Mentoring is another major concern. Mentors support their protégées in many ways (Alexander, 1992; Kram, 1983; Schrodt et al., 2003), psychologically (e.g., friendship, counsel) and instrumentally (e.g., protection, sponsorship). Their guidance is critical for junior faculty as they negotiate political landmines within departments, figure out how to set reasonable career goals, and determine activity priorities (Ambrose et al., 2005). While there is some debate about whether mentoring relationships that emerge naturally between individuals are more effective than those formed through formal programs (Alexander, 1992; Noe, 1988), Schrodt et al. (2003) found that both types of protégées said they received adequate information about role expectations more often than those who were not mentored.

Early career faculty are frustrated with the quality and frequency of performance feedback (Ambrose et al., 2005; Gmelch, Wilke, & Lovrich, 1986; Seldin, 1987). Half the sampled faculty in Olsen and Sorcinelli's (1992) longitudinal study stated that their annual written evaluations were irritating and served "more as an insurance policy for the university than as feedback for the faculty member" (p. 20). The sentiment that these reviews lack constructive information to improve performance is echoed by Norman et al. (2006), who noted, "Candidates are not told about shortcomings in their work until a negative promotion decision has been reached, whereupon she or he feels blindsided" (p. 354).

While some probationary faculty are pleased with the autonomy they experience in setting their teaching and research agendas (Olsen & Sorcinelli, 1992; O'Meara, 2002), others are dissatisfied. Academics whose scholarly work focuses on gender and racial issues (Williams & Williams, 2006) or is situated at the intersections of traditional disciplines (Edwards, 1999) may be dissuaded from pursuing particular lines of inquiry. Austin and Rice (1998) have argued that "academic freedom is being compromised by the very system established to protect it" (p. 748). Their interviews with young faculty suggest that research topics are being chosen on the basis of their attractiveness to members of promotion and tenure committees or the speed with which a study can be completed rather than their promise.

Workload and resource apprehensions frequently arise when junior faculty discuss their work lives. Rising expectations with regard to research productivity are alarming, especially on campuses where administrators seek to enhance institutional prestige but fail to provide

adequate research support, such as services that facilitate grant submission, access to new technology, and research assistants (Youn & Price, 2009). However, recent changes in hiring practices have intensified workload concerns across the board, as fewer tenure-track faculty members are available to share service obligations and teaching demands—including advising, dissertation supervision, and qualification examinations (Finkelstein, Seal, & Schuster, 1998; Graubard, 2001).

Tenure Review. Tenure and promotion involve multiple actors engaged in a series of assessments and rule-based actions who “rely on the logic of ‘appropriateness’ rather than the logic of ‘rational calculation’” (March & Olsen, 1989, p. 22). The logic of appropriateness characterizes decision-making in normative organizations where “favorability of a decision or even the fairness of the decision (outcome) plays only a minor role in determining legitimacy. Much more important, it appears, are judgments of the fairness of the procedures” (Tyler & Lind, 1992, p. 163, quoted in Birnbaum, 2004, p. 13), which are grounded on values constructed by individuals during their organizational socialization.

A common faculty misgiving about tenure decision-making is the lack of process clarity and transparency. Junior faculty report that the criteria and standards are opaque (O’Meara, 2002). It is difficult to discern what “counts” in the tenure decision (Norman et al., 2006) or “what is enough” (Finkelstein & LaCelle-Peterson, 1992; see also Olsen & Sorcinelli, 1992), and individuals who decide to leave campus prior to the tenure review often cite this lack of clarity as a contributing factor (Ambrose et al., 2005).

Inappropriate or irrelevant criteria and the expertise of decision-makers are also noted. Faculty working in emerging areas of scholarship report that tenure committee members who are unfamiliar with their area or believe it is peripheral unfairly devalue their work. They perceive that these subjective and inappropriate opinions are used to justify negative evaluations (Bullough, 2000; Delgado & Villaplando, 2002; Exum, 1983; Garza, 1993; Johnsrud & Des Jarlais, 1994). Others fear evaluators, particularly in STEM fields, may not be sufficiently up to date with developments and are therefore unable to judge the merits of their scholarship (Austin & Rice, 1998; Singh, Robinson, & Williams-Green, 1995).

Both probationary and tenured faculty perceive inconsistencies in the appraisal process—the playing field is not level. Junior faculty believe they can be unfairly held accountable for annoying a senior colleague or penalized for poor relations with their department chair (Newman, 1999; Olsen & Sorcinelli, 1992). Faculty members also recount

incidents where misrepresentations of information about individuals harmed the evaluation process (Bronstein, 1993; Jackson, 2004; Norman et al., 2006). On campuses where promotion and tenure decisions are made in secret, candidates cannot defend themselves against alleged distortions, and reservations about due process intensify (Norman et al., 2006). Faculty complain that inconsistent criteria and procedures result in a perception that the high-stakes personnel decision is based on departmental politics and not the merits of a candidate, further exacerbating the “chilly climate” for women and minority faculty (Norman et al., 2006). Bronstein and Farnsworth (1998) have warned that when campuses tolerate such actions, they communicate that discrimination against certain social groups is accepted.

Subgroup Differences. Within the academy, work lives and perspectives on the tenure process vary. Perceptions of employment conditions during the probationary period and beliefs about the fairness of the tenure review fluctuate depending on a faculty member’s gender (Moore & Sagaria, 1993; O’Meara, 2002; Riger, Stokes, Raja, & Sullivan, 1997; Rosser, 2004), race (Bronstein, Rothblum, & Solomon, 1993; Jayakumar et al., 2009; Ponjuan et al., 2011; Tolbert, 1995; Williams & Williams, 2006), disciplinary affiliations (Edwards, 1999; Garza, 1993; Rice & Sorcinelli, 2002), and years on the tenure track (Barnes & Mertz, 2012; Olsen & Crawford, 1998; Ponjuan et al., 2011). There is evidence that males and White faculty are more satisfied with the tenure process (Bornstein & Farnsworth, 1998) and perceive the standards as fair (Barnes & Mertz, 2012; Jackson, 2004). Also, compared to women and faculty of color, White males are more likely to view their working conditions as supportive (Williams & Williams, 2006), collegial (Ponjuan et al., 2011), inclusive, and collaborative (Ambrose et al., 2005; August & Waltman, 2004; Bornstein & Farnsworth, 1998). However, studies also indicate differences in beliefs about working conditions and the tenure review (1) within racial groups depending on gender, years on the tenure track, and field of study and (2) among men and women depending on their disciplines. For example, with regard to time on the tenure track, Jackson (2004) discovered that within a cross sectional sample, both pre-tenure and tenured faculty believe the decision-making process lacks integrity. In a longitudinal study, Ambrose and Cropanzano (2003) found that a faculty member’s pre- and post-tenure beliefs about the fairness of the review differed.

Organizational Justice and Procedural Fairness

Literature on employees’ perceptions of decision-making equity offers insights into how probationary faculty members’ workplace experi-

ences may shape their opinions about the fairness of tenure reviews. The term *organizational justice* is used to describe research on workplace equity (Ambrose, 2002; Colquitt, Greenberg, & Zapata-Phelan, 2005; Greenberg, 1990), “the ways in which employees determine if they have been treated fairly in their jobs and the ways in which these determinations influence other work-related variables” (Moorman, 1991, p. 845). *Procedural justice* inquiries focus on the processes through which decisions are made and individuals’ beliefs about the fairness of these procedures (Colquitt & Greenberg, 2003; Cropanzano & Folger, 1989; Greenberg, 1986, 1990; Tyler, 1994;). Within this large body of literature, research extending the seminal studies of Thibault and Walker (1975) and Leventhal (1980) is particularly relevant to the present inquiry.

In brief, Thibault and Walker examined dispute resolutions, focusing on the degree of control different parties have over the procedures used to assemble and present information (process control) and over the determination of outcomes (decision control). They found individuals who are satisfied with their involvement in the construction and presentation of their cases consistently believe the decision-making process used by others to resolve the dispute is fair. The same was true for individuals in personnel performance appraisal settings where opportunities for input and voice were varied (Colquitt, Noe, & Jackson, 2002; Dipboye & de Pontbraind, 1981; Lind, Kanfer, & Earley, 1990; Lind, Lissak, & Conlon, 1983; Murphy & Tyler, 2008; Rubin, 2007; Tyler & Blader, 2003).

Leventhal (1980) examined organizational procedures for distributing rewards and identified six “rules” individuals use to judge the fairness of these processes (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). The “rules” account for how well the procedure represents the concerns of all recipients, suppresses bias, consistently applies procedures over time and across individuals, relies on accurate information, provides mechanisms to correct decisions, and is based on prevailing ethical and moral standards (Ayree, Chen, & Budhwar, 2004). Leventhal and his colleagues proposed no scheme for weighting these criteria. Instead, they assumed that the importance of each one depends on the decision-making context (Folger & Greenberg, 1985). Subsequent studies highlight aspects of personnel review procedures that Leventhal found were important to those being evaluated. Examples include whether or not the method of assessment is well reasoned, explained, and communicated in a sincere fashion (Bies, Shapiro, & Cummings, 1988; Greenberg, 1990; Tyler & Bies, 1989); the criteria are unbiased (Rubin, 2007); and the procedures are applied consistently across individuals and over time (Ayree et al., 2004; Schminke, Ambrose, & Cropanzano, 2000).

Thibault and Walker (1975) and Leventhal (1980) assumed control over information input is central to perceived procedural fairness but differed in their assumptions about if and how decision outcomes affect individuals' beliefs about the fairness of decision-making procedures (Folger & Greenberg, 1985). However, studies in a variety of contexts suggest that ratings of procedural fairness are not dependent on whether or not a decision is favorable (Ambrose, 2002; Colquitt et al., 2001; Lind, Tyler, & Huo, 1997). The growing body of literature on performance appraisals continues to show employees with more agency in defining their work roles (job autonomy) and making their best case (process control) are likely to perceive decision-making processes are fair, even if the outcomes are not in their favor (Lind et al., 1990; van den Bos, 2005).

Finally, interpersonal treatment by a decision-maker, or interactional justice, also affects perceptions of procedural fairness (Beugré & Baron, 2001; Bies & Moag, 1986; De Cremer & Tyler, 2005; Skitka, 2003). Individuals attend to authorities' behavior, searching for cues about how other group members view them. Employees who believe their supervisors provide important information and treat them with dignity are more inclined to believe personnel appraisal processes are fair (Bies, 2013; Bobocel & Holmvall, 2001; van den Prooijen, van den Bos, & Wilke, 2002). Individuals who feel a stronger sense of intra-group belonging and those who trust administrators' performance feedback are more likely to believe decisions are justified—"even when their choice(s) lead to disadvantageous outcomes" (Greenberg, 1990, p. 403).

Summary of Framework

The time leading up to the tenure decision is a period of both intense socialization and personnel decision-making, and this career phase can be confusing to candidates. However, this probationary period is comprised of identifiable steps (Tierney & Bensimon, 1996) that can be subdivided into two distinct but interrelated phases: 1) a stage when candidates develop dossiers to document their accomplishments and 2) a stage when review committees evaluate candidates' portfolios. Consistent with procedural fairness and faculty tenure research, our model posits beliefs about review equity take shape before faculty undergo the review. Comparisons of the perceptions of faculty who were and were not granted tenure align with findings from procedural fairness studies in nonacademic personnel contexts. Individuals who are granted tenure are not more positive about the process than those who were denied or those who left before the decision was made (e.g., Johnsrud & Des Jarlais, 1994; Norman et al., 2006). Given the similarity of the criteria em-

ployees outside academe use to judge the equity of personnel appraisals and junior faculty misgivings about the tenure review, the model also assumes beliefs about the clarity and reasonableness of expectations and whether or not decisions are performance-based proxy perceptions of tenure review fairness.

The framework proposes that perceptions of workplace conditions that enhance or diminish the capacity of probationary faculty to meet tenure criteria (agency) directly affect their judgments about the equity of tenure reviews on their campus. For example, those who believe performance feedback is ineffective or that junior faculty are not treated equitably may be inclined to believe decisions are not merit-based (e.g., Ambrose et al., 2005). The model also hypothesizes that workplace perceptions vary among faculty subgroups and that these beliefs mediate the effects of socio-demographic characteristics on beliefs about the fairness of tenure reviews (see Figure 1). For example, women may have less access to mentoring that serves to clarify tenure criteria. The degree of clarity, in turn, may result in differences in the fairness perceptions of men and women. However, the framework also takes into account experiences attributable to race, gender, field of study, or time on a particular campus that may directly affect fairness perceptions. For example, women may be differentially affected by family obligations that reduce time available for work-related activities and foster beliefs that performance standards are unreasonable (Drago et al., 2005; O’Meara & Campbell, 2011).

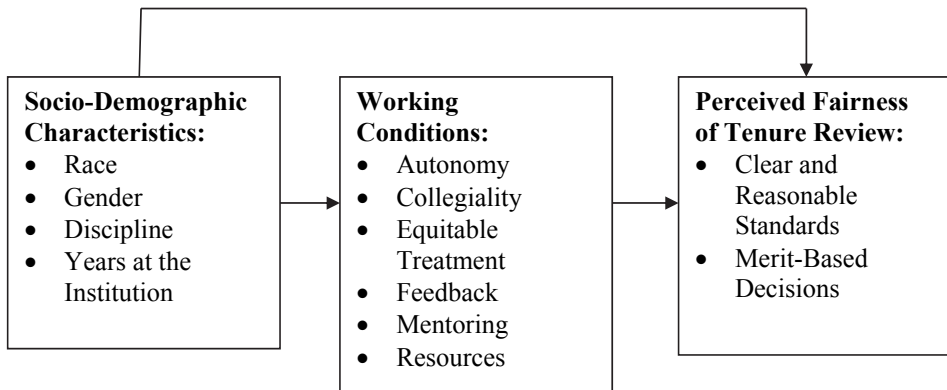


FIGURE 1. Conceptual Framework

Method

Dataset and Sample

The data for this study are drawn from a multi-institutional survey of tenure-track faculty conducted annually since 2005 by the Collaborative on Academic Careers in Higher Education (COACHE) at the Harvard Graduate School of Education. A diverse array of four-year post-secondary institutions voluntarily participates in the survey, which is designed to assess and improve pre-tenure faculty work life. The questionnaire includes multiple Likert-scaled items that ascertain respondents' perceptions of and satisfaction with their department, school, and campus environments and is especially attentive to standards, processes, and criteria around tenure.

For our study, we used data gathered in the 2005–2006 academic year.¹ The survey was sent electronically to all full-time, non-tenured tenure-track faculty who had worked at least six months at their institutions, a total of 8,308 individuals at 51 institutions. The response rate was 59 percent ($N = 4,866$). We limited our sample to faculty at the Assistant Professor rank, removing those identified as Instructor/Lecturer or Associate Professor. To reduce difficulties associated with multi-institutional samples (Dooris & Guidos, 2006), and because 98 percent of public and 84 percent of private doctoral universities have tenure systems (NCES Digest of Educational Statistics, 2011), we further limited our sample to include only faculty employed in universities characterized as “very high” research activity (RU/VH) by the Carnegie basic classification. Most of the study sample is White (76%) and male (56%), and just over one third are from disciplines categorized by Biglan (1973) as “hard sciences” (see Table 1). They had spent an average of three years working at their current institution, with a standard deviation of 1.6 years. Hence, the working sample for this analysis was 2,247 pre-tenure assistant professors on the tenure track at 21 research universities (see Table 1).²

Measures

The dependent variable in the model is a factor-derived indicator gauging faculty judgments of the fairness of tenure reviews on their campuses (Perceived Fairness of Tenure Reviews, henceforth referred to as Perceived Fairness). Items assessing faculty perceptions of the decision-making criteria and procedures used by colleagues during the tenure review were subjected to principal axis factor analyses with varimax rotation. This analysis produced two factors corresponding to

TABLE 1
Descriptive Statistics

| | <i>n</i> | Minimum | Maximum | Mean | SD |
|-------------------------------------|----------|---------|---------|------|------|
| Socio-Demographics | | | | | |
| Gender (female) | 2,247 | 0 | 1 | 0.44 | 0.50 |
| Race/ethnicity (white) | 2,247 | 0 | 1 | 0.76 | 0.43 |
| Discipline (hard) | 2,247 | 0 | 1 | 0.36 | 0.48 |
| Years at the Institution | 2,247 | 1 | 10 | 2.96 | 1.61 |
| Working Conditions | | | | | |
| Autonomy | 2,156 | 1 | 5 | 4.46 | 0.66 |
| Collegiality | 2,062 | 1 | 5 | 3.75 | 0.96 |
| Equitable Treatment | 2,085 | 1 | 5 | 3.77 | 1.30 |
| Feedback | 1,862 | 1 | 5 | 3.44 | 1.21 |
| Mentoring | 1,788 | 1 | 5 | 3.33 | 1.18 |
| Resources | 2,014 | 1 | 5 | 3.59 | 0.93 |
| Perceived Fairness of Tenure Review | 1,949 | 1 | 5 | 3.71 | 0.80 |

the “rules” Leventhal (1980) found individuals use to judge procedural fairness: Clarity ($\alpha = 0.868$) and Reasonableness ($\alpha = 0.687$). We created a scaled variable by averaging the scores for the items comprising the Clarity and Reasonableness factors and the response to a single Likert-scaled item that asks how strongly a faculty member believes tenure decisions are based on performance criteria (the component items and loadings for the two factors are listed in Appendix A). In keeping with other studies of procedural fairness, we did not weight the importance of these different aspects of fairness, nor did we predict each one individually (Folger & Greenberg, 1985). Consequently, fairness of the tenure review in this study encompasses the clarity of criteria and standards, the reasonableness of these expectations, and a belief that decisions are based on a candidate’s performance during the probationary period.

The socio-demographic characteristics include a continuous variable indicating years of employment at the institution and dummy variables representing race, gender, and discipline. Biglan’s (1973) classification of disciplines was used to categorize disciplines as either “hard” (i.e., engineering, computer science, mathematics, physical sciences, biological sciences, and agriculture) or “soft” (i.e., arts and humanities, social

sciences, health and human ecology, business, and education). (See Table 2 for summary of variable definitions.)

Perceptions of work environment during the probationary period (Working Conditions) are represented by five scaled variables derived from factor analyses of items assessing faculty satisfaction with circumstances that can inhibit or enhance role performance: Autonomy, Collegiality, the Effectiveness of Feedback, the Effectiveness of Mentoring, and Resources (see Appendix A for component items and factor loadings). The sixth indicator is a single item that inquires about the equitable treatment of junior faculty.³

Analytic Strategy

We used structural equation modeling (SEM) to evaluate our hypothesized model. SEM assesses the degree to which patterns of variance and covariance in the data support the model by estimating the magnitude and statistical significance of the structural relationships among the theoretical constructs (Kline, 2005). To accurately estimate model fit, covariances among all socio-demographic (exogenous) variables and among all working-condition variables (mediators) were included (correlations are displayed in Appendix B). We conducted the SEM analysis with STATA version 12 software using maximum likelihood estimation (MLE).

The specific paths and variables included in the SEM are indicated in Figure 2. The structural paths are based on previous research and the results of multiple regression analyses we conducted to optimize model parsimony. Using OLS, we first regressed measures of working conditions against the socio-demographic variables. Then, using block entry OLS, we regressed socio-demographic and working-condition variables that achieved significance in the OLS against Perceived Fairness (see Appendix C for regression results).

We considered several measures of fit to determine the relative efficiency of our estimates: the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the ratio of the Chi-square statistic to degrees of freedom (X^2/df). Current standards suggest CFI indices above 0.90, a RMSEA index equal to or below 0.05, and $X^2/df > 3.0$ indicate a good-fitting model (Bollen, 1989; Hu & Bentler, 1999). Our sample exceeds by far the minimum sample size required to achieve a power of 0.80 for 13 degrees of freedom (MacCallum, Browne, & Sugawara, 1996).

TABLE 2

Variable Definitions

| Variable | Description |
|-------------------------------------|--|
| Gender | Scale: 0 = Male, 1 = Female |
| Race | Scale: 0 = Non-White, 1 = White, Non-Hispanic |
| Discipline | Primary area of teaching. Scale: 0 = Soft (Arts & Humanities, Social Sciences, Health & Human Ecology, Business, Education); 1 = Hard (Engineering, Computer Science, Mathematics, Physical Sciences, Biological Sciences, Agriculture) |
| Years at the Institution | Number of years spent working at current institution. Scale: years |
| Autonomy | Satisfaction with influence and discretion over teaching and research. Scale: 3 items (low indicates lack of autonomy, high indicates strong sense of autonomy) Reliability: $\alpha = 0.602$ |
| Collegiality | Satisfaction with professional and personal interactions with pre-tenure and tenured department colleagues. Scale: 4 items (low indicates dissatisfaction with collegiality, high indicates satisfaction) Reliability: $\alpha = 0.815$ |
| Equitable Treatment | Single item asked faculty to identify their level of agreement with the statement: "On the whole, my department treats junior faculty fairly compared to one another." Scale: 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree. Responses of "Not Applicable/I don't know" and "Decline to Answer" were removed from the analyses. |
| Feedback | Perceptions of the effectiveness of formal and informal performance reviews. Scale: 2 items (low indicates ineffective feedback, high indicates effective feedback) Reliability: $\alpha = 0.947$ |
| Mentoring | Perceptions of the effectiveness of formal and informal mentoring relationships at the faculty member's institution. Scale: 2 items (low indicates ineffective mentoring, high indicates effective mentoring) Reliability: $\alpha = 0.728$ |
| Resources | Satisfaction with the quality of resources—namely, clerical/administrative services, teaching services, computing services, and research services—available to support faculty work. Scale: 4 items (low indicates dissatisfaction with resources, high indicates satisfaction with resources) Reliability: $\alpha = 0.751$ |
| Perceived Fairness of Tenure Review | Composite variable representing the average of the means of the six items pertaining to perceived clarity around tenure expectations, the three items pertaining to the reasonableness of the performance expectations, and a single item asking respondents to rate their opinion about the degree to which "tenure decisions here are made primarily on performance-based criteria rather than on nonperformance criteria." Scale: 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree. Responses of "Not Applicable/I don't know" and "Decline to Answer" were removed from the analyses. |

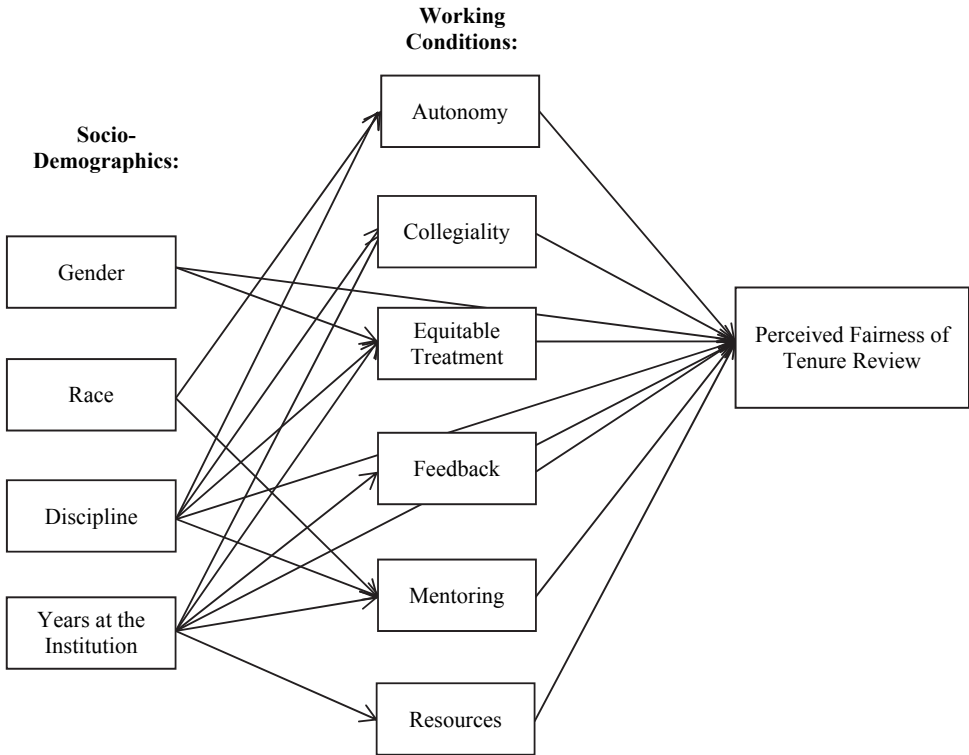


FIGURE 2. Path Model of Perceived Fairness

Note. Covariances of the exogenous and the mediator variables were calculated but are not shown in the figure.

Limitations

Institutions elect to participate in COACHE and pay to have the survey administered and results analyzed by COACHE researchers. Motivations for participating likely vary; some institutions may be reacting to expressed concerns about the tenure process, others may lack an understanding of the range of faculty experiences around tenure, while still others may be seeking validation for what they already perceive as a positive climate. The data used here are de-identified, and we are unable to assess whether selection bias at the institutional level might be present. It is possible that the sample of 21 universities may not accu-

rately reflect the context for tenure of the population of approximately 108 RU/VH institutions,⁴ although Trower (2002) reviewed the formal employment policy statements from 217 four-year institutions and found they were surprisingly consistent across individual campuses as well as across institution types.

The COACHE instrument was intended to be diagnostic rather than designed to test specific theoretical propositions. For instance, although we included an individual's race and gender, as well as several dimensions of working conditions, we did not have direct measures pertaining to their perceptions of the institutional and departmental climate specific to race and gender and how these might intersect with perceptions of tenure-review fairness. The presence (or absence) of a "chilly climate" is hypothesized to be an important factor in the tenure experience for women and faculty of color, so inclusion of such variables is an important consideration in future studies of our model (August & Waltman, 2004; Johnsrud & Des Jarlais, 1994; Williams, Alon, & Bornstein, 2006).

Moreover, the dichotomously coded measure of race is, at best, a rough approximation of a complex social construct. The category labeled as White included faculty with origins in Europe, North Africa, and the Middle East. The non-White category encompassed faculty "having origins in any of the black racial groups of Africa" as well as Asians, Asian Americans, Cubans, and Mexicans. Limiting an individual's racial and ethnic identity to such high-level categories constrains our ability to offer insights into how faculty from different racial and ethnic groups navigate their workplaces and the tenure process.

Finally, in this exploratory analysis, the direct effects of socio-demographic characteristics on perceptions of fairness were drawn based on the OLS regression results. This decision increases the potential for capitalization on chance (MacCallum, Roznowski, & Necowitz, 1992).

Results

Collectively, the fit statistics indicate that the specified model may be provisionally accepted. The RMSEA is 0.021 with a 90 percent confidence interval between 0.009 and 0.033, and all residuals in the SEM are close to zero. The RMSEA is below the maximum threshold of 0.05 suggested by Byrne (1998) and 0.06 suggested by Hu and Bentler (1999). The CFI is 0.997 (Hu & Bentler, 1999), the Satorra-Bentler χ^2 is 25.940 ($df = 13$, $p = 0.017$), and the χ^2/df index is 2.0, which is within the standard suggested by most researchers (Bollen, 1989).

As predicted, perceived working conditions directly influence beliefs about the fairness of the tenure review, and the effect sizes are generally larger in magnitude than those of individuals' socio-demographic characteristics (see Table 3 for full SEM results). However, the variables do not exert strong influences according to Rosenthal and Rosnow's (1991) standards (i.e., 0.30). Satisfaction with working conditions positively affects faculty opinions about the justness of the tenure process. The strongest relationship is observed for equitable treatment of junior faculty in their departments (ES = 0.27) followed by perceived effectiveness of feedback (ES = 0.21). Satisfaction with the level of workplace autonomy (ES = 0.17) and effectiveness of mentoring (ES = 0.14) have modest impacts on perceived fairness. Though statistically significant, we found relatively weak effects for collegial relationships in the department (ES = 0.10) and satisfaction with resources and support services (ES = 0.05).

Socio-demographic variables that we expected would directly influence fairness beliefs are significant. Women and faculty who have been at their campuses for longer periods of time are less likely to think the tenure process is equitable (ES = -0.04 and -0.02, respectively). Faculty members in the hard disciplines hold more positive views (ES = 0.08) compared to those in the soft disciplines. However, the relationships between perceived fairness and gender, years on campus, and discipline are also mediated by faculty views of working conditions. Women are more likely to believe junior faculty are not treated equitably (ES = -0.08) and, in turn, this belief negatively influences their judgments of the tenure review. Among faculty in the hard sciences, perceptions of equitable treatment (ES = 0.06) and effective mentoring (ES = 0.08) strengthen trust in tenure decision-making. Negative effects of discipline are transmitted through faculty dissatisfaction with their autonomy (ES = -0.06) and collegiality (ES = -0.05). Years on the tenure track result in lower satisfaction with equitable treatment, resources, mentoring, collegiality, and performance feedback. Ultimately, these negative views diminish faculty beliefs that the tenure review is just.

Race did not directly influence beliefs about tenure review fairness. The effects of race are mediated by faculty opinions about their autonomy in setting their research and teaching agendas (ES = 0.106) and the effectiveness of mentoring (ES = -0.04). Faculty who self-identify as White are more satisfied with their autonomy whereas they are disappointed in the mentoring they receive. Hence, the impact of race on perceived fairness is mixed.

TABLE 3
Standardized Coefficients for the Direct Effects in the Structural Equation Model

| | Working Conditions | | | | | Perceived Fairness of Tenure Review |
|---------------------------|--------------------|--------------|------------------------|-----------|-----------|--|
| | Autonomy | Collegiality | Equitable Treatment | Feedback | Mentoring | |
| Socio-Demographics | | | | | | |
| Gender (female) | | | -0.079*** | | | -0.035* |
| Race (white) | 0.106*** | | | | -0.044* | |
| Discipline (hard) | -0.061** | -0.045* | 0.059** | | 0.080*** | 0.081*** |
| Years at the Institution | | -0.082*** | -0.169*** | -0.097*** | -0.133*** | -0.015 |
| Working Conditions | | | | | | |
| Autonomy | | | | | | 0.171*** |
| Collegiality | | | | | | 0.104*** |
| Equitable Treatment | | | | | | 0.267*** |
| Feedback | | | | | | 0.211*** |
| Mentoring | | | | | | 0.142*** |
| Resources | | | | | | 0.052*** |

Notes. Cells with no entry are not part of the path model. All correlations among working condition variables are significant. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$. (Significance corresponds to unstandardized coefficients.)

Discussion

We make at least two important contributions to research on the tenure process. We substantiate past findings from qualitative inquiries describing individual experiences with and perceived inequities in tenure decision-making (e.g., Ambrose et al., 2005; Austin & Rice, 1998; Olsen & Sorcinelli, 1992; Tierney & Bensimon, 1996). In addition, we focus attention on the tenure review and workplace factors that may diminish a faculty member's trust in this evaluation process. Faculty perceptions of tenure-review fairness are not usually the outcome of interest in quantitative studies (e.g., Ambrose & Cropanzano, 2003). Typically, researchers use faculty members' views of tenure practices to predict job satisfaction, productivity, and retention and offer post hoc explanations for how beliefs about the fairness of these practices evolve (e.g., August & Waltman, 2004; Bronstein & Farnsworth, 1998; Johnsrud & Des Jarlais, 1994). We address these limitations by empirically evaluating a conceptual model that specifies *a priori* how socio-demographic and workplace factors shape faculty beliefs about the equity of tenure reviews.

Overall, the results suggest perceptions of campus conditions that constrain and enhance preparation of strong dossiers directly affect probationary faculty members' beliefs about the review processes they will undergo. Assistant professors who think the departmental climate for junior faculty is equitable and that performance evaluations and mentoring are effective believe tenure reviews are fair. Those who are satisfied with their agency in establishing their teaching and research agendas also think reviews are equitable. Though the results are less robust, satisfaction with professional and personal interactions with pre-tenure and tenured faculty in their departments (collegiality) as well as satisfaction with support services for teaching and research influence individuals' beliefs about the tenure review. Gender and discipline exert direct effects on these perceptions as well. Women believe the evaluations are inequitable, and faculty in the hard disciplines think judgments are fair. However, within our sample, the effects of socio-demographic characteristics on perceived equity of campus tenure appraisals are most often indirect, mediated by individuals' workplace perspectives. For example, those who have been on campus longer report less satisfaction with most aspects of their work environments, and this dissatisfaction shapes their beliefs about the tenure review.

We have organized our discussion of study findings according to our research questions. We first consider how faculty members' workplace perspectives influence their beliefs about the fairness of tenure reviews

on their campuses. We then look at differences in views across socio-demographic subgroups and how these views are mediated by workplace perceptions. In conclusion, we discuss directions for further inquiry as well as practice-based implications for academic leaders and campus decision-makers.

Influence of Perceived Working Conditions on Beliefs About Fairness

Research findings show that employees about to undergo reviews who believe they control input and are able to make their best case (process control) are more likely to assume decision-making processes are equitable (e.g., Greenberg, 1990; Lind et al., 1997; Murphy & Tyler, 2008; Rubin, 2007). Consistent with these findings, we observed that satisfaction with features of their employment that enhance their capacity to understand and respond to role expectations predict probationary faculty perspectives regarding the fairness of tenure reviews on their campuses. Specifically, perceptions that criteria are clear and reasonable and that decisions are based on performance data (Perceived Fairness) are shaped by: (1) an organizational climate characterized by equitable treatment of junior faculty, collegial relations, and autonomy over one's teaching and research and (2) policies and practices that provide effective performance feedback, effective mentoring (formal and informal), and instrumental support for instructional and scholarly activities.

Organizational Climate. Our finding regarding the treatment of junior faculty aligns with both higher education and procedural justice research indicating that individuals about to undergo a personnel review are particularly sensitive to messages regarding how they are viewed by those in authority who will participate in the appraisal (e.g., Bobocel & Holmvall, 2001; Fenelon, 2003; Skitka, 2003). Also, in keeping with prior investigations (e.g., Olsen & Sorcinelli, 1992; Philip & Hendry, 2000; Ponjuan et al., 2011), our results suggest that satisfying personal and professional interactions with junior and senior colleagues fosters beliefs that the review procedures are fair. Unfortunately, our collegiality measure does not identify the nature of these interactions and whether they involve collaborations on research projects or conversations that clarify role expectations and enhance junior faculty members' sense of control over decision input.

Organizational researchers (Greenberg, 1990; Rubin, 2007) have found that employees who are granted latitude in defining their roles are more likely to believe performance appraisal processes are fair, even if the outcome is not in their favor. Austin and Rice (1998) have argued

that junior faculty believe they need to undertake projects that can be completed quickly or that fit with review committee members' expertise. Their sense of professional autonomy is diminished, and they are dissatisfied with the tenure process. Consistent with these observations, our results indicate untenured faculty members' satisfaction with their agency in constructing their work cultivates an impression that the tenure review is fair.

Supportive Policies and Practices. A tenure decision is cumulative, based on a body of work generated during the probationary period. A common theme in the literature is that pre-tenure faculty are uncertain about the adequacy of their performance and this feeling fosters dissatisfaction with the tenure process (Norman et al., 2006; O'Meara, 2002). Our results underscore the importance of formal and informal mentoring programs that help protégés understand campus role expectations and suggest effective performance feedback can positively impact fairness beliefs (e.g., Gmelch et al., 1986; Norman et al., 2006; Olsen & Crawford, 1998).

Youn and Price (2009) have proposed that satisfaction with the tenure process is diminished when institutions seek to enhance their reputations by ratcheting up research expectations but lag behind in terms of support services. We found that satisfaction with resources for research and teaching predicted positive beliefs about the equity of tenure decision-making, but the effect was relatively weaker than the climate and practice variables. It may be that a disproportionate sampling of faculty from universities rich in resources weakens the strength of the relationship, but we are unable to discern and take into account specific institutional affiliations.

Subgroup Differences in Perceived Fairness of the Tenure Review

Opinions about the tenure process vary both within and across socio-demographic groups. In keeping with inquiries conducted by August and Waltman (2004) and Johnsrud and Des Jarlais (1994), women in our study considered the review procedures to be less fair. However, as Singh et al. (1995) would predict, there are differences among female faculty depending on how they experience their department and campus surroundings. As Bronstein and Farnsworth (1998) and Fenelon (2003) suggest, women who perceive inequitable treatment of junior faculty within their departments are more likely to be skeptical about the tenure review.

Noting the presumed differences in paradigm consensus within the hard and soft disciplines, Hearn and Anderson (2002) examined departmental conflict around promotion and tenure decisions. They found

fewer split votes within hard science departments and attributed this trend, in part, to more agreement regarding decision criteria. A similar pattern is observed in our study. Faculty from departments characterized as hard, mainly the STEM fields, more often consider the process to be fair. However, disciplinary effects are also mediated through workplace conditions. Due perhaps to the consensus that Hearn and Anderson discuss, faculty from the hard disciplines are more satisfied with mentoring and perceive that junior faculty are treated equitably. On the other hand, the same group is less satisfied with their teaching and research autonomy and departmental collegiality. These findings fit with Xu's (2008) and Austin and Rice's (1998) contention that junior STEM faculty may not feel free to pursue what they believe are more productive lines of inquiry. Instead, during the probationary period, they undertake studies that fit with senior colleagues' expertise and/or those that can be completed expeditiously.

In addition to disciplinary differences, we observe that more years spent on the tenure track are associated with workplace dissatisfaction as well as a diminished sense that the tenure review is equitable. Organizational fairness scholars conclude that worker attitudes adjust with the accumulation of direct experience over time (Ambrose & Cropanzano, 2003). Though there is not an inherently "right" or "wrong" direction for views to change, Ambrose and Cropanzano found that pre-entry expectations are critical to understanding the evolution of attitudes. Employees respond negatively when conditions are experienced worse than originally anticipated and vice versa. The results here suggest faculty join their campus with high expectations about the working environment and support available to navigate the tenure process and that these expectations adjust downward with direct experience. The one caveat we must underscore is that due to missing data among those with fewer years on campus, our findings may underestimate the impact of feedback. It could well be that junior faculty who have not experienced the feedback process declined to judge its effectiveness.

Implications for Research

While the study findings support the theoretical assumptions underlying our framework, they are best understood as establishing a basis for further research. Generally speaking, faculty members' sense of agency in demonstrating their competence (process control) predicts their judgments about the fairness of procedures used by others to grant tenure (decision control). However, data limitations preclude close examination of individuals' self-assessed agency and the organizational practices and climate factors that contribute to this sense of control.

In the present study, we assume that when “barriers to tenure” (Johnsrud & Des Jarlais, 1994) are weakened, faculty have a stronger sense of control over the tenure process—their capacity to create a solid tenure portfolio. However, our dataset does not include a direct measure of self-efficacy with respect to earning tenure, a limitation future inquiries will need to address. For example, it is important to include an individual’s rating of his or her capacity to meet organizational expectations generally as well as the specific criteria on which tenure evaluations rest: teaching, research, and service. Furthermore, while we know the perceived effectiveness of performance feedback shapes fairness judgments, further research must be undertaken to determine what constitutes effectiveness (e.g., frequency, mode of feedback) and which constituent parts are most critical. This is also the case with respect to mentoring. Mentoring effectiveness is important, but we lack specific information about the key features of these emotional and instrumental relationships. Regarding organizational climate, individuals appear to differentiate between collegiality and equitable treatment of junior faculty. Clarifying the distinctions and how these factors influence beliefs about tenure decision-making is important because on some campuses, collegiality is a consideration in the tenure review (e.g., Kolodny, 1996). Further study of how this criterion shapes the organizational climate and affects faculty relationships is needed.

Of course, future researchers will also want to take into account important work and non-work conditions that were not included in our analysis. For example, probationary faculty trust in their department chairs, their workloads, productivity, and whether they are working in emerging areas that they think may be undervalued by their senior colleagues (Edwards, 1999; Garza, 1993; Williams & Williams, 2006). It is also essential to examine non-work commitments such as family obligations that often play an important role in shaping the views of female faculty (Wolfe-Wendel, Twombly, & Rice, 2003) and to consider structural characteristics that other scholars suggest are important for women navigating the probationary period, such as family support/leave policies, flexibility of tenure clock, or family-care assistance programs (Barnes & Mertz, 2012).

Inquiries that extend the present line of research must further refine the measurement of procedural fairness as it relates to the tenure review. Our dependent variable is consistent with indices used in non-educational settings as well as faculty concerns about tenure decision-making. The next step should be the creation of a more complex indicator that incorporates information about stated campus procedures (e.g., whether decisions are made publicly or in secret, who votes) as well as percep-

tions of evaluator bias, accuracy of information, procedural consistency, and campus norms that define merit and underlie judgments about the appropriateness of the decision.

We were surprised by the lack of gender and race effects, but until we conduct further analyses, we attribute these results to the limitations of our data and methods. Despite institutional initiatives to enhance their retention, women and members of underrepresented ethnic and minority groups continue to be disenchanting with the tenure process and believe it is unfair. Our analysis reveals disparities in employment experiences that diminish trust in tenure reviews based on gender and race, and we believe the same analytic approach can be used to identify opportunities for ameliorating conditions that prompt women and minority faculty to exit prior to the tenure review. However, researchers might also follow a cohort of assistant professors, examining changes in their perceptions of workplace conditions and beliefs about the tenure process. They will be able to discern critical periods in the cognitive construction of fairness judgments, identify factors that result in different viewpoints, and ascertain if and how the perceived fairness of tenure reviews influences probationary faculty decisions to leave campus before they are considered for tenure.

Implications for Practice

According to the NCES Digest of Educational Statistics (Institute of Education Sciences, 2011), 99 percent of public doctoral and master's institutions, 84 percent of private doctoral institutions, and 65 percent of private master's institutions have tenure systems. On campuses with shared governance, those in the tenure track are most often called upon to represent the "voice of the faculty" in organizational decisions (Blackburn & Lawrence, 1995; Burgan, 1998; Gerber, 2010). Regrettably, unpleasant experiences with the tenure process lead some professors to disengage from this important aspect of campus life (Huston et al., 2007). Negative experiences appear to also result in disconcerting messages to probationary faculty. Ambrose et al. (2005) note that within university departments, there are likely to be individuals who were successful in the tenure review but harbor unpleasant memories of the decision-making process. Those disaffected faculty members who comment disparagingly about the tenure process become part of the retention problem by heightening concerns about procedural fairness among colleagues nearing the review. Campus administrators should find ways to use this tension in constructive ways by considering how formal mentoring can be improved and how problematic aspects of review policies and practices might be altered.

Perhaps foremost, our preliminary findings signal to chairs the significance of departmental performance feedback (Austin & Rice, 1998). Problematic tenure cases are agonizing for both those denied tenure and those charged with making this momentous career decision. Conceivably, some of the pain experienced could be avoided if chairs provide regular, thoughtful critique and constructive suggestions for change throughout the probationary period. Institutional researchers should gather information on current practices, and human resource offices should work with academic leaders to enhance the nature and timing of feedback.

Notes

The views expressed in this article are those of the authors and do not necessarily represent the opinions of the COACHE researchers and staff.

¹ COACHE has conducted surveys every year since 2005 in different institutions. We decided to not use data from more recent waves of data collection because crucial items for our analysis were eliminated or reworded.

² We dropped from the sample eight cases missing gender information and seven faculty members who reported more than ten years working at the institution. We used ten years to account for institutions that may have extended the probationary period from seven to ten years.

³ Missing data can result in misleading results when a sizeable portion of sampled cases has missing values. Our missing values ranged from 0.3 percent to 20 percent, and the average was six percent. We completed logistic regressions with 1 assigned to missing values and found no consistent pattern of association between the missing values and the socio-demographic, outcome and mediator variables, except for feedback. Missing values for the feedback factor were associated with years working at the institution. Forty-four percent had been at their institutions less than three years, which may account for their lack of experience with formal feedback processes. Unfortunately, there is no item that permits us to double-check this interpretation. We ran SEM with and without the feedback and time-on-campus variables and decided that, although we might obtain biased estimates related to feedback, it was important to keep these key conceptual variables in the model and proceed with caution in the interpretation of results. To use the information of all cases in our sample, we computed our SEM using a maximum likelihood method to estimate parameters in the presence of missing values. This method is preferable to pairwise deletion, listwise deletion, and regression imputation techniques to address missing values in SEM.

⁴ In the 2010 Carnegie Classification, there were 108 universities characterized as having “very high” research activity and 98 universities characterized as having “high” research activity.

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APPENDIX A

Factor-Derived Variables, Items, and Reliabilities

| Factor Name | Item | Factor Score |
|--------------------------------------|---|--------------|
| Autonomy ($\alpha = 0.602$) | Please indicate your level of satisfaction or dissatisfaction with the following aspect of your workplace: the degree of influence you have over the courses you teach. ^a | 0.619 |
| | Please indicate your level of satisfaction or dissatisfaction with the following aspect of your workplace: the discretion you have over the courses you teach. ^a | 0.620 |
| | Please indicate your level of satisfaction or dissatisfaction with the following aspect of your workplace: the influence you have over the focus of your research/creative work. ^a | 0.421 |
| Collegiality ($\alpha = 0.815$) | Please indicate your level of satisfaction or dissatisfaction with the following aspect of your workplace: the amount of professional interaction you have with tenured faculty in your department. ^a | 0.272 |
| | Please indicate your level of satisfaction or dissatisfaction with the following aspect of your workplace: the amount of personal interaction you have with tenured faculty in your department. ^a | 0.350 |
| | Please indicate your level of satisfaction or dissatisfaction with the following aspect of your workplace: the amount of professional interaction you have with pre-tenure faculty in your department. ^a | 0.733 |
| | Please indicate your level of satisfaction or dissatisfaction with the following aspect of your workplace: the amount of personal interaction you have with pre-tenure faculty in your department. ^a | 0.759 |
| Feedback ($\alpha = 0.947$) | How effective or ineffective for you have been periodic, formal performance reviews at your institution? ^b | 0.918 |
| | How effective or ineffective for you have been written summary of periodic performance reviews at your institution? ^b | 0.918 |
| Mentoring ($\alpha = 0.728$) | How effective or ineffective for you have been formal mentoring programs (e.g., assigned mentors, matching) at your institution? ^b | 0.662 |
| | How effective or ineffective for you have been informal mentoring at your institution? ^b | 0.662 |
| Resources ($\alpha = 0.751$) | How satisfied are you with the quality of clerical/administrative services? ^a | 0.587 |
| | How satisfied are you with the quality of research services? ^a | 0.698 |
| | How satisfied are you with the quality of teaching services? ^a | 0.709 |
| | How satisfied are you with the quality of computing services? ^a | 0.576 |

(continued)

^aScale: 1 = very dissatisfied, 2 = dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = satisfied, 5 = very satisfied (responses of “Not Applicable/I don’t know” and “Decline to Answer” were removed from the analyses).

^bScale: 1 = very ineffective, 2 = ineffective, 3 = neither effective nor ineffective, 4 = effective, 5 = very effective.

^cScale: 1 = very unclear, 2 = somewhat unclear, 3 = neither clear nor unclear, 4 = fairly clear, 5 = very clear (responses of “Not Applicable/I don’t know” and “Decline to Answer” were removed from the analyses).

^dScale: 1 = very unreasonable, 2 = somewhat unreasonable, 3 = neither reasonable nor unreasonable, 4 = somewhat reasonable, 5 = very reasonable (responses of “Not Applicable/I don’t know” and “Decline to Answer” were removed from the analyses).

APPENDIX A (continued)

Factor-Derived Variables, Items, and Reliabilities

| Factor Name | Item | Factor Score |
|--|---|--------------|
| Clarity ($\alpha = 0.868$) | I find the tenure criteria (what things are evaluated) in my department to be . . . ^c | 0.781 |
| | I find the tenure standards (the performance threshold) in my department to be . . . ^c | 0.806 |
| | I find the body of evidence that will be considered in making my tenure decision to be . . . ^c | 0.731 |
| | Is what's expected in order to earn tenure CLEAR to you regarding your performance as a scholar? ^c | 0.678 |
| | Is what's expected in order to earn tenure CLEAR to you regarding your performance as a teacher? ^c | 0.359 |
| | Is what's expected in order to earn tenure CLEAR to you regarding your performance as a campus citizen? ^c | 0.340 |
| Reasonableness ($\alpha = 0.687$) | Is what's expected in order to earn tenure REASONABLE to you regarding your performance as a scholar? ^d | 0.536 |
| | Is what's expected in order to earn tenure REASONABLE to you regarding your performance as a teacher? ^d | 0.674 |
| | Is what's expected in order to earn tenure REASONABLE to you regarding your performance as a campus citizen? ^d | 0.633 |

^aScale: 1 = very dissatisfied, 2 = dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = satisfied, 5 = very satisfied (responses of "Not Applicable/I don't know" and "Decline to Answer" were removed from the analyses).

^bScale: 1 = very ineffective, 2 = ineffective, 3 = neither effective nor ineffective, 4 = effective, 5 = very effective.

^cScale: 1 = very unclear, 2 = somewhat unclear, 3 = neither clear nor unclear, 4 = fairly clear, 5 = very clear (responses of "Not Applicable/I don't know" and "Decline to Answer" were removed from the analyses).

^dScale: 1 = very unreasonable, 2 = somewhat unreasonable, 3 = neither reasonable nor unreasonable, 4 = somewhat reasonable, 5 = very reasonable (responses of "Not Applicable/I don't know" and "Decline to Answer" were removed from the analyses).

APPENDIX B
Pairwise Correlations Among Variables

| | Gender (female) | Race (white) | Discipline (hard) | Years at Institution | Autonomy | Collegiality | Equitable Treatment | Feedback | Mentoring | Resources | Perceived Fairness of Tenure Review |
|-------------------------------------|-----------------|--------------|-------------------|----------------------|----------|--------------|---------------------|----------|-----------|-----------|-------------------------------------|
| Gender (female) | 1.00 | | | | | | | | | | |
| Race (white) | 0.02 | 1.00 | | | | | | | | | |
| Discipline (hard) | -0.19*** | 0.00 | 1.00 | | | | | | | | |
| Years at the Institution | 0.06** | 0.07** | 0.02 | 1.00 | | | | | | | |
| Autonomy | -0.01 | 0.10*** | -0.06** | -0.01 | 1.00 | | | | | | |
| Collegiality | -0.04 | 0.02 | -0.05* | -0.09*** | 0.35*** | 1.00 | | | | | |
| Equitable Treatment | -0.11*** | 0.01 | 0.06** | -0.18*** | 0.38*** | 0.49*** | 1.00 | | | | |
| Feedback | 0.03 | -0.05* | -0.02 | -0.09*** | 0.27*** | 0.37*** | 0.44*** | 1.00 | | | |
| Mentoring | 0.02 | -0.06** | 0.08*** | -0.14*** | 0.28*** | 0.47*** | 0.45*** | 0.55*** | 1.00 | | |
| Resources | -0.03 | -0.05* | 0.02 | -0.11*** | 0.29*** | 0.28*** | 0.31*** | 0.33*** | 0.31*** | 1.00 | |
| Perceived Fairness of Tenure Review | -0.07** | 0.00 | 0.09*** | -0.12*** | 0.41*** | 0.44*** | 0.56*** | 0.51*** | 0.50*** | 0.33*** | 1.00 |

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

APPENDIX C: TABLE C1

Regression Results: Socio-Demographics on Workplace Context

| | Dependent Variables | | | | | |
|--------------------------|---------------------|--------------|---------------------|-----------|-----------|-----------|
| | Autonomy | Collegiality | Equitable Treatment | Feedback | Mentoring | Resources |
| Gender (female) | -0.016 | -0.040 | -0.113*** | 0.046 | 0.054 | -0.016 |
| Race (white) | 0.068*** | 0.026 | 0.027 | -0.051 | -0.057* | -0.034 |
| Discipline (hard) | -0.041** | -0.053* | 0.068* | -0.008 | 0.108*** | 0.016 |
| Years at the Institution | -0.012 | -0.085*** | -0.231*** | -0.112*** | -0.172*** | -0.095*** |
| <i>F</i> -statistic | 7.89 | 6.65 | 24.13 | 5.72 | 14.73 | 6.66 |
| <i>R</i> -square | 0.015 | 0.013 | 0.044 | 0.012 | 0.032 | 0.013 |
| <i>n</i> | 2,156 | 2,062 | 2,085 | 1,862 | 1,788 | 2,014 |

Note. All coefficients reported here are standardized.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

APPENDIX C: TABLE C2

Regression Results: Socio-Demographics and Workplace Context on Perceived Fairness of Tenure Review

| | Block 1 | Block 2 |
|--------------------------|-----------|----------|
| Socio-Demographics | | |
| Gender (female) | -0.055 | -0.043* |
| Race (white) | 0.024 | 0.013 |
| Years at the Institution | -0.153*** | -0.051* |
| Discipline (hard) | 0.101 | 0.093*** |
| Working Conditions | | |
| Autonomy | | 0.179*** |
| Collegiality | | 0.097*** |
| Equitable Treatment | | 0.272*** |
| Feedback | | 0.214*** |
| Mentoring | | 0.138*** |
| Resources | | 0.054* |
| <i>F</i> -statistic | 12.64 | 127.12 |
| <i>R</i> -square | 0.038 | 0.501 |
| <i>n</i> | 1,276 | 1,276 |

Note. All coefficients reported here are standardized.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.