Does Diversity Training Increase Corporate Diversity?

Regulation Backlash and Regulatory Accountability

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Abstract

Diversity training remains ubiquitous, despite decades of research suggesting that it may not work. We develop a theory of training efficacy. Training features and context can frame the motive for pursuing diversity as individual, organizational, or external/legal. According to job-autonomy and self-determination theories, individual and organizational framing - such as voluntary training or cultural curriculum - will elicit trainee commitment, thus we expect them to increase managerial diversity. According to institutional and deterrence theories, legal framing, such as mandatory training and legal curriculum, will elicit rebellion and backfire. The organizational context of training also signals motivation. Training in organizations with a business reason to pursue diversity or with a diversity chief, signals organizational motivation. We expect training to be more effective in these contexts. Predictions are tested and supported using data on 805 workplaces over more than thirty years. Findings have implications for theory and practice for promoting organizational change.

Workplace prejudice reduction efforts date back to the race-relations workshops offered by federal agencies in the late 1960s. Today corporate diversity training is pervasive in the Fortune 500 and common even among small to middling firms. Consultants herald training as essential for increasing diversity and lawyers require it in most discrimination suit settlements (Schlanger and Kim 2014). Yet studies dating to the 1940s suggest that prejudice is resistant to such interventions (Williams, Jr. 1947), and a recent survey of 985 studies found weak evidence that prejudice-reduction training reduces bias (Paluck and Green 2009). Field studies show that while workplace mentoring programs, targeted recruitment, and diversity taskforces have consistent, positive effects on the careers of white women and minorities, diversity training has weak, inconsistent effects (Dobbin et al. 2015; Kalev et al. 2006; Kellough and Naff 2004; Naff and Kellough 2003). We seek to understand why diversity training has not been effective.

Institutionalists have documented multiple corporate rationales for pursuing workforce diversity, including regulatory compliance and business necessity (Dobbin 2009; Edelman 2016; Edelman et al. 2001; Kelly and Dobbin 1998). Some lament that the business rationale is diluting the social-justice motivation behind anti-bias training and reducing its effectiveness, while others expect the business case to be most effective because it resonates with managers. We build on research on motivation and commitment and draw on studies showing that diversity initiatives shape commitment by imputing motives to trainees (Ely and Thomas 2001; Kelly 1999). Training features and context can frame the motive for concern with diversity as individual, organizational, or external/legal. Self-determination research shows that when motivation for pursuing a goal is framed as originating internally, commitment typically rises, and when motivation is framed as originating externally, rebellion often ensues (Deci and Ryan 1985; 2002).

Job-autonomy research finds, similarly, that people often resist external controls on their behavior (Gouldner 1954; Hodson 1996). Accordingly we suggest that when the features of training frame motivation as external/legal – mandatory attendance and legal curriculum -- training will backfire and managerial diversity will decline (Legault et al. 2011). When interest in diversity training is framed as internal – as when it is voluntary -- it will be less likely to backfire.

We suggest, further, that organizational motivation may work on managers much as internal motivation does, because managers tend to identify with business goals. Thus, training curriculum emphasizing cultural awareness, which signals organizational rather than legal motivation, will also be less likely to backfire. These predictions fly in the face of what many experts preach -- that training must be mandatory and must emphasize the potential costs of litigation.

Organizational context can also signal the motive for training. Both training conducted to secure a client, such as the federal government, and CEO appointment of a diversity chief signal organizational motivation. We expect the presence of federal contracts and diversity chiefs to counter the adverse effects of diversity training for managers.

We use data from the Equal Employment Opportunity Commission's annual demographic census of private-sector work establishments, combined with a retrospective survey of characteristics of corporate diversity training programs, to test our theory. We consider three other explanations of the failure of diversity training -- that training reinforces stereotypes and heightens bias, that it fosters complacency, and that it makes whites feel excluded. We test predictions using a national sample of 805 work establishments for 1971 to 2002. We examine the effects new training programs have on

the share of white, black, Hispanic, and Asian-American men and women among managers, controlling for a wide range of other organizational and labor market factors. We focus on training effects on management, not all jobs, because management has been most resistant to integration. We pool the data in panel models with fixed effects to assess the consequences of training program features and context, conducting a series of robustness tests to explore, for instance, whether training programs show negative effects only when adopted in response to litigation. Because training is the most popular diversity program in the U.S., the question of why it fails is not merely academic.

THE ORIGINS OF DIVERSITY TRAINING

Corporate anti-bias training was stimulated by the civil rights movement of the 1950s and 1960s and ensuing federal regulations (Lawrence 1965:139). By the end of 1971, the Social Security Administration had put fifty thousand staffers through training (Robertson 1971). By 1976, 60 percent of big companies offered equal-opportunity training (Bureau of National Affairs 1976:9). A 2005 study reported that 65 percent of large firms offered what had come to be called diversity training (Esen 2005). In our 2002 survey of medium and large private-sector employers, 40 percent offered diversity training, making it the most common diversity program.

In the 1980s, diversity training acquired a new business rationale (Kelly and Dobbin 1998; Edelman et al. 2001). Consultants and federal agencies began to argue that women and minorities would soon be the backbone of the workforce, and that training could help employees learn to work together (Johnston and Packer 1987). While some trainers continued to focus on legal compliance, others came to focus on the business case for diversity. Variation over time and across employers permits us to explore what it is about training that causes it to fail, or succeed.

THE POOR TRACK RECORD OF DIVERSITY TRAINING

In their review of 985 studies of prejudice reduction interventions, Paluck and Green (2009) conclude that there is little evidence that training reduces bias (e.g. Kirkpatrick and Kirkpatrick 2006; Kraiger et al. 1993). In their review of 31 organizational diversity-training studies that used either pre-test/post-test assessments or a post-test control group, Kulik and Roberson (2008) identify twenty-seven that document improved knowledge of, or attitudes toward, diversity. Improvements were modest, and most studies that assessed multiple behavioral and attitudinal indicators found change in only one or two. Most studies looked at immediate changes, and none looked at changes beyond one year out. In their review of 39 similar studies, Bezrukova, Joshi, and Jehn (2008) identify only five that examine long-term effects on bias, two showing positive effects, two negative, and one no effect. While training effects on measured bias appear to be weak, a meta-analysis of 65 studies suggests that training can have moderate positive effects on diversity knowledge and skills (Kalinoski et al. 2013). Perhaps these changes will lead to growth in workforce diversity.

Few have looked at training effects on workplace outcomes. Rynes and Rosen (1995) find that only a third of 765 human resources experts think that their diversity training has positive effects. A study of federal agencies found no effect of diversity training on the careers of women or minorities (Kellough and Naff 2004; Naff and Kellough 2003). Kalev and colleagues (2006; Dobbin et al. 2007) found that corporate diversity training had mixed, modest effects on management diversity.

FRAMING DIVERSITY INITIATIVES

Both organizational institutionalists and social psychologists have argued that different ways of framing diversity initiatives may affect their efficacy. Institutionalists

have mostly thought about historical shifts in framing. Kelly and Dobbin (1998) distinguish between the early legal compliance frame and the Reagan-era business-case frame, advanced by diversity experts facing Reagan's vow to curtail regulation (see also Dobbin 2009; Edelman 2016; Kelly and Dobbin 1998). Scholars suggest that the managers view legal demands as imposing and restricting managerial prerogative (Edelman 2016). In contrast, "business case" frame may resonate better with managers, albeit deflecting attention from the social justice goals of the civil rights movement (Edelman et al. 2001; Kelly and Dobbin 1998). For instance, Robin Ely and David Thomas (2001) find access-and-legitimacy and discrimination-and-fairness approaches less effective than the integration-and-learning approach to diversity, which invokes the business case.

We build on insights from job-autonomy research in sociology and self-determination research in psychology to theorize framing effects. In sociology, job autonomy theorists find that intrusive controls designed to affect workers' thoughts and behaviors tend to backfire – workers resist and sabotage control efforts so as to maintain their own autonomy (Hodson 1991a; 1991b; Hodson 1996). Alvin Gouldner (1954) first documented this in *Patterns of Industrial Bureaucracy*, where he observed workers in a gypsum board company react to new bureaucratic rules by doing the opposite of what the rules were designed to achieve – rules to prevent absenteeism caused it to soar.

Self-determination theorists come to similar conclusions. Autonomous choice of a course of action contributes to internalization of goals, but externally driven choice does not (Deci and Ryan 1985; 2002). In experiments, whites resent external pressure to control prejudice against blacks (Kaiser et al. 2013; Plant and Devine 2001) and when experimenters ask people to reduce bias, they respond by increasing bias (Galinsky and

Moskowitz 2000) and discrimination (Kulik et al. 2000), unless they see the desire to control prejudice as self-determined — voluntary (Devine et al. 2002; Legault et al. 2007; Plant and Devine 1998). In line with self-determination theory, the literature on legal deterrence suggests that deterrence is a poor mechanism for encouraging internalization of societal norms (Blies and Tyler 1993; Nagin 1998; Tyler 1990). The threat of lawsuit is the principal legal deterrent to discrimination, frequently highlighted in diversity training.

Importantly, research shows that the framing of interventions can influence whether subjects view their own motivation as internally or externally driven. Legault, Gutsell, and Inzlicht (2011), thus, show that different framings of anti-bias material can lead subjects to see their motivation to suppress bias as internal or external. Another lab study shows that when diversity programs are introduced with the desire to avoid legal sanction, students are more resistant than when programs are introduced with the need to manage a diverse workforce (Kidder et al. 2004).

Outside of the lab, in workplaces, perceived motivation takes many different forms. For managers we can map internal and external motivations onto the distinction between internal, organizational, and legal motivation. Will employees respond to organizational motivations as they do to internal motivations, or as they do to external, legal motivations? Managers typically identify with business goals, and identification helps people to "accept the underlying value of a behavior" (Deci and Ryan 2000:236). Thus we expect that for managers organizational motivations will operate like internal motivations.

Managers make hiring and promotion decisions, and thus can directly shape workforce diversity (Dobbin et al. 2015; Edelman et al 1999; Roscigno 2007). On the

theory that framing affects manager motivation to promote diversity, we examine how two features of diversity training affect managerial diversity; mandatory versus voluntary attendance, and cultural versus legal curriculum. We also consider two contextual factors that signal organizational motivation for workforce diversity – a key client that favors diversity (proxied by holding a federal contract) and CEO appointment of a diversity manager.

Mandatory versus Voluntary Training

Scholars and practitioners advocate making training mandatory for three reasons. First, voluntary training has been shown to bring in people committed to diversity, but not the skeptics most in need of training (Kulik et al. 2007). Second, surveys show that HR executives assess mandated training as more effective than voluntary training (Rynes and Rosen 1995). Third, research suggests that in mandatory courses, top executives model desired behavior for underlings because everyone participates (Wiggenhorn 1990; Goldstein 1991; Noe and Ford 1991). Following insights from job-autonomy and self-determination theories, however, we suggest that mandatory training will cause managers to think of their participation as externally coerced and this will them to resist the goal of diversity (Legault et al. 2011; Malhotra et al. 2008). In contrast, voluntary training will cause managers to think of themselves as willing participants and they will be more likely to internalize the message.

Overall, 30% of firms in our sample offered manager diversity training; 80% of those courses were mandatory. Another survey found that 79% of manager training courses were mandatory (Esen 2005).

Hypothesis 1: Mandatory diversity training will lead to reductions in managerial diversity; voluntary training will lead to increases in managerial diversity**.**

Legal versus Cultural Curriculum

Diversity training curricula vary. In cultural training, trainers typically discuss the business advantages of effective inter-group communication, arguing that improving cross-cultural understanding will increase overall creativity and productivity and help women and minorities to do their best work. Kochan and colleagues (2003) argue that interest in promoting cultural inclusion rose after Reagan's labor secretary sponsored a study, *Workforce 2000* (Johnston and Packer 1987), predicting a dramatic rise in workforce race, ethnic, and gender diversity. Thus cultural curriculum will signal organizational motivation. Curriculum that focuses on reducing the risk of lawsuit signals legal motivation.

The most common form of training is mandatory manager training. We break out the 207 workplaces with mandatory manager training in our dataset by curriculum. Of these, one quarter offered legal curriculum, one quarter offered cultural curriculum, and one half offered mixed curriculum. We expect that both legal and mixed curriculum will signal that the motivation for training is legal and will cause trainees to resist, leading to reductions in management diversity.

Hypothesis 2: Legal curriculum will lead to reductions in managerial diversity; cultural curriculum will lead to increases in diversity.

Do employers choose these training features following their own motives – legal or autonomous? We undertake robustness checks to explore whether employer motives may drive training effects, but there are several reasons to believe that training features are not chosen with much deliberation. First, trainers are most often either (a) generalist

HR managers selected for industry expertise whose approach to diversity reflects where they happen to have trained, or (b) consultants hired by such generalists through professional networks. Second, firms rarely change training formats even when new executives take over.

Training Context: Federal Contracts and Diversity Managers

We focus on two features of organizational context that can signal that the motivation for training is organizational; diversity initiatives tied to a business goal (securing federal contracts) and top management support indicated by appointment of a diversity manager. Each signals that diversity training is motivated by organizational needs, rather than by legal mandates, and thus we expect managers to respond more positively to training under each condition.

We examine the effect of holding a federal contract. Washington has required contractors to prevent employment discrimination since John F. Kennedy's 1961 affirmative-action edict. The Office of Federal Contract Compliance Programs (OFCCP) in the Department of Labor is tasked with conducting on-site compliance reviews at federal contractors, at its discretion (Anderson 1996; Baron et al. 1991:1386; Leonard 1984c; Skaggs 2001; 2008). Contractors are subject to contract cancelation or non-renewal for failing to prevent discrimination. We suggest that managers in contractor firms will view attention to diversity as a means of satisfying a client – often a major client. We predict that contractors will see improved efficacy of training programs.

CEO appointment of a diversity manager can also indicate organizational motivation. From the early 1960s, some executives hired full-time experts to tackle segregation, signaling their commitment to diversity. We expect that this signal will lead

managers to see improving workforce diversity as a CEO priority. Studies showing that diversity programs are more effective in firms with diversity managers support this notion (Dencker 2008; Hirsh and Kmec 2009; Kalev 2014).

Hypothesis 3: There will be a positive interaction between having federal contracts or a corporate diversity manager and diversity training.

Table 1 summarizes our theoretical model and predictions. Training features and context frame the motive for diversity in ways that affect managers' commitment to the goal of diversity and diversity outcomes.

Table 1 About Here

PREVIOUS THEORIES OF THE FAILURE OF TRAINING

Next we review three other explanations that have been put forward to explain adverse effects of training: that training reinforces stereotypes and heightens bias, that it fosters complacency, and that it makes whites feel excluded. Below we draw conclusions from the pattern of findings about these three theories and our own.

The first alternative argument is that training activates bias, rather than giving participants the tools to suppress bias. Field and laboratory studies support the idea that training reinforces stereotypes and elicits backlash from white men (Egan and Bendick 2008; Galinsky and Moskowitz 2000; Kulik et al. 2000; MacDonald 1993; Naff and Kellough 2003; Rynes and Rosen 1995; Sidanius et al. 2001). Anand and Winters (2008:361) conclude that trainees often leave "confused, angry, or with *more* animosity toward" other groups than they began with. Experienced trainers report that they

frequently encounter anger and resistance (Kulik et al. 2007). If training fails solely because it activates bias, cultural curriculum, covering stereotypes, might be expected to have more severe adverse effects than legal training.

Several studies suggest a second possibility: that training makes managers complacent by inspiring unrealistic confidence in anti-discrimination programs. In the lab, Castilla and Benard (2010) find that when the employer is described as meritocratic, subjects do not censor their own gender biases. Kaiser and colleagues (2013) find that when whites and men are told that their employers have pro-diversity measures such as training, they presume that the workplace is free of bias and react harshly to claims of discrimination. Perhaps diversity training leads white and male managers to drop their guard and to discount complaints. If training fails solely because it breeds complacency, we might expect training of different sorts to have similar adverse effects.

A third possibility is that training makes white decision-makers feel excluded. In a series of laboratory studies, Plaut and colleagues (2011) find that as compared to the message of color-blindness, the message of multiculturalism reduces whites' support for diversity (see also Plaut et al. 2009). Legal training emphasizes color-blindness rather than multiculturalism (Ely and Thomas 2001). If training fails solely because it activates sentiments of exclusion among whites, cultural curriculum, with its message of multiculturalism, should be no more effective than legal training, with its message of color-blindness.

DATA AND METHODS

We use data on 805 establishments between 1971 and 2002, conducting a pooled, cross-sectional time-series analysis, with fixed workplace and year effects, of the share of eight groups in management to evaluate the consequences of new training programs with

different features. The eight dependent variables are the log odds of white, black, Hispanic, and Asian men and women being in management. Dependent variables are lagged by two years to allow program effects to take place. Results are substantively similar if we lag by one year. We include fixed effects for each workplace and each year. We use time-varying controls for organizational, regulatory, and labor market factors thought to affect the demographic make-up of management, as discussed below. Coefficients for control variables are reported in appendices. The modal training program is observed for 10 years. Coefficients represent the average effects of training adoption across subsequent years.

Data

Our data come from three sources. Managerial composition data and some organizational variables come from the annual EEO-1 reports employers submit to the government. Data on training and most other organizational practices come from a retrospective employer survey. Data on external labor market characteristics come from Bureau of Labor Statistics surveys.

EEO1 data on managerial composition. Private sector employers with more than 100 workers, and federal contractors with more than 50, are required to file annual EEO-1 reports detailing the race, ethnicity, and gender of their workers, broken down into 9 occupational categories. State and local agencies, schools, and colleges file different reports (EEOC n.d.). There are no better data on workforce composition at the organizational level (see Robinson et al. 2005). Ronald Edwards and Bliss Cartwright at the EEOC graciously gave us access to these confidential data through an Intergovernmental Personnel Act (IPA) agreement.

We examine the effects of training on the share of different groups in management as the best measure of whether groups are moving into positions of authority, prestige, and influence. While the EEOC data do not distinguish different levels within management, previous studies show white women and minorities to be clustered in the lower ranks. Demographic trends in our sample between 1971 and 2002 show that white men held 81% of management jobs in the average establishment in 1971 and 61% in 2002. White women rose from 16% to 26%; black women from 0.4% to 1.8%; black men from 1% to 3.1%; Hispanic men from 0.6% to 2.5%; Hispanic women from 0.1% to 0.9%; Asian men from 0.5% to 1.8%; and Asian women from 0.1% to 0.7%. These figures understate national gains in managerial diversity because our sample excludes employers where gains were substantial: small firms, newly established firms, and the public sector.

To ensure that our estimates are robust to extreme values, we take the log of the odds of each group being in management. We log the odds rather than the proportion because the conditional distribution of log odds is closer to normal (Fox 1997:78).[1] We include a binary variable coded 1 when there are no members of the focal group in management. We interpolate workforce data for three missing years — 1974, 1976, and 1977. The results are not sensitive to data interpolation.

Survey data on organizational factors. To learn about diversity training programs we drew a stratified random sample of establishments from the 1999 EEO-1 files and administered a survey. We selected half from those establishments in the

[1] Where the proportion of managers for a group was 0 or 1, we substituted $\frac{1}{2N}$ for 0 and $1-\frac{1}{2N}$ for 1, where N is the total number of managers in the firm (Reskin and McBrier 2000).

dataset (which begins in 1971) since at least 1980 and half from those in the dataset since at least 1992. Thus the youngest establishments in the sample existed in 1992. We selected 35% of the sample from establishments with less than 500 employees in 1999 to ensure variation in size. We sampled from representative industries: food, chemicals, electronics equipment, transportation equipment, wholesale, retail, insurance, business services, and health services. We sampled no more than one establishment per parent firm, and followed establishments backward through ownership changes.

The Princeton Survey Research Center (PSRC) interviewed human resource managers or general managers for us. The modal respondent had been with the employer for 11 years. PSRC asked respondents about the beginning and end dates of each of several dozen personnel practices. They asked respondents to consult records or colleagues to fill in missing answers and scheduled follow-up calls. They completed 833 interviews for a response rate of 67%, which compares favorably with other employer surveys (Kalleberg et al. 1996; Kelly 2000; Osterman 1994).

We then matched survey and EEO-1workfroce composition data to create a file with establishment-year spells. We exclude 27 cases due to large numbers of missing variables. We analyze 17,499 establishment-years of data covering 806 firms, with a minimum of 5 observations, a maximum of 32, and a median of 25 per firm. In Table 2 we report means and standard deviations for key variables. We impute missing data on the year of innovation adoption, for training and other employer programs, using OLS regression based on industry, establishment age, and headquarters status. Training program start dates were missing in less than 4 percent of cases. Results are not sensitive to imputation. There were virtually no missing values for questions about training program features.

Table 2 About Here

Data on state unemployment, industry size, and the demographic composition of both industry and state labor markets come from the Bureau of Labor Statistics. Data on federal contractor status come from EEO-1 reports.

Diversity Training Features and Context

In the survey, respondents were first asked "Has (organization name) ever had a diversity training program that is designed especially for managers?" Next we asked "Has (organization name) ever had a diversity-training program for all employees?" As of 2002, 30% had manager diversity training and 19% had all-worker training (13% had both). Each question was followed with "Is diversity training mandatory?" We collected curriculum information only for manager training because our pilot survey indicated that cell sizes would be inadequate for analysis of curriculum variation in all-worker training. Employers with manager diversity training were asked whether the curriculum covers "the legal context," "procedures for fair recruitment and selection", and "cultural information on minorities, immigrants, and other groups." Firms with "legal" curriculum almost always had "procedural" curriculum, so we combine the categories.

Respondents were asked about the timing of adoption of both manager and all-worker training but were asked about mandates and curriculum only for the survey year because in the pilot, few firms reported change in these features. While this may introduce some error, for firms that altered features of training, any error should weaken findings about mandates and curriculum and our contention is that both features matter. Error, in short, should work against our hypotheses.

As noted, 80% of firms with manager training make it mandatory. Of those, a quarter use legal curriculum, a quarter use cultural curriculum, and half use both legal

and cultural. Among employers that make manager training voluntary, curriculum distribution is similar but in our sample, cell sizes are too small to permit analysis.

We use two variables to measure training context. A time-varying measure for whether the establishment has a federal contract, coded as 1 or 0 based on information provided in the EEO-1 report; and a time-varying measure for whether the establishment has a full time diversity manager, coded as 1 or 0 based on survey data. Fifty-eight percent of establishments with manager diversity training had a federal contract and just over twenty percent had a full time diversity manager.

Controls for Other Factors

In addition to using fixed establishment and year effects, we include measures of organizational, labor market, and regulatory forces shown to matter in previous studies.

Organizational characteristics. We control for firm size because growth makes a firm attractive to prospective workers; white men often prevail in competitive job markets (Reskin and Roos 1990), although growth creates opportunities to hire women and minorities (Baron et al. 1991). We control for the percent of workers in management; white women benefit from the expansion of management (Konrad and Linnehan 1995; Leonard 1990:52). Unionization has been found to slow integration through seniority provisions that favor longstanding employees (but see Blau and Beller 1992; Kelly 2003; Leonard 1985; Milkman 1985). Formal HR policies may advantage women and minorities (Reskin and McBrier 2000). We use a count variable for hiring, promotion, and discharge guidelines; job descriptions; promotion ladders; performance evaluations; pay grade systems; and internal job posting (Dobbin et al. 2015). Firms with human resources departments, legal departments, and employment attorneys on retainer

pay more attention to equal-opportunity regulations (Edelman and Petterson 1999; Holzer and Neumark 2000). We control for non-union grievance procedures, designed to address civil-rights complaints (Edelman 1990), and for skill tests for managers, thought to quash bias in hiring. Both have been found to reduce managerial diversity (Dobbin et al. 2015).

Diversity practices. We control for the diversity-management initiatives examined in previous work (Dobbin et al. 2015; Kalev et al. 2006); special recruitment for women and minority managers, affirmative action plan, diversity committee, diversity ratings for managers, networking programs, and mentoring programs. Work-family policies may ease women's integration (Williams 2000). We use a count of paid maternity leave, paid paternity leave, flextime policies, and top management support for work-family programs as assessed by survey respondents.

Legal environment. In addition to federal contractor status, which we use as a signal of organizational motivation, we control for whether the establishment experienced federal contract compliance reviews. Across all establishment spells, nearly 15% had previously experienced a compliance review. Some studies have found that compliance reviews have positive effects on black employment (Goldstein and Smith 1976; Kalev and Dobbin 2006; Leonard 1984a; 1984c). Discrimination lawsuits and discrimination charges measure deterrence activity and have been shown to raise diversity at the firm and industry level (Baron et al. 1991; Kalev and Dobbin 2006; Leonard 1984b; Skaggs 2001; 2008). We expect deterrence to be less effective than federal contracts, which signal organizational motivation to please federal regulators (Nagin 1998). More than a third of establishment spells had previously experienced a lawsuit and more than a third had experienced an EEOC discrimination charge.

Top management composition. Firms with diverse top management teams appear to hire more diverse managers (Elliot and Smith 2004; Kanter 1977). Percent of top managers who are minorities and who are women are calculated based on the top ten managers. We asked respondents about the percent at 10 year intervals and interpolated for intervening years.

Labor market and economy. Managerial diversity is affected by internal and external labor markets (Cohen et al. 1998; Shenhav and Haberfeld 1992). Internal diversity is measured with the share of each group in non-managerial jobs and in the core job (the biggest job category). For the external labor pool, we use data from the Current Population Survey on the share of white, black, and Hispanic men, and women, in the industry labor market (2-digit Standard Industrial Code) and in the state labor market. We do not include data for Asian-Americans because CPS asked separately about Asians for only part of the period. To investigate model sensitivity to the exclusion of race/ethnic group data we ran models without data for any group. Results are robust.

We use industry employment to capture changing demand for workers. Growing industries can offer new job opportunities, yet women and minorities have historically been relegated to less dynamic sectors (Hodson and Kaufman 1982). We control for state unemployment because in recessions, minorities and women are less likely to be hired.

Method

We pool the cross-sectional observations in time-series models (Hicks 1994; Hsiao 1986). To account for stable establishment characteristics we introduce fixed effects (Budig and England 2001; Western 2002), achieved by subtracting the values of each observation from the unit mean (Hsiao 1986:31). The establishment fixed effects help us to isolate the consequences of changes in causal variables and to deal with

heteroskedasticity arising from the cross-sectional and temporal aspects of the pooled data. Fixed effects for year are achieved with binary variables for each year but the first, 1971. We use Seemingly Unrelated Regression (`sureg` in Stata), which employs generalized least squares estimation, to take into account the correlation between the errors stemming from the fact that the dependent variables sum up to nearly 100% of managers (we exclude the smallest groups: Native Hawaiian/Other Pacific Islander and American Indian/Alaska Native) (Zellner 1962). Ordinary least squares would produce unbiased but inefficient estimates. We gain efficiency using GLS, but our results are robust to model choice and to the use of Huber-White robust standard errors.

FINDINGS

We present two sets of models. In the first (Tables 3 and 4) we compare the effects of the most common form of training – mandatory training for managers – with voluntary training for managers and with training for all workers. We test the proposition that voluntary training will encourage managers to think that the motivation to participate is their own, leading to positive effects on the share of women and minorities in management, and that mandatory training will encourage them to think the motivation is legal, leading to adverse effects. In the second set of models (Tables 4 and 5) we break mandatory training down by curriculum. While cell sizes prevent us from testing all possible combinations of training features and contexts, the sequence of models permits us to test all hypotheses and to show the effects of the most common forms of training. We expect that legal curriculum will signal legal motivation and backfire and that cultural curriculum will signal organizational motivation, and prove more effective.

Each pair of tables includes one series of models testing the effect of training regardless of context and a second series where we interact mandatory manager training

features with the two contextual factors that signal organizational motivation for diversity, (a) federal contractor status and (b) the presence of a diversity manager. We do not interact voluntary manager training with curriculum or contextual factors because cell sizes would be too small. In all models, a significant positive coefficient indicates that a group's share of management jobs increases after adoption of the new training program. A significant negative coefficient indicates that the group's share declines.

In Table 3, we examine the effects of mandatory versus voluntary diversity training for managers in non-interacted models. In the first row, we see that mandatory manager training has only two significant effects, both negative, for black women and Asian women. Voluntary training shows significant positive effects on 4 of the 7 underrepresented groups, black men, Hispanic men, and Asian-American men and women. These findings are consistent with our expectation that by signaling individual motivation to training participants, firms enhance manager commitment to promote diversity. Signaling legal motivation, by making training mandatory, has the opposite effect. All-worker training is frequently offered in addition to manager training, and shows only a negative effect on Hispanic women. Coefficients for federal contract status show negative effects for all underrepresented groups but white women and black men. These results may reflect the attractiveness of employers with government contracts (Dobbin et al. 2015). Coefficients for diversity manager show positive effects for all underrepresented groups but Hispanic men (Kalev et al. 2006; Dobbin et al. 2007).

In Table 4 we report interactions to examine how the two contextual factors moderate mandatory training effects. In the first row we see that in the absence of a federal contract and a diversity manager, mandatory training has significant negative effects on all underrepresented groups but Hispanic men and women. The government

contract interaction (second row) produces significant positive effects for all groups but Hispanic women. We calculate the linear combinations for estimates of training plus training × contractor using the `lincom` procedure in Stata. A government contract eliminates all adverse effects and produces positive effects for Hispanic and Asian men (.065, $p<.05$ and .099, $p<.05$). The interaction with diversity manager shows significant positive effects on Hispanic men and women and on Asian-American women. In the linear combinations, a diversity manager produces a positive effect for Hispanic women (.244, $p<.001$) and eliminates negative training effects for black men and Asian-American women, although negative effects for white women, black women, and Asian-American men remain. These results are consistent with our expectation that a training context signaling organizational motivation will reduce the negative effect of mandatory training.

In Tables 5 and 6 we examine variation in curriculum for mandatory manager training. The effects of curriculum are striking. Table 5 presents the non-interacted results. Cultural training helps white women and black, Hispanic, and Asian-American men. The hybrid, legal/cultural curriculum shows negative effects on black men and women as well as on Asian-American men. Legal curriculum shows a positive effect on white men and negative effects on black women and Asian-American women. While cultural training (24% of cases) can have positive effects, firms that present any legal curriculum (76%) see only negative effects.

Results in Table 6 show that the two contextual factors that signal organizational motivation eliminate a number of negative effects and produce some positive net effects. Coefficients in the first row show that absent a federal contract and a diversity manager, cultural training has one positive effect, on Hispanic men, and one (unexpected) negative

effect, on Asian-American women. The interaction between cultural training and federal contract produces a negative coefficient for white men and positive coefficients for white women, black men and Asian-American men. The linear combination of coefficients is .260 ($p<.001$) for white women, .282 ($p<.001$) for black men, .135 ($p<.05$) for black women and .197 ($p<.05$) for Asian-American men. The interaction also eliminated the negative effect for Asian-American women. The interaction effects for cultural curriculum and diversity manager are positive for white men, contrary to expectations, but also for Hispanic men and women and Asian-American women. In linear combination with diversity manager, cultural curriculum produces positive effects for Hispanic men (.417, $p<.005$), Hispanic women (.437, $p<.001$), and Asian women (.285, $p<.001$).

Employers with mixed legal and cultural curriculum see negative effects for black and Asian-American men and women. Training in the context of a federal contract eliminates these negative effects for all groups but black men. The presence of a diversity manager also improves mixed curriculum training effects, as the interaction legal/cultural-curriculum × diversity-manager is positive for Hispanic and Asian women.

Results are most striking for legal training. Absent the two contextual signals of organizational motivation for diversity, federal contract and diversity manager, legal training increases the share of white men in management and reduces the share of white women, black men and women, and Asian-American men and women. Federal contract interactions produce a significant negative coefficient for white men and significant positive coefficients for all the other groups. Only the coefficient for black men is significant in the linear combinations (.109, $p<.05$). Thus, in the context of a government contract all of the adverse effects of legal curriculum are eliminated, and there is a

positive effect on one group. The interaction legal-curriculum × diversity-manager produces no significant coefficients. But the linear combinations show that the negative effects of legal curriculum on black men and women are rendered non-significant.

We expected both contextual factors to improve training effects. Across the models in Table 6, the pattern of coefficients provides strong support for our theory. All significant coefficients for main and interaction effects but two are consistent. The two that don't fit: the effect of cultural content for Asian-American women and the interaction cultural content × diversity manager for white men. It is striking that the adverse effects of legal training are completely eliminated by federal contracts. Our interpretation is that legal training elicits serious backlash in the typical employer, but that federal contractor employees understand the business motivation behind legal training. The interaction with diversity manager also shows positive effects, although the pattern is weaker. In line with our theory, in this model voluntary manager training shows positive effects on black and Hispanic men as well as Asian-American men and women.

For all interaction models in Table 4 and Table 6, when we substituted federal compliance review for federal contract, we did not find interaction effects. This suggests that organizational motivation to retain federal contracts, not actual federal enforcement visits, shapes the effect of training. The same was true when we substituted EEOC Charge or Title VII (discrimination) lawsuit -- two ways in which litigation is initiated -- suggesting that it is not the deterrent effect of litigation that improves training effects, but the organizational motivation to sustain federal contracts.

Coefficients for control variables are reported in the appendices. Other diversity measures, including special recruitment programs, diversity task forces, affirmative action plans, and mentoring programs, show considerably stronger and more consistent

effects than even the best-designed diversity training program. Diversity training frequently has adverse effects, yet the best training programs pale in comparison to alternatives.

Robustness Tests

Fixed effects account for unmeasured changes across years and differences across establishments. To further examine whether firms that adopt specific training programs differ from their peers in unmeasured ways that affect diversity, we re-ran models separately for each training program using only firms that at some point adopted the program. The results reported above held up, suggesting that unobserved differences between adopters and non-adopters of particular training programs are not driving the results.

It is possible that the results we observe for diversity training reflect reactions to lawsuits that led employers to create training programs. Perhaps negative training effects appear, in other words, because problematic employers create programs in response to litigation. Twenty percent of adopters of diversity training, and 17 percent of adopters of mandatory legal-curriculum training for managers, created training within 5 years of a discrimination lawsuit. We re-ran the analyses restricting the sample to firms that did not adopt diversity training within 5 years of a lawsuit. Results were robust, suggesting that the findings are not driven by lawsuits that stimulate problematic employers to create training programs.

We also looked into the possibility that an unmeasured change at the firm level, such as a new CEO, brought about new training programs and changes in diversity. For each type of diversity training, we omitted post-adoption years and ran identical models, adding a placebo variable, T, equal to 1 in the three years before policy adoption

(Heckman and Hotz 1989). This approach offers a stringent test for selection bias. If T shows a significant effect in the same direction as the program effect, unobserved events may be responsible for observed policy effects. T is significant for a few of the training/group combinations but the overall pattern of our findings is robust.

CONCLUSION

Institutional theorists argue that many diversity experts abandoned the legal-compliance framing of their work for a business-case framing, in hope of winning broader support (Edelman et al. 2001; Kelly and Dobbin 1998). Did that effort succeed? While some have lamented the rise of "diversity management" and dilution of the civil rights agenda, the rhetoric of the business case may resonate better with managers. Research on self-determination and job autonomy suggests that people rebel against external efforts to control their behavior, whether the source is the state or the corporation (Deci and Ryan 1985; 2002; Hodson 1996). Yet when an activity is presented in a way that signals internal motivation, participants are more likely to internalize the goal behind the activity. We suggest that for managers, who tend to identify with business goals, organizational motivation (the business case) may operate much as internal motivation does, enhancing commitment. Effects of the framing of training on manager commitment to diversity matter for diversity outcomes because managers make hiring and promotion decisions. As others have shown, manager resistance can sabotage employer diversity efforts (Dobbin et al. 2015; Edelman et sl. 1999; Roscigno 2007).

We argue that features of diversity training signal motivation. We distinguish between three perceived motivations for concern with diversity – individual/internal, organizational, and legal/external. Two common features of training signal motivation: voluntariness of participation and curriculum. Voluntary training signals individual

motivation while mandatory training signals legal motivation. Results confirm that voluntary manager training has significant positive effects on managerial diversity. Mandatory training shows adverse effects.

We further show that while mandatory training typically has negative effects, curriculum matters. Legal curriculum signals external motivation, while cultural curriculum typically indicates organizational motivation – management's desire to improve communication, creativity, and workgroup efficacy. We find that cultural curriculum eliminates adverse effects of mandatory training. Yet both legal/cultural and legal-only curriculum lead to significant reductions in the numbers of women and minorities in management.

Organizational context can also signal the motivation for diversity training. When the employer holds a government contract, we theorize, managers perceive an organizational motive -- to retain an important client. When the CEO appoints a full-time diversity chief, we theorize, managers perceive organizational motivation as well -- top management commitment to diversity. Both contextual factors improve effects of diversity training, eliminating some negative effects and leading to some positive effects.

The most problematic diversity training – mandatory legal-curriculum training in the absence of a federal contract or diversity manager - has broad adverse effects across underrepresented groups. Holding a federal contract wipes all of those effects away. This provides particularly strong support for our general argument, because mandatory legal training most clearly signals external motivation, and holding a federal contract most clearly signals a strong business motive for making training mandatory and focusing on the law.

Alternative Explanations of the Failure of Diversity Training

Field studies suggest that training generally fails to promote diversity (Dobbin et al. 2007; Kellough and Naff 2004; Naff and Kellough 2003). We suggest that the motivation signaled by training features and context is key (Legault et al. 2011). Others have pointed to alternative mechanisms that may be at work, but our results suggest that those mechanisms alone do not explain the failure of training. First, that training strengthens stereotypes, rather than giving people tools to fight them (Egan and Bendick 2008; Galinsky and Moskowitz 2000; Kulik et al. 2000; Sidanius et al. 2001). If this were the only mechanism at work, we would expect cultural training, which typically covers stereotypes, to be less effective than legal training, which typically does not. That is not what we find. Second, that training breeds complacency, which causes organizational decision-makers to let down their guard and practice or permit discrimination (Castilla and Benard 2010; Kaiser et al. 2013). If complacency were the only mechanism at work, we would expect to find different training formats and curricula to be similarly ineffective. That is not what we find. Third, that as compared to color-blind training, multicultural training makes white decision-makers feel excluded and reduces their commitment to diversity (Plaut et al. 2011). If white sentiments of exclusion based on the message of multiculturalism were the sole mechanism, we would expect cultural curriculum to be no more effective than (color-blind) legal training. That is not what we find.

Implications for the Courts

That diversity training appears to do little to promote diversity in the management ranks, and frequently backfires, is troubling given its central role in equal opportunity programs backed by both the private sector and government. Training is regularly at the top of private best-diversity-practices lists (Catalyst 1998; Society for Human Resources

Management 2004). Mandatory legal training is also at the top of the Equal Employment Opportunity Commission's best-practices list for racial equality, which begins: "Train Human Resources managers and all employees on EEO laws" (EEOC 2015).

Attorneys and judges have also championed mandatory training about the law and procedures to prevent discrimination. High-profile settlements in discrimination cases, designed by attorneys and approved by judges, frequently allocate the lion's share of the budget for remedial action to training. A court-approved 1997 settlement for $176 million in a Texaco race case called for mandatory diversity training for all employees, and then ongoing voluntary training for supervisors. In its final report, the court-appointed external task force argued that ongoing training should be mandatory, "ChevronTexaco actively encourages diversity training; however, those who need it most may not be the most likely to respond to such encouragement. We therefore reiterate our strong belief that ongoing diversity training for existing supervisors is critical, and we encourage the Company to provide such training on a mandatory basis" (Williamson, Jr. et al. 2002:9). Our results suggest that Texaco should not heed that advice.

A 2000 settlement for $192 million in a Coca-Cola race case called for mandatory legal-curriculum training for managers and, separately, diversity awareness training for all employees (Herman et al. 2003). Our results suggest that Coca-Cola's training likely did not help. A 2009 settlement for $15 million in a Sanofi-Aventis gender case brought by drug representatives required the company to put all managers through diversity training at least yearly (http://digitalcommons.ilr.cornell.edu/condec/399/). These settlements are the tip of the iceberg. A study of 502 class-action consent decrees between 2000 and 2008 found that 89% required diversity training – typically mandatory training. Training was tied, with "posted equal-opportunity statement," for the most

common requirement (see also Hegewisch et al. 2011:26; Schlanger and Kim 2014). Courts appear to put a lot of confidence in diversity training. Our results suggest that they should not.

U.S. tort and regulatory systems are rooted in the assumption that legal threat will cause individuals to pursue societal goals. If legal threat actually impedes internalization of those goals, as our research and research on deterrence suggests it may, then this regulatory strategy may be misguided (Blies and Tyler 1993; Nagin 1998; Tyler 1990). The psychological literature (Heath 1999), as well as classical organizational studies (Mayo 1933; Roethlisberger and Dickinson 1939), suggest that we may overestimate the importance of incentives and underestimate the role of social and psychological factors in shaping workplace behavior (see also Benabou and Tiroli 2003). Regulators need to pay greater heed to social science research on the effects of public policies and the organizational reforms they stimulate (Apfelbaum and Sommers 2012).

Implications for Employers

Our findings serve as a wake-up call to advocates for workplace equity because they suggest that training programs often do more harm than good. They also suggest that training can do some good, if designed with care. Some studies suggest that employers have noticed that mandatory training can elicit backlash (Esen 2005; Kulik and Roberson 2008). Yet 80% of employers with manager training make it mandatory. We see little evidence of a groundswell of support for making training voluntary, and leading diversity consultants have long insisted that it must be obligatory to be effective (Frankel 2007; Johnson 2008:412). While 80% of companies make manager training mandatory (Esen 2005; The New York Times 2007), our results suggest that it often backfires.

Some companies have also recognized resistance to legal compliance training. Bell and Kravitz (2008:303) find that many employers feel that they "must provide training about antidiscrimination law" and question whether diversity training is "more likely to have positive effects if it is separated from the antidiscrimination training temporally and through the use of different trainers." Many companies have separated legal compliance and diversity management functions, and some, like the food service giant Sodexo, have separated diversity from legal compliance training (Anand and Winters 2008:264). Our findings suggest that any legal training is too much. But companies with mandatory manager training that use only cultural curriculum see positive effects when they have either a federal contract or a full-time diversity manager.

There is still much debate in the business community about the most effective training strategies, and new strategies appear regularly. Some experts have been advocating unconscious bias training (Banaji et al. 1993; Greenwald et al. 2003; Greenwald and Krieger 2006) to help managers understand that stereotyping is widespread and can affect decision-making (Egan and Bendick 2008; Stewart et al. 2008). Google has rolled out unconscious bias training for its 49,000 employees (Manjoo 2014). Whether unconscious bias training will promote workforce diversity is hard to know, but studies suggest that unconscious bias training has little effect on conscious or unconscious bias. A meta-analysis of 426 interventions finds weak immediate effects on unconscious bias, and little evidence of effects on explicit bias or behavior (Forscher et al. 2016). A test of 17 interventions to reduce white bias toward blacks found that 8 reduced unconscious bias, but none reduced explicit bias or bias toward Hispanics or Asians (Lai et al. 2014). In a follow-up, examining 8 implicit bias interventions and one sham, all 9 worked, but all effects dissipated within a few days (Lai et al. 2016). That the

sham worked may suggest that subjects were gaming the implicit bias test. Devine and colleagues (2012) find that an elaborate, 12-week, multi-pronged, intervention can reduce bias, so perhaps intensity and repetition can make implicit bias training work. Whether treating implicit bias will lead to workforce changes, however, is hard to know. But the best diversity training programs still pale, in their effects, next to interventions such as mentoring, diversity taskforces, and targeted recruitment (Dobbin et al. 2015).

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Table 1: Training Effects: Summary of Theoretical Model and Predictions

	Training Features and Context →	Motive Frame →	Managerial Motivation →	Managerial Diversity
Participation	Voluntary	Individual	Internal	Increases
	Mandatory	Legal	External	Declines
Curriculum	Cultural	Organizational	Internal	Increases
	Legal or Legal/Cultural	Legal	External	Declines
Organizational Context	Federal Contract	Organizational	Internal	Increases
	Diversity Manager	Organizational	Internal	Increases

Table 2: Means and Standard Deviations of Key Variables Used in the Analysis. N=17,499[2]

	Mean	S.D.	Min	Max	Type	Data
Outcome Variables						
Proportion of Managers who are:						
White Men	0.702	0.236	0.000	1	Continuous	EEO-1
White Women	0.219	0.213	0.000	1	Continuous	EEO-1
Black Men	0.024	0.057	0.000	1	Continuous	EEO-1
Black Women	0.013	0.040	0.000	0.667	Continuous	EEO-1
Hispanic Men	0.017	0.050	0.000	0.714	Continuous	EEO-1
Hispanic Women	0.005	0.021	0.000	0.500	Continuous	EEO-1
Asian Men	0.012	0.042	0.000	0.851	Continuous	EEO-1
Asian Women	0.004	0.018	0.000	0.500	Continuous	EEO-1
Diversity Training Variables						
Manager Training	0.094	0.292	0	1	Binary	Survey
Mandatory Manager Training	0.075	0.264	0	1	Binary	Survey
Mandatory Manager Training, Cultural	0.017	0.130	0	1	Binary	Survey
Mandatory Manager Training, Legal/cultural	0.042	0.200	0	1	Binary	Survey
Mandatory Manager Training, Legal	0.016	0.127	0	1	Binary	Survey
Voluntary Manager Training	0.019	0.135	0	1	Binary	Survey
All-worker Training	0.055	0.228	0	1	Binary	Survey
Federal Contract	0.491	0.500	0	1	Binary	EEO-1
Diversity Manager	0.061	0.239	0	1	Binary	Survey

[2] Descriptive statistics for control variables are listed in Appendix Table 1.

Table 3: Fixed-Effects Estimates of the Log Odds of Groups in Management following Mandatory and Voluntary Diversity Training Programs, 1971-2002.

Estimates for control variables are presented in Appendix Table A2

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Diversity Training								
Mandatory Manager Training	0.009	-0.023	-0.001	-0.094***	0.037	0.036	-0.034	-0.076**
	(0.026)	(0.027)	(0.026)	(0.025)	(0.025)	(0.023)	(0.026)	(0.023)
Voluntary Manager Training	0.056	-0.085	0.145***	0.010	0.088*	0.067	0.136**	0.147***
	(0.042)	(0.044)	(0.042)	(0.039)	(0.040)	(0.037)	(0.041)	(0.037)
All-Worker Training	0.003	-0.044	0.021	0.021	0.008	-0.054*	0.056	0.025
	(0.029)	(0.031)	(0.029)	(0.028)	(0.028)	(0.026)	(0.029)	(0.026)
Federal Contract	0.023	0.002	-0.006	-0.068***	-0.055***	-0.048**	-0.059***	-0.039**
	(0.017)	(0.018)	(0.017)	(0.016)	(0.016)	(0.015)	(0.017)	(0.015)
Diversity Manager	-0.036	0.083**	0.146***	0.120***	-0.024	0.164***	0.087**	0.145***
	(0.029)	(0.030)	(0.029)	(0.027)	(0.028)	(0.026)	(0.029)	(0.026)
Constant	-0.057*	0.052	-0.039	0.016	0.025	0.028	0.035	0.040
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.025)	(0.023)
R-sq	0.312	0.283	0.159	0.232	0.171	0.247	0.210	0.260

establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 71. N (organization-year; organizations)= 17,499; 806.

*** p<0.001; ** p<0.01; * p<0.05; (two tailed test)

Table 4: Fixed-Effects Estimates of the Log Odds of Groups in Management following Mandatory and Voluntary Diversity Training Programs, 1971-2002 - Interaction Model

Estimates for control variables are presented in Appendix Table A3

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Diversity Training								
Mandatory Manager Training	0.024	-0.086*	-0.084*	-0.191***	-0.037	-0.004	-0.202***	-0.224***
	(0.036)	(0.037)	(0.036)	(0.033)	(0.034)	(0.032)	(0.035)	(0.032)
× Federal Contracto	-0.042	0.110*	0.133**	0.167***	0.103*	0.015	0.301***	0.207***
	(0.042)	(0.043)	(0.042)	(0.039)	(0.040)	(0.037)	(0.041)	(0.037)
× Diversity Manager	0.079	-0.002	0.038	-0.003	0.111*	0.247***	-0.066	0.216***
	(0.056)	(0.058)	(0.056)	(0.053)	(0.054)	(0.050)	(0.055)	(0.050)
Voluntary Manager Training	0.057	-0.084	0.146***	0.010	0.091*	0.073*	0.135**	0.153***
	(0.042)	(0.044)	(0.042)	(0.039)	(0.040)	(0.037)	(0.041)	(0.037)
All-Worker Training	-0.002	-0.043	0.020	0.022	0.002	-0.069**	0.062*	0.012
	(0.030)	(0.031)	(0.030)	(0.028)	(0.028)	(0.026)	(0.029)	(0.026)
Federal Contract	0.025	-0.004	-0.013	-0.076***	-0.059***	-0.048**	-0.074***	-0.049**
	(0.017)	(0.018)	(0.017)	(0.016)	(0.017)	(0.015)	(0.017)	(0.015)
Diversity Manager	-0.047	0.082**	0.138***	0.118***	-0.041	0.128***	0.092**	0.112***
	(0.030)	(0.031)	(0.030)	(0.028)	(0.029)	(0.027)	(0.030)	(0.027)
Constant	0.138	-0.670	2.171***	2.932***	2.728***	2.940***	2.944***	3.207***
	(0.347)	(0.357)	(0.325)	(0.303)	(0.309)	(0.279)	(0.310)	(0.275)
R-sq	0.312	0.284	0.160	0.233	0.172	0.248	0.212	0.263

Note: Data shown are coefficients from GLS regression with standard errors in parentheses. The analyses include establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 73. N (organization-year; organizations)= 17,499; 806.

***p<0.001; ** p<0.01; * p<0.05; (two tailed test)

Table 5: Fixed-Effects Estimates of the Log Odds of Groups in Management following Cultural and Legal Diversity Training Programs, 1971-2002.

Estimates for control variables are presented in Appendix Table A4

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Diversity Training								
Mandatory Manager Training:								
Cultural Content	-0.119*	0.132**	0.177***	0.065	0.142**	0.033	0.108*	0.002
	(0.046)	(0.048)	(0.046)	(0.043)	(0.044)	(0.041)	(0.045)	(0.041)
Legal & Cultural Content	-0.000	0.008	-0.107**	-0.139***	0.003	0.039	-0.078*	-0.045
	(0.034)	(0.035)	(0.034)	(0.032)	(0.032)	(0.030)	(0.033)	(0.030)
Legal Content	0.119**	-0.188***	0.051	-0.135**	0.017	0.033	-0.062	-0.188***
	(0.044)	(0.046)	(0.044)	(0.042)	(0.042)	(0.039)	(0.043)	(0.039)
Voluntary Manager Training	0.052	-0.079	0.144***	0.012	0.088*	0.067	0.137***	0.151***
	(0.042)	(0.044)	(0.042)	(0.039)	(0.040)	(0.037)	(0.041)	(0.037)
All-Worker Training	0.018	-0.067*	0.035	0.019	0.008	-0.054*	0.055	0.008
	(0.030)	(0.031)	(0.030)	(0.028)	(0.029)	(0.027)	(0.029)	(0.027)
Federal Contract	0.021	0.004	-0.006	-0.066***	-0.054***	-0.048**	-0.058***	-0.038*
	(0.017)	(0.018)	(0.017)	(0.016)	(0.016)	(0.015)	(0.017)	(0.015)
Diversity Manager	-0.037	0.083**	0.151***	0.123***	-0.022	0.164***	0.089**	0.145***
	(0.029)	(0.030)	(0.029)	(0.027)	(0.028)	(0.026)	(0.029)	(0.026)
Constant	-0.057*	0.051	-0.038	0.016	0.025	0.028	0.036	0.040
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.025)	(0.023)
R-sq	0.313	0.284	0.161	0.233	0.172	0.247	0.210	0.261

Note: Data shown are coefficients from GLS regression with standard errors in parentheses. The analyses include establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 73. N (organization-year; organizations)= 17,499; 806. *** p<0.001; ** p<0.01; * p<0.05; (two tailed test)

Table 6: Fixed-Effects Estimates of the Log Odds of Groups in Management following Cultural and Legal Diversity Training Programs, 1971-2002 – Interaction Model

Estimates for control variables are presented in Appendix Table A5

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Diversity Training								
Mandatory Manager Training								
Cultural Content	-0.054	0.058	0.070	-0.013	0.148*	-0.036	-0.035	-0.130*
	(0.068)	(0.070)	(0.067)	(0.063)	(0.065)	(0.060)	(0.066)	(0.060)
× Federal Contractor	-0.175*	0.201*	0.212*	0.148	-0.070	-0.004	0.230**	0.129
	(0.088)	(0.091)	(0.088)	(0.082)	(0.084)	(0.078)	(0.086)	(0.078)
× Diversity Manager	0.239*	-0.230	-0.078	-0.030	0.269*	0.472***	0.059	0.415***
	(0.115)	(0.120)	(0.115)	(0.108)	(0.110)	(0.102)	(0.113)	(0.102)
Legal & Cultural Content	-0.023	-0.018	-0.138**	-0.218***	-0.074	0.038	-0.194***	-0.153***
	(0.045)	(0.046)	(0.044)	(0.042)	(0.043)	(0.040)	(0.044)	(0.039)
× Federal Contractor	0.034	0.025	0.033	0.162**	0.120*	-0.060	0.264***	0.159**
	(0.056)	(0.058)	(0.056)	(0.052)	(0.053)	(0.050)	(0.055)	(0.049)
× Diversity Manager	0.036	0.072	0.083	-0.036	0.106	0.238***	-0.127	0.186**
	(0.071)	(0.074)	(0.071)	(0.067)	(0.068)	(0.063)	(0.070)	(0.063)
Lincom	0.013	0.054	-0.055	-0.254**	0.032	0.275***	-0.320***	0.033
	(0.080)	(0.083)	(0.080)	(0.075)	(0.077)	(0.071)	(0.078)	(0.071)
Legal Content	0.279***	-0.494***	-0.182*	-0.350***	-0.135	-0.099	-0.461***	-0.543***
	(0.083)	(0.086)	(0.083)	(0.078)	(0.080)	(0.074)	(0.082)	(0.074)
× Federal Contractor	-0.222*	0.421***	0.292**	0.271**	0.222*	0.187*	0.543***	0.499***
	(0.094)	(0.098)	(0.094)	(0.089)	(0.090)	(0.084)	(0.093)	(0.084)
× Diversity Manager	0.042	0.017	0.272	0.246	-0.026	0.024	0.120	0.037
	(0.151)	(0.157)	(0.150)	(0.142)	(0.145)	(0.134)	(0.148)	(0.134)
Voluntary Manager Training	0.054	-0.079	0.145***	0.012	0.092*	0.073	0.136***	0.157***
	(0.042)	(0.044)	(0.042)	(0.039)	(0.040)	(0.037)	(0.041)	(0.037)
All-Worker Training	0.016	-0.075*	0.029	0.016	-0.006	-0.074**	0.050	-0.015
	(0.030)	(0.031)	(0.030)	(0.028)	(0.029)	(0.027)	(0.030)	(0.027)
Federal Contract	0.025	-0.003	-0.012	-0.075***	-0.058***	-0.048**	-0.073***	-0.048**
	(0.017)	(0.018)	(0.017)	(0.016)	(0.017)	(0.015)	(0.017)	(0.015)
Diversity Manager	-0.046	0.081**	0.138***	0.121***	-0.039	0.129***	0.095**	0.114***
	(0.030)	(0.031)	(0.030)	(0.028)	(0.029)	(0.027)	(0.030)	(0.027)
Constant	-0.058*	0.053*	-0.036	0.018	0.026	0.029	0.038	0.042
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.025)	(0.023)
R-sq	0.313	0.286	0.162	0.234	0.173	0.248	0.213	0.264

Note: Data shown are coefficients from GLS regression with standard errors in parentheses. The analyses include establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 79. N (organization-year; organizations)= 17,499; 806.

*** p<0.001; ** p<0.01; * p<0.05; (two tailed test)

Appendix Table A1. Means and Standard Deviations of Control Variables: N=17,499

	Mean	S.D.	Min	Max	Type	Data
Organizational Structures						
Percent Managers	0.123	0.088	0.001	0.789	Continuous	EEO-1
Establishment size	746	923	12	14195	Continuous	EEO-1
Union agreement	0.258	0.437	0	1	Binary	Survey
Formal HR policies[a]	4.151	2.362	0	8	Count	Survey
HR Department	0.830	0.376	0	1	Continuous	EEO-1
Grievance Procedure	0.362	0.481	0	1	Binary	Survey
Job Tests for Managers	0.090	0.287	0	1	Count	Survey
Legal Department	0.288	0.453	0	1	Count	Survey
Attorney on Retainer	0.343	0.475	0	1	Count	Survey
Diversity Programs						
Special Recruitment, Women/Minorities	0.167	0.373	0	1	Binary	Survey
Affirmative Action Plan	0.050	0.218	0	1	Binary	Survey
Diversity Taskforce	0.069	0.253	0	1	Binary	Survey
Diversity Evaluations for Managers	0.067	0.250	0	1	Binary	Survey
Networking Program	0.037	0.188	0	1	Binary	Survey
Mentoring Program	0.940	0.991	0	4	Binary	Survey
Work-family Supports[b]	0.464	0.499	0	1	Count	Survey
Legal Environment						
EEOC Charge/Title VII Lawsuit	0.157	0.364	0	1	Binary	Survey
Compliance Review	0.447	0.497	0	1	Binary	Survey
Top Management Composition[c]						
Percent of Top Managers, Minority	3.244	9.549	0	100	Continuous	Survey
Percent of Top Managers, Women	16.249	23.374	0	100	Continuous	Survey
Labor Market and Economy						
Proportion of Non-Managers:						
White Men	0.411	0.253	0	1	Continuous	EEO-1
White Women	0.380	0.251	0	1	Continuous	EEO-1
Black Men	0.052	0.088	0	0.940	Continuous	EEO-1
Black Women	0.058	0.098	0	0.893	Continuous	EEO-1
Hispanic Men	0.052	0.137	0	1.724	Continuous	EEO-1
Hispanic Women	0.034	0.096	0	1.340	Continuous	EEO-1
Asian Men	0.015	0.043	0	1.074	Continuous	EEO-1
Asian Women	0.015	0.037	0	0.953	Continuous	EEO-1

Continued

Appendix Table A1 Continued

Proportion in Core Job:						
White Men	0.389	0.317	0	1	Continuous	EEO-1
White Women	0.384	0.319	0	1	Continuous	EEO-1
Black Men	0.055	0.106	0	0.963	Continuous	EEO-1
Black Women	0.061	0.114	0	1	Continuous	EEO-1
Hispanic Men	0.045	0.115	0	1	Continuous	EEO-1
Hispanic Women	0.031	0.081	0	0.757	Continuous	EEO-1
Asian Men	0.014	0.041	0	0.819	Continuous	EEO-1
Asian Women	0.016	0.046	0	0.560	Continuous	EEO-1
No Managers are:						
White Men	0.007	0.081	0	1	Binary	EEO-1
White Women	0.120	0.325	0	1	Binary	EEO-1
Black Men	0.542	0.498	0	1	Binary	EEO-1
Black Women	0.706	0.456	0	1	Binary	EEO-1
Hispanic Men	0.657	0.475	0	1	Binary	EEO-1
Hispanic Women	0.813	0.390	0	1	Binary	EEO-1
Asian Men	0.701	0.458	0	1	Binary	EEO-1
Asian Women	0.839	0.367	0	1	Binary	EEO-1
Proportion Industry Labor Force:						
White Men	0.445	0.153	0.145	0.742	Continuous	CPS
White Women	0.324	0.145	0.103	0.624	Continuous	CPS
Black Men	0.041	0.019	0.009	0.106	Continuous	CPS
Black Women	0.042	0.025	0.004	0.119	Continuous	CPS
Hispanic Men	0.064	0.037	0.006	0.231	Continuous	CPS
Hispanic Women	0.044	0.023	0.000	0.141	Continuous	CPS
Proportion State Labor Force:						
White Men	0.387	0.061	0.116	0.595	Continuous	CPS
White Women	0.353	0.063	0.093	0.496	Continuous	CPS
Black Men	0.043	0.030	0	0.186	Continuous	CPS
Black Women	0.048	0.034	-0.004	0.201	Continuous	CPS
Hispanic Men	0.052	0.064	0.001	0.286	Continuous	CPS
Hispanic Women	0.037	0.046	0.001	0.249	Continuous	CPS
Proportion Contractors in Industry	0.492	0.226	0.061	0.821	Continuous	EEO-1
Industry Employment (millions)	3.738	2.821	0.996	11.458	Continuous	CPS
State Unemployment Rate	6.101	2.023	2.000	18.000	Continuous	BLS

[a] Includes adoption of a formal HR department, written hiring, promotion and discharge guidelines, written job description, written promotion ladder, written performance

[b] Includes paid maternity leave, paid paternity leave, policy allowing flexible work hours and top management support for work-family balance (support was asked at 10-year intervals and interpolated).

[c] Percents were obtained in 10 years intervals (2002, 1992 and 1982). Values for the years in between were interpolated using a linear function.

Appendix Table A2: Coefficients for Control Variables for Table 3

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Organizational Structures								
Percent managers in est.	-0.555***	0.125	-2.301***	-2.784***	-2.351***	-2.904***	-2.642***	-2.780***
	(0.107)	(0.112)	(0.107)	(0.101)	(0.102)	(0.095)	(0.105)	(0.095)
Establishment size (log)	-0.033**	0.000	-0.394***	-0.560***	-0.483***	-0.598***	-0.541***	-0.611***
	(0.011)	(0.012)	(0.011)	(0.011)	(0.011)	(0.010)	(0.011)	(0.010)
Union agreement	0.004	-0.058	-0.073*	-0.008	0.040	0.047	0.033	0.010
	(0.032)	(0.033)	(0.032)	(0.030)	(0.031)	(0.029)	(0.032)	(0.029)
Formal HR policies (count)	0.005	0.003	-0.005	-0.003	0.003	0.005	-0.003	-0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
HR department	-0.041*	-0.069***	-0.054**	-0.072***	-0.075***	-0.090***	-0.117***	-0.104***
	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Grievance Procedure	-0.003	-0.039*	-0.073***	-0.040**	-0.035*	-0.031*	-0.078***	-0.026
	(0.016)	(0.017)	(0.016)	(0.015)	(0.016)	(0.015)	(0.016)	(0.015)
Skill test for managers	0.006	-0.027	-0.043**	-0.014	-0.034*	-0.056***	-0.047***	-0.060***
	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)
Legal department	-0.081***	0.122***	0.060**	-0.003	0.028	0.036	0.074***	0.020
	(0.022)	(0.023)	(0.022)	(0.021)	(0.021)	(0.020)	(0.022)	(0.020)
Attorney on retainer	0.015	-0.037*	0.001	-0.036*	-0.035*	-0.079***	-0.045**	-0.071***
	(0.017)	(0.018)	(0.017)	(0.016)	(0.017)	(0.015)	(0.017)	(0.015)
of women or minorities	-0.072***	0.102***	0.112***	0.120***	0.039*	0.065***	0.108***	0.095***
	(0.019)	(0.020)	(0.019)	(0.018)	(0.019)	(0.017)	(0.019)	(0.017)
Affirmative Action plan	-0.074***	0.059***	0.049**	0.014	0.085***	0.034*	0.068***	0.002
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
Diversity committee	-0.115***	0.168***	0.092***	0.186***	0.112***	0.126***	0.248***	0.221***
	(0.027)	(0.028)	(0.027)	(0.025)	(0.026)	(0.024)	(0.026)	(0.024)
Diversity evaluations	0.052*	0.034	-0.075**	0.003	0.081**	0.015	-0.033	0.019
	(0.026)	(0.027)	(0.026)	(0.025)	(0.025)	(0.023)	(0.026)	(0.023)
Networking programs	-0.077**	0.083**	-0.078**	0.019	0.102***	0.053*	0.064*	0.040
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.026)	(0.023)
Mentoring programs	-0.014	-0.000	0.008	0.132***	0.057	0.176***	0.121***	0.228***
	(0.033)	(0.034)	(0.033)	(0.031)	(0.032)	(0.029)	(0.033)	(0.029)
Work-family accommodations	-0.064***	0.049***	0.002	0.017*	0.017*	0.025***	0.046***	0.041***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
Legal Environment								
EEOC Charge/Title VII Lawsu	-0.088***	0.106***	0.017	0.016	0.046***	0.013	0.047***	0.003
	(0.014)	(0.014)	(0.013)	(0.013)	(0.013)	(0.012)	(0.013)	(0.012)
Compliance Review	-0.063***	0.057**	0.085***	0.044*	0.036*	0.031	0.120***	0.094***
	(0.019)	(0.019)	(0.018)	(0.017)	(0.018)	(0.016)	(0.018)	(0.016)

Appendix Table A2 Continued

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Labor Market and Economic Environment								
Proportion minorities	-0.001	-0.002	0.012***	0.008***	0.001	-0.003**	-0.003*	-0.004***
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion women	-0.001	0.002**	-0.002**	0.002**	0.001	0.001	-0.001	0.000
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion of focal group	1.291***	1.426***	1.547***	1.216***	0.157*	-0.108	0.304	0.449**
in non-managerial jobs	(0.060)	(0.066)	(0.191)	(0.154)	(0.064)	(0.060)	(0.195)	(0.161)
Proportion of focal group	-0.176***	-0.166***	0.276*	-0.478***	-0.149	0.127	-0.189	-0.171
in core-job	(0.035)	(0.038)	(0.133)	(0.099)	(0.078)	(0.071)	(0.207)	(0.128)
No focal group in management	-0.296***	-0.154***	-0.400***	-0.479***	-0.186***	-0.197***	-0.223***	-0.209***
	(0.046)	(0.011)	(0.011)	(0.010)	(0.007)	(0.007)	(0.007)	(0.007)
External labor pool (proportions)								
White men	0.098	-0.124	0.339***	0.180*	0.260**	0.143	0.433***	0.163*
in industry labor force (log)	(0.085)	(0.088)	(0.084)	(0.079)	(0.081)	(0.075)	(0.083)	(0.075)
White women	-0.220***	0.327***	0.168**	0.300***	-0.020	0.176***	0.217***	0.299***
in industry labor force (log)	(0.059)	(0.061)	(0.058)	(0.055)	(0.056)	(0.052)	(0.058)	(0.052)
Black men	-0.077**	0.073**	0.032	0.048*	0.016	-0.006	0.030	0.040
in industry labor force (log)	(0.024)	(0.025)	(0.024)	(0.023)	(0.023)	(0.022)	(0.024)	(0.022)
Black women	-0.138***	0.107***	0.096***	0.019	0.082***	0.019	0.017	0.030
in industry labor force (log)	(0.021)	(0.021)	(0.020)	(0.019)	(0.020)	(0.018)	(0.020)	(0.018)
Hispanic men	-0.131***	0.125***	0.094***	0.143***	0.035	0.093***	0.050**	0.111***
in industry labor force (log)	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Hispanic women	-0.027	0.049**	-0.019	0.003	-0.003	-0.014	0.029	-0.001
in industry labor force (log)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
White men	0.499	-0.650	-0.509	-0.747*	-1.624***	-1.011**	-1.020**	-0.460
in state labor force	(0.371)	(0.385)	(0.370)	(0.348)	(0.355)	(0.330)	(0.364)	(0.329)
White women	-3.154***	3.469***	-0.477	-1.322***	-1.888***	-1.723***	-0.925**	-1.892***
in state labor force	(0.352)	(0.366)	(0.351)	(0.330)	(0.337)	(0.313)	(0.346)	(0.312)
Black men	-0.190	0.646	-3.933***	-2.885***	-2.335**	-1.307	-1.462*	-0.564
in state labor force	(0.756)	(0.784)	(0.752)	(0.708)	(0.723)	(0.671)	(0.741)	(0.669)
Black women	-1.556*	3.018***	1.628**	2.030***	-1.526**	-1.846***	-0.420	-1.653**
in state labor force	(0.610)	(0.633)	(0.607)	(0.572)	(0.584)	(0.541)	(0.599)	(0.540)
Hispanic men	-1.915**	0.672	-1.068	-0.501	0.689	-0.994	-0.685	-0.318
in state labor force	(0.660)	(0.684)	(0.656)	(0.618)	(0.631)	(0.585)	(0.647)	(0.584)
Hispanic women	-1.855*	2.928***	-0.074	-0.538	0.552	4.017***	4.404***	2.327***
in state labor force	(0.787)	(0.817)	(0.783)	(0.737)	(0.753)	(0.698)	(0.772)	(0.697)
Industry employment (in '000,000)	0.016**	-0.036***	-0.010*	0.000	-0.024***	-0.005	-0.011*	0.023***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
State unemployment rate	0.022***	-0.030***	0.005	-0.009**	-0.012***	-0.011***	-0.017***	-0.010**
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
Constant	-0.057*	0.052	-0.039	0.016	0.025	0.028	0.035	0.040
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.025)	(0.023)
R-sq	0.312	0.283	0.159	0.232	0.171	0.247	0.210	0.260

establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 71. N (organization-year; organizations)= 17,499; 806.

*** p<0.001; ** p<0.01; * p<0.05; (two tailed test)

Appendix Table A3: Coefficients for Control Variables for Table 4

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Organizational Structures								
Percent managers in est.	-0.558***	0.129	-2.299***	-2.779***	-2.353***	-2.913***	-2.631***	-2.782***
	(0.107)	(0.112)	(0.107)	(0.101)	(0.102)	(0.095)	(0.105)	(0.095)
Establishment size (log)	-0.033**	-0.000	-0.395***	-0.561***	-0.484***	-0.599***	-0.542***	-0.612***
	(0.011)	(0.012)	(0.011)	(0.011)	(0.011)	(0.010)	(0.011)	(0.010)
Union agreement	0.004	-0.058	-0.073*	-0.009	0.041	0.048	0.032	0.011
	(0.032)	(0.033)	(0.032)	(0.030)	(0.031)	(0.029)	(0.032)	(0.029)
Formal HR policies (count)	0.005	0.003	-0.005	-0.003	0.004	0.006	-0.002	-0.001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
HR department	-0.041*	-0.067***	-0.052**	-0.069***	-0.073***	-0.090***	-0.112***	-0.100***
	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Grievance Procedure	-0.004	-0.037*	-0.071***	-0.037*	-0.033*	-0.030*	-0.073***	-0.022
	(0.016)	(0.017)	(0.016)	(0.015)	(0.016)	(0.015)	(0.016)	(0.015)
Skill test for managers	0.007	-0.028	-0.043**	-0.014	-0.034*	-0.054***	-0.048***	-0.060***
	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)
Legal department	-0.080***	0.123***	0.061**	-0.002	0.030	0.039	0.075***	0.024
	(0.022)	(0.023)	(0.022)	(0.021)	(0.021)	(0.020)	(0.022)	(0.020)
Attorney on retainer	0.015	-0.036*	0.002	-0.035*	-0.034*	-0.078***	-0.044**	-0.069***
	(0.017)	(0.018)	(0.017)	(0.016)	(0.017)	(0.015)	(0.017)	(0.015)
Targeted recruitment	-0.071***	0.102***	0.112***	0.119***	0.039*	0.067***	0.106***	0.096***
of women or	(0.019)	(0.020)	(0.019)	(0.018)	(0.019)	(0.017)	(0.019)	(0.017)
Affirmative Action plan	-0.074***	0.058***	0.048**	0.012	0.084***	0.034*	0.065***	0.001
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
Diversity committee	-0.118***	0.166***	0.088**	0.182***	0.106***	0.116***	0.244***	0.208***
	(0.027)	(0.028)	(0.027)	(0.025)	(0.026)	(0.024)	(0.027)	(0.024)
Diversity evaluations	0.051	0.035	-0.075**	0.004	0.080**	0.012	-0.030	0.017
	(0.026)	(0.027)	(0.026)	(0.025)	(0.025)	(0.023)	(0.026)	(0.023)
Networking programs	-0.078**	0.080**	-0.082**	0.015	0.098***	0.048*	0.058*	0.031
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.026)	(0.023)
Mentoring programs	-0.017	-0.001	0.006	0.132***	0.053	0.167***	0.122***	0.219***
	(0.033)	(0.034)	(0.033)	(0.031)	(0.032)	(0.029)	(0.033)	(0.029)
Work-family accommodations	-0.064***	0.049***	0.003	0.017*	0.018*	0.026***	0.047***	0.042***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
Legal Environment								
EEOC Charge/Title VII Lawsui	-0.087***	0.106***	0.017	0.015	0.046***	0.013	0.045***	0.002
	(0.014)	(0.014)	(0.013)	(0.013)	(0.013)	(0.012)	(0.013)	(0.012)
Compliance Review	-0.060**	0.050**	0.076***	0.033	0.029	0.031	0.101***	0.082***
	(0.019)	(0.019)	(0.019)	(0.018)	(0.018)	(0.017)	(0.018)	(0.017)

Continued

Appendix Table A3 Continued

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Labor Market and Economic Environment								
Proportion minorities	0.001	-0.001	0.009***	0.005***	-0.002	-0.003**	-0.003**	-0.004***
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion women	-0.000	0.001	-0.002**	0.002***	0.001	0.000	-0.001	0.000
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion of focal group	1.307***	1.116***	1.349***	2.100***	0.724***	0.391**	0.365	2.027***
in non-managerial jobs	(0.086)	(0.090)	(0.232)	(0.192)	(0.119)	(0.131)	(0.384)	(0.297)
Proportion of focal group	-0.065	-0.174***	0.295	-0.977***	0.282	0.160	2.850***	0.894***
in core-job	(0.045)	(0.047)	(0.156)	(0.122)	(0.152)	(0.156)	(0.341)	(0.235)
No focal group in management	-0.539***	-0.565***	-0.632***	-0.680***	-0.551***	-0.550***	-0.610***	-0.589***
	(0.072)	(0.018)	(0.013)	(0.013)	(0.012)	(0.013)	(0.012)	(0.013)
External labor pool (proportions)								
White men	0.098	-0.120	0.344***	0.186*	0.266**	0.149*	0.442***	0.175*
in industry labor force (log)	(0.085)	(0.088)	(0.084)	(0.079)	(0.081)	(0.075)	(0.083)	(0.075)
White women	-0.221***	0.329***	0.171**	0.303***	-0.018	0.176***	0.223***	0.303***
in industry labor force (log)	(0.059)	(0.061)	(0.058)	(0.055)	(0.056)	(0.052)	(0.058)	(0.052)
Black men	-0.079**	0.075**	0.035	0.053*	0.018	-0.006	0.038	0.045*
in industry labor force (log)	(0.024)	(0.025)	(0.024)	(0.023)	(0.023)	(0.022)	(0.024)	(0.022)
Black women	-0.139***	0.108***	0.097***	0.020	0.082***	0.018	0.020	0.029
in industry labor force (log)	(0.021)	(0.021)	(0.020)	(0.019)	(0.020)	(0.018)	(0.020)	(0.018)
Hispanic men	-0.131***	0.124***	0.094***	0.143***	0.035	0.093***	0.050**	0.111***
in industry labor force (log)	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Hispanic women	-0.027	0.049**	-0.019	0.003	-0.002	-0.013	0.028	-0.000
in industry labor force (log)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
White men	0.501	-0.653	-0.512	-0.752*	-1.626***	-1.008**	-1.030**	-0.463
in state labor force	(0.371)	(0.385)	(0.370)	(0.348)	(0.355)	(0.329)	(0.364)	(0.328)
White women	-3.166***	3.471***	-0.480	-1.319***	-1.902***	-1.758***	-0.911**	-1.919***
in state labor force	(0.352)	(0.366)	(0.351)	(0.330)	(0.337)	(0.313)	(0.346)	(0.312)
Black men	-0.203	0.695	-3.870***	-2.811***	-2.281**	-1.281	-1.333	-0.454
in state labor force	(0.756)	(0.784)	(0.752)	(0.708)	(0.723)	(0.670)	(0.740)	(0.668)
Black women	-1.562*	3.000***	1.601**	2.003***	-1.561**	-1.890***	-0.457	-1.723**
in state labor force	(0.610)	(0.633)	(0.607)	(0.572)	(0.584)	(0.541)	(0.598)	(0.540)
Hispanic men	-1.912**	0.665	-1.075	-0.511	0.684	-0.993	-0.702	-0.327
in state labor force	(0.660)	(0.684)	(0.656)	(0.618)	(0.631)	(0.585)	(0.646)	(0.583)
Hispanic women	-1.873*	2.935***	-0.070	-0.524	0.540	3.973***	4.439***	2.304***
in state labor force	(0.787)	(0.817)	(0.783)	(0.737)	(0.753)	(0.698)	(0.771)	(0.696)
Industry employment (in '000,000)	0.016**	-0.036***	-0.010*	0.000	-0.024***	-0.005	-0.011*	0.023***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
State unemployment rate	0.022***	-0.030***	0.005	-0.009**	-0.012***	-0.011***	-0.017***	-0.010**
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
Constant	0.138	-0.670	2.171***	2.932***	2.728***	2.940***	2.944***	3.207***
	(0.347)	(0.357)	(0.325)	(0.303)	(0.309)	(0.279)	(0.310)	(0.275)
R-sq	0.312	0.284	0.160	0.233	0.172	0.248	0.212	0.263

Note: Data shown are coefficients from GLS regression with standard errors in parentheses. The analyses include establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 73. N (organization-year; organizations)= 17,499; 806.

***p<0.001; ** p<0.01; * p<0.05; (two tailed test)

Appendix Table A4: Coefficients for Control Variables for Table 5

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Organizational Structures								
Percent managers in est.	-0.549***	0.119	-2.314***	-2.793***	-2.358***	-2.904***	-2.650***	-2.782***
	(0.107)	(0.112)	(0.107)	(0.101)	(0.102)	(0.095)	(0.105)	(0.095)
Establishment size (log)	-0.033**	0.001	-0.397***	-0.561***	-0.484***	-0.598***	-0.542***	-0.610***
	(0.011)	(0.012)	(0.011)	(0.011)	(0.011)	(0.010)	(0.011)	(0.010)
Union agreement	0.003	-0.058	-0.070*	-0.007	0.041	0.047	0.034	0.010
	(0.032)	(0.033)	(0.032)	(0.030)	(0.031)	(0.029)	(0.032)	(0.029)
Formal HR policies (count)	0.005	0.002	-0.006	-0.004	0.003	0.005	-0.003	-0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
HR department	-0.043*	-0.067***	-0.050**	-0.069***	-0.073***	-0.091***	-0.114***	-0.103***
	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Grievance Procedure	-0.002	-0.040*	-0.076***	-0.042**	-0.036*	-0.031*	-0.080***	-0.026
	(0.016)	(0.017)	(0.016)	(0.015)	(0.016)	(0.015)	(0.016)	(0.015)
Skill test for managers	0.006	-0.027	-0.043**	-0.013	-0.034*	-0.056***	-0.047**	-0.060***
	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)
Legal department	-0.081***	0.122***	0.062**	-0.002	0.029	0.036	0.075***	0.020
	(0.022)	(0.023)	(0.022)	(0.021)	(0.021)	(0.020)	(0.022)	(0.020)
Attorney on retainer	0.013	-0.034	0.003	-0.034*	-0.033*	-0.079***	-0.043*	-0.070***
	(0.017)	(0.018)	(0.017)	(0.016)	(0.017)	(0.015)	(0.017)	(0.015)
Targeted recruitment	-0.073***	0.103***	0.111***	0.120***	0.038*	0.065***	0.108***	0.095***
of women or	(0.019)	(0.020)	(0.019)	(0.018)	(0.019)	(0.017)	(0.019)	(0.017)
Affirmative Action plan	-0.077***	0.063***	0.049**	0.015	0.086***	0.034*	0.069***	0.005
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
Diversity committee	-0.109***	0.161***	0.079**	0.176***	0.105***	0.126***	0.239***	0.219***
	(0.027)	(0.028)	(0.027)	(0.025)	(0.026)	(0.024)	(0.027)	(0.024)
Diversity evaluations	0.059*	0.024	-0.076**	-0.002	0.079**	0.015	-0.036	0.013
	(0.026)	(0.027)	(0.026)	(0.025)	(0.025)	(0.023)	(0.026)	(0.023)
Networking programs	-0.075**	0.079**	-0.075**	0.019	0.102***	0.052*	0.064*	0.037
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.026)	(0.023)
Mentoring programs	-0.004	-0.014	0.006	0.125***	0.053	0.176***	0.115***	0.219***
	(0.033)	(0.034)	(0.033)	(0.031)	(0.032)	(0.030)	(0.033)	(0.029)
Work-family accommodations	-0.063***	0.048***	0.003	0.017*	0.017*	0.025***	0.046***	0.040***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
Legal Environment								
EEOC Charge/Title VII Lawsu	-0.088***	0.107***	0.016	0.016	0.046***	0.013	0.046***	0.003
	(0.014)	(0.014)	(0.013)	(0.013)	(0.013)	(0.012)	(0.013)	(0.012)
Compliance Review	-0.064***	0.059**	0.082***	0.043*	0.035*	0.031	0.119***	0.096***
	(0.019)	(0.019)	(0.018)	(0.017)	(0.018)	(0.016)	(0.018)	(0.016)

Continued

Appendix Table A4 Continued

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Labor Market and Economic Environment								
Proportion minorities	-0.001	-0.002	0.012***	0.008***	0.001	-0.003**	-0.003*	-0.004***
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion women	-0.001	0.003***	-0.002**	0.002**	0.001	0.001	-0.001	0.000
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion of focal group	1.291***	1.428***	1.521***	1.216***	0.157*	-0.110	0.296	0.444**
in non-managerial jobs	(0.060)	(0.066)	(0.190)	(0.154)	(0.064)	(0.060)	(0.195)	(0.161)
Proportion of focal group	-0.174***	-0.165***	0.293*	-0.475***	-0.149	0.128	-0.181	-0.169
in core-job	(0.035)	(0.038)	(0.133)	(0.099)	(0.078)	(0.071)	(0.207)	(0.128)
No focal group in management	-0.296***	-0.154***	-0.400***	-0.479***	-0.186***	-0.197***	-0.223***	-0.209***
	(0.046)	(0.011)	(0.011)	(0.010)	(0.007)	(0.007)	(0.007)	(0.007)
External labor pool (proportions)								
White men	0.100	-0.127	0.340***	0.179*	0.260**	0.143	0.432***	0.161*
in industry labor force (log)	(0.085)	(0.088)	(0.084)	(0.079)	(0.081)	(0.075)	(0.083)	(0.075)
White women	-0.222***	0.327***	0.179**	0.306***	-0.015	0.175***	0.223***	0.298***
in industry labor force (log)	(0.059)	(0.061)	(0.058)	(0.055)	(0.056)	(0.052)	(0.058)	(0.052)
Black men	-0.076**	0.071**	0.032	0.048*	0.016	-0.006	0.030	0.039
in industry labor force (log)	(0.024)	(0.025)	(0.024)	(0.023)	(0.023)	(0.022)	(0.024)	(0.022)
Black women	-0.136***	0.104***	0.094***	0.017	0.081***	0.019	0.015	0.028
in industry labor force (log)	(0.021)	(0.021)	(0.020)	(0.019)	(0.020)	(0.018)	(0.020)	(0.018)
Hispanic men	-0.130***	0.123***	0.094***	0.142***	0.035	0.093***	0.050**	0.110***
in industry labor force (log)	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Hispanic women	-0.027	0.050**	-0.020	0.003	-0.003	-0.014	0.029	-0.000
in industry labor force (log)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
White men	0.473	-0.610	-0.528	-0.741*	-1.622***	-1.010**	-1.017**	-0.433
in state labor force	(0.371)	(0.385)	(0.369)	(0.348)	(0.355)	(0.330)	(0.364)	(0.329)
White women	-3.174***	3.498***	-0.479	-1.311***	-1.882***	-1.723***	-0.916**	-1.874***
in state labor force	(0.352)	(0.366)	(0.350)	(0.330)	(0.337)	(0.313)	(0.346)	(0.312)
Black men	-0.265	0.750	-3.912***	-2.832***	-2.303**	-1.307	-1.418	-0.501
in state labor force	(0.756)	(0.784)	(0.752)	(0.708)	(0.723)	(0.671)	(0.741)	(0.669)
Black women	-1.584**	3.062***	1.598**	2.033***	-1.526**	-1.845***	-0.419	-1.623**
in state labor force	(0.610)	(0.633)	(0.607)	(0.572)	(0.584)	(0.542)	(0.599)	(0.540)
Hispanic men	-1.961**	0.740	-1.076	-0.477	0.702	-0.993	-0.667	-0.274
in state labor force	(0.659)	(0.684)	(0.656)	(0.618)	(0.631)	(0.585)	(0.647)	(0.584)
Hispanic women	-1.925*	3.017***	0.008	-0.457	0.604	4.015***	4.474***	2.372***
in state labor force	(0.786)	(0.816)	(0.782)	(0.737)	(0.753)	(0.698)	(0.772)	(0.697)
Industry employment (in '000,000)	0.016***	-0.036***	-0.009	0.000	-0.024***	-0.005	-0.011*	0.022***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
State unemployment rate	0.022***	-0.030***	0.005	-0.009**	-0.012***	-0.011***	-0.017***	-0.010**
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
Constant	-0.057*	0.051	-0.038	0.016	0.025	0.028	0.036	0.040
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.025)	(0.023)
R-sq	0.313	0.284	0.161	0.233	0.172	0.247	0.210	0.261

Note: Data shown are coefficients from GLS regression with standard errors in parentheses. The analyses include establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 73. N (organization-year; organizations)= 17,499; 806. *** p<0.001; ** p<0.01; * p<0.05; (two tailed test)

Appendix Table A5: Coefficients for Control Variables for Table 6

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Organizational Structures								
Percent managers in est.	-0.563***	0.134	-2.304***	-2.785***	-2.364***	-2.909***	-2.633***	-2.779***
	(0.107)	(0.112)	(0.107)	(0.101)	(0.102)	(0.095)	(0.105)	(0.095)
Establishment size (log)	-0.033**	0.001	-0.397***	-0.561***	-0.484***	-0.598***	-0.541***	-0.610***
	(0.011)	(0.012)	(0.011)	(0.011)	(0.011)	(0.010)	(0.011)	(0.010)
Union agreement	0.006	-0.062	-0.072*	-0.008	0.043	0.051	0.034	0.013
	(0.032)	(0.033)	(0.032)	(0.030)	(0.031)	(0.029)	(0.032)	(0.029)
Formal HR policies (count)	0.005	0.002	-0.006	-0.003	0.003	0.006	-0.003	-0.001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
HR department	-0.044*	-0.063**	-0.047*	-0.065***	-0.071***	-0.091***	-0.109***	-0.099***
	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Grievance Procedure	-0.003	-0.037*	-0.075***	-0.040**	-0.034*	-0.030*	-0.077***	-0.023
	(0.016)	(0.017)	(0.016)	(0.015)	(0.016)	(0.015)	(0.016)	(0.015)
Skill test for managers	0.008	-0.029	-0.043**	-0.013	-0.032*	-0.055***	-0.047***	-0.060***
	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)
Legal department	-0.080***	0.123***	0.063**	-0.001	0.032	0.039*	0.076***	0.024
	(0.022)	(0.023)	(0.022)	(0.021)	(0.021)	(0.020)	(0.022)	(0.020)
Attorney on retainer	0.013	-0.033	0.005	-0.032*	-0.033*	-0.078***	-0.041*	-0.069***
	(0.017)	(0.018)	(0.017)	(0.016)	(0.017)	(0.015)	(0.017)	(0.015)
Targeted recruitment	-0.073***	0.102***	0.112***	0.117***	0.036	0.066***	0.102***	0.093***
of women or	(0.019)	(0.020)	(0.019)	(0.018)	(0.019)	(0.017)	(0.019)	(0.017)
Affirmative Action plan	-0.077***	0.063***	0.049**	0.014	0.085***	0.035*	0.067***	0.004
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
Diversity committee	-0.117***	0.166***	0.081**	0.177***	0.097***	0.116***	0.241***	0.208***
	(0.027)	(0.028)	(0.027)	(0.026)	(0.026)	(0.024)	(0.027)	(0.024)
Diversity evaluations	0.052*	0.032	-0.073**	-0.003	0.076**	0.017	-0.035	0.014
	(0.026)	(0.027)	(0.026)	(0.025)	(0.025)	(0.023)	(0.026)	(0.023)
Networking programs	-0.076**	0.077**	-0.079**	0.015	0.099***	0.049*	0.059*	0.030
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.026)	(0.023)
Mentoring programs	0.003	-0.027	-0.004	0.125***	0.055	0.171***	0.119***	0.215***
	(0.034)	(0.035)	(0.033)	(0.031)	(0.032)	(0.030)	(0.033)	(0.030)
Work-family accommodations	-0.064***	0.050***	0.005	0.018*	0.018*	0.026***	0.048***	0.042***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
Legal Environment								
EEOC Charge/Title VII Lawsuit	-0.088***	0.106***	0.016	0.015	0.045***	0.013	0.045***	0.003
	(0.014)	(0.014)	(0.013)	(0.013)	(0.013)	(0.012)	(0.013)	(0.012)
Compliance Review	-0.059**	0.050*	0.074***	0.033	0.030	0.031	0.101***	0.083***
	(0.019)	(0.019)	(0.019)	(0.018)	(0.018)	(0.017)	(0.018)	(0.017)

Continued

Appendix Table A5 Continued

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Labor Market and Economic Environment								
Proportion minorities	-0.001	-0.002	0.012***	0.008***	0.001	-0.003**	-0.003*	-0.004**
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion women	-0.001	0.003***	-0.002**	0.002**	0.001	0.001	-0.001	0.001
in top management	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportion of focal group	1.290***	1.422***	1.522***	1.219***	0.155*	-0.115	0.282	0.435**
in non-managerial jobs	(0.060)	(0.065)	(0.190)	(0.154)	(0.064)	(0.060)	(0.194)	(0.161)
Proportion of focal group	-0.175***	-0.165***	0.284*	-0.474***	-0.148	0.131	-0.167	-0.164
in core-job	(0.035)	(0.038)	(0.133)	(0.099)	(0.078)	(0.071)	(0.207)	(0.128)
No focal group in management	-0.297***	-0.154***	-0.400***	-0.479***	-0.186***	-0.197***	-0.222***	-0.208***
	(0.046)	(0.011)	(0.011)	(0.010)	(0.007)	(0.007)	(0.007)	(0.007)
External labor pool (proportions)								
White men	0.085	-0.103	0.359***	0.188*	0.264**	0.157*	0.449***	0.182*
in industry labor force (log)	(0.085)	(0.088)	(0.084)	(0.079)	(0.081)	(0.075)	(0.083)	(0.075)
White women	-0.227***	0.334***	0.184**	0.307***	-0.018	0.177***	0.225***	0.301***
in industry labor force (log)	(0.059)	(0.061)	(0.058)	(0.055)	(0.056)	(0.052)	(0.058)	(0.052)
Black men	-0.080***	0.078**	0.037	0.052*	0.017	-0.006	0.038	0.045*
in industry labor force (log)	(0.024)	(0.025)	(0.024)	(0.023)	(0.023)	(0.022)	(0.024)	(0.022)
Black women	-0.137***	0.105***	0.095***	0.018	0.079***	0.016	0.017	0.026
in industry labor force (log)	(0.021)	(0.021)	(0.020)	(0.019)	(0.020)	(0.018)	(0.020)	(0.018)
Hispanic men	-0.130***	0.122***	0.094***	0.141***	0.034	0.093***	0.048**	0.109***
in industry labor force (log)	(0.019)	(0.020)	(0.019)	(0.018)	(0.018)	(0.017)	(0.019)	(0.017)
Hispanic women	-0.027	0.049**	-0.020	0.003	-0.003	-0.014	0.027	-0.001
in industry labor force (log)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.014)	(0.015)	(0.014)
White men	0.491	-0.635	-0.545	-0.744*	-1.611***	-0.999**	-1.012**	-0.423
in state labor force	(0.371)	(0.385)	(0.369)	(0.348)	(0.355)	(0.329)	(0.364)	(0.328)
White women	-3.193***	3.513***	-0.479	-1.302***	-1.892***	-1.754***	-0.889*	-1.888***
in state labor force	(0.352)	(0.366)	(0.350)	(0.330)	(0.337)	(0.313)	(0.345)	(0.312)
Black men	-0.307	0.819	-3.842***	-2.765***	-2.314**	-1.348*	-1.341	-0.465
in state labor force	(0.756)	(0.784)	(0.752)	(0.709)	(0.724)	(0.671)	(0.741)	(0.668)
Black women	-1.563*	3.007***	1.564*	2.039***	-1.529**	-1.859***	-0.383	-1.642**
in state labor force	(0.610)	(0.633)	(0.607)	(0.573)	(0.584)	(0.542)	(0.598)	(0.540)
Hispanic men	-1.938**	0.698	-1.120	-0.517	0.698	-0.987	-0.715	-0.290
in state labor force	(0.659)	(0.684)	(0.656)	(0.618)	(0.631)	(0.585)	(0.646)	(0.583)
Hispanic women	-1.995*	3.109***	0.075	-0.389	0.603	3.979***	4.588***	2.399***
in state labor force	(0.787)	(0.816)	(0.782)	(0.737)	(0.753)	(0.698)	(0.771)	(0.696)
Industry employment (in '000,000)	0.016***	-0.036***	-0.009	0.000	-0.024***	-0.005	-0.011*	0.022***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
State unemployment rate	0.022***	-0.030***	0.004	-0.009**	-0.012***	-0.011***	-0.017***	-0.010**
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
Constant	-0.058*	0.053*	-0.036	0.018	0.026	0.029	0.038	0.042
	(0.026)	(0.027)	(0.026)	(0.024)	(0.025)	(0.023)	(0.025)	(0.023)
R-sq	0.313	0.286	0.162	0.234	0.173	0.248	0.213	0.264

Note: Data shown are coefficients from GLS regression with standard errors in parentheses. The analyses include establishment and year fixed effects (parameters for 30 binary variables for the years 1972-2000 are not shown, 1971 is the omitted year and 2001 and 2002 are included only for calculating the outcome variable). All independent variables are lagged by two year, excluding proportion of managerial jobs. Number of parameters is 79. N (organization-year; organizations)= 17,499; 806.

*** p<0.001; ** p<0.01; * p<0.05; (two tailed test)