

## CROSS-LEVEL EFFECTS OF WORKPLACE DIVERSITY ON SALES PERFORMANCE AND PAY

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**Drawing on social identity theory and status-based perspectives, we describe how in-group/out-group dynamics affect performance differences and earnings inequalities between members of higher-status majorities (whites, males) and lower-status minorities (people of color, women). Among sales employees on 437 teams in 46 units of a large company, team demographic composition and unit management composition moderated the relationship between individual demographic attributes and pay. Ethnicity-based earnings inequalities were smaller in teams with proportionately more people of color, and gender- and ethnicity-based inequalities were smaller in units with proportionately more women and people of color as managers. Partial mediation by performance was found.**

When a federal judge heard opening arguments for a historic sex discrimination law suit against corporate giant Wal-Mart, the evidence suggested that women who performed as well as or better than their male counterparts were paid less than the men and were less likely to be promoted (*Chicago Tribune*, 2003). Another recent lawsuit alleged that Xerox Corporation engaged in a pattern and practice of racial discrimination in awarding both promotions and pay (Hansen, 2003). Media coverage of these and other prominent lawsuits has drawn renewed attention to gender- and ethnicity-based earnings inequalities in American corporations (e.g., Featherstone, 2004; Morris, 2005; Uchitelle, 2004).

On the academic front, a rich body of research has examined gender- and ethnicity-based earnings inequalities among American workers (England, 1992; England, Herbert, Kilbourne, & Megdal, 1994; Federal Glass Ceiling Commission, 1995; Haberfeld, Semyonov, & Addi, 1998; Johnson & Solon,

1986; Maxwell, 1987). Some explanations for persistent earnings inequalities focus on the human capital attributes of women and people of color relative to males and whites. Human capital differences that may account for earnings differences between demographic groups may concern training, educational background, and years of work experience (e.g., Blau & Ferber, 1986; Cocoran & Duncan, 1979; Tomaskovic-Devey & Skaggs, 1999). Another body of research focuses on characteristics of the work settings in which women and people of color are employed, noting that women and people of color tend to be segregated into lower-paying occupations, industries, and jobs (e.g., Beck, Horan, Tolbert, 1978; Bielby & Baron, 1998; England, 1992; Maxwell, 1987; Reskin, McBrier, & Kmec, 1999).

Although explanations such as these have proven useful for explaining earnings inequalities between demographic groups in the workforce as a whole—that is, across all occupations and jobs—they do not easily account for pay differences between men and women or between whites and people of color who are similarly qualified and working in the same job in the same organization. To explain pay differences within organizations, research that directly considers the role of workplace context in shaping employment outcomes may be more useful (Reskin et al., 1999). A rich body of research on organizational demography has taken this approach (e.g., Pfeffer, 1983; Tsui, Egan, & O'Reilly, 1992). This research draws on behav-

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ioral theories to explain pay differences within organizations and points to prejudice and stereotyping as reasons for the lower earnings of women and people of color (e.g., England 1992; Heilman, 1994; Pfeffer & Davis-Blake, 1987).

Echoing recent calls for greater micro-macro links in organizational research (Hackman, 2003), we adopted the organizational demography approach and drew on behavioral theories to develop possible explanations of gender- and ethnicity-based pay differences within a firm. In contrast to past research on earnings inequalities, the current research examined the moderating role of the demographic composition of work teams and the demographic composition of managers in larger work units. We argue that the demographic compositions of teams and managers in work units are likely to shape the relationship between individual attributes (gender and ethnicity) and both performance and pay. Our theoretical arguments were tested using data from the U.S. sales division of a *Fortune* 500 firm. We refer to the firm as "Company Goodheart," in recognition of the firm's long-standing commitment to creating and effectively managing a diverse workforce.

#### PAST RESEARCH ON WORKPLACE DEMOGRAPHIC COMPOSITION AND EARNINGS INEQUALITIES

A vast body of research has examined the effects of the demographic composition of jobs and occupations on earnings. For example, research on occupational feminization shows that the degree to which occupations are female-dominated is associated with occupational wage levels. As the degree of female representation increases, average wages decrease for both men and women in an occupation (O'Neill, 2003; Pfeffer & Davis-Blake, 1987). The feminization effect persists even when the human capital requirements of different occupations and jobs are taken into account (England, 1992; England et al., 1994; Johnson & Solon, 1986). Less empirical evidence exists regarding the relationship between occupational ethnic composition and earnings (Reskin et al., 1999), but some research suggests that people of color (particularly African Americans) are concentrated in peripheral, low-wage industries. The concentration of people of color in low-wage industries contributes to ethnicity-based earnings inequalities observed at the national (U.S.) level (Beck et al., 1978; Maxwell, 1987).

The negative relationship between proportions of women and people of color and occupational wage levels has been interpreted as evidence that jobs and occupations become devalued as their propor-

tions of employees with lower social status (women and people of color) increase (England, 1992; Reskin, 1993; Reskin et al., 1999). Because of negative stereotypes and biases, occupations populated by women and people of color may be assigned lower value in firms that are dominated by men and whites (Baron & Bielby, 1980; Pfeffer & Davis-Blake, 1987). The devaluation of an occupation depresses wages for all employees in that occupation.

Together, occupational segregation based on gender and ethnicity and the dynamics of occupational devaluation provide explanations for earnings differentials found at high levels of aggregation (for instance, at the level of societies, occupations, and organizations). However, these perspectives do not help one understand the dynamics of discrimination that result in pay inequity within organizations and work units (see Reskin et al., 1999). Such an understanding can only emerge from a comprehensive assessment of the effects of workplace demographic composition on pay differences within organizations. By looking at the demographic composition of work groups and units in organizations, researchers may develop a better understanding of the role of organizational agents (i.e., managers or coworkers) whose actions presumably influence employment outcomes such as earnings (cf. Reskin, 2000).

To develop the hypotheses for this study, we considered possible ways through which sales employees' relationships with peers and managers could create or mitigate pay inequalities. Recognizing that employees are typically organized into small work groups (or teams) that in turn are nested within larger organizational units, we considered whether the demographic composition of an immediate work situation was associated with the pay (annual salary and incentives) of individual employees in the same job in one organization. Specifically, we explored the question of whether pay differences vary as a function of team composition and the demographic composition of managers in a work unit.

#### THEORY AND HYPOTHESES

In her seminal study of women's work experiences, Kanter (1977) found that female employees who occupied minority or "token" positions were subjected to stereotyping, social isolation, and performance pressures. Since then, many other studies have shown that some individuals who are members of a demographic minority experience various negative outcomes (see Riordan [2000] for a review). Although findings have been somewhat mixed over a large number of studies, employees

who are dissimilar to others in their organizations on characteristics such as tenure, age, gender, and ethnicity often have been found to be less committed to and more likely to leave their organization, and to feel less integrated and have less positive relationships with peers (e.g., Chattopadhyay, 1999; Tsui et al., 1992).

Some behavioral explanations for unequal outcomes rest on the assumption that biases and prejudice interfere with the interpersonal dynamics between managers and subordinates, which in turn results in lower performance evaluations and lower pay for women and people of color (e.g., Heilman, Block, & Stathatos, 1997; Heilman, Wallen, Fuchs, & Tamkins, 2004). For example, field experiments have shown that women receive lower performance ratings and smaller salary increases because they are considered less qualified than men (e.g., Heilman et al., 1997). Owing to prejudice and stereotyping, managers may have lower performance expectations for women and people of color, offer them less challenging and rewarding assignments, provide them with less feedback about their performance, and so on (cf. Roberson & Block, 2001).

The behavioral interactions that employees have with their peers may also partially determine their earnings. For example, Ostroff and Atwater (2003) found that the earnings of managers were associated with the sex and age composition of three groups relevant to managerial employees—their supervisors, other managers (peers), and their subordinates. Next, we describe in more detail the interpersonal dynamics that seem to account for findings such as these.

### The Social Identity Perspective as an Explanation for In-Group/Out-Group Dynamics

The social identity perspective, which encompasses social categorization theory and social identity theory (Reynolds, Turner, & Haslam, 2003), provides a basis for understanding how the demographic composition of workplaces can influence the behaviors and outcomes of members of a numerical minority or majority. According to the social identity perspective, individuals classify themselves and others on the basis of overt demographic attributes, including ethnicity and gender (Ashforth & Mael, 1989; Tajfel & Turner, 1979). Demographically similar individuals classify themselves as members of an in-group and classify those who are demographically dissimilar as an out-group.

Several decades of research have demonstrated that people favor members of their in-group and show bias against out-group members (see Hewstone, Rubin, and Willis [2002] for a review). By

amplifying the positive characteristics of in-group members and denigrating out-group members, people “protect, enhance, or achieve a positive social identity” for themselves and members of their in-group (Tajfel, 1982: 24). The degree of in-group favoring and out-group harming behaviors appears to be contingent on the relative sizes and implicit statuses of the subgroups involved (Chattopadhyay, Tlochowaska, & George, 2004; Hewstone et al., 2002).

As we explain next, in-group/out-group dynamics may have consequences for employees' earnings. We first explain how the composition of small work teams might influence the performance and earnings of front-line employees. We then consider how the management composition of work units might influence the performance and earnings of these employees. In this study, we did not directly measure interactions among employees, but an understanding of the presumed behavioral effects of workplace composition is essential to the development of our hypotheses.

### In-Group/Out-Group Dynamics in Work Teams

Regardless of whether they are members of a numerical majority or minority, all employees are likely to experience the consequences of both in-group favoring and out-group discrimination (Tajfel & Turner, 1979). The cumulative effect of these consequences is likely to reflect the relative size of one's own in-group in a particular social setting and well as the relative status of one's in-group.

**In-group size.** As the relative size of one's in-group increases, the benefits of in-group dynamics may accrue to members of the in-group. Conversely, a decline in the relative size of one's in-group may be associated with costs arising from out-group discrimination. The cumulative result is that, compared to in-group members of a numerical majority, in-group members of a numerical minority are likely to gain less from in-group favoring tendencies and suffer more from out-group discrimination. These dynamics may account for the observed relationship between demographic dissimilarity and lowered expectations about advancement opportunities (Riordan & Shore, 1997) and increased turnover (Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991). They also may be associated with lower motivation and self-protective behaviors that interfere with the performance of ethnic minorities (see Roberson and Block [2001] for a detailed discussion).

Experiments conducted in laboratory settings have shown that people tend to favor members of their in-group and discriminate against members of

their out-group when making resource allocation decisions (see Hewstone et al. [2002] and Tajfel [1982] for reviews). If similar dynamics occur in work teams, members of the numerical majority may have greater access to information, materials, equipment, and social support because their in-group controls more of these resources. Conversely, members of the numerical minority may be harmed by the majority's tendency to withhold resources from them (e.g., Ibarra & Smith-Lovin, 1997). If members of a numerical minority have less access to work-related resources, it is likely they will perform poorly and therefore earn less (cf. Jackson, May, & Whitney, 1995; Joshi & Jackson, 2003; Timmerman, 2000).

The logic presented above suggests that being in a numerical minority should have an overall negative effect on one's performance and any earnings related to performance. However, in organizations the proportions of women and people of color typically vary among work teams and larger work units. Hence, the in-group/out-group dynamics that affect any particular individual may reflect the composition of his or her proximal work team. In teams in which women and people of color are small minorities, those individuals may experience more negative consequences (cf. Kanter, 1977); conversely, in teams with large minorities of women and people of color, the negative consequences of their minority status in the organization may be mitigated (Jackson et al., 1992; Riordan, 2000). As we describe next, however, the relative size of one's in-group may not have the same consequences for men and whites as for women and people of color because these groups do not enjoy equal status.

**Status.** Social categorization based on overt demographic attributes may be inevitable in organizations, but the consequences of being in the numerical minority or majority do not affect everyone equally. The relative status of one's in-group also appears to influence identification processes and related behaviors (see Chattopadhyay et al., 2004; Ely, 1994, 1995; Tajfel & Turner, 1979). In most U.S. organizations, men and whites enjoy higher status than women and people of color (Baron & Newman, 1990). Since status is typically associated with perceived skill and expertise (Carli & Eagly, 1999), high-status individuals (i.e., whites, males) may be valued and rewarded even when they are in a numerical minority or token position (Barnett, Baron, & Stuart, 2000).

In a series of experiments, Sachdev and Bourhis (1985, 1987, 1991) extended the social identity perspective to examine the interactive effects of numerical proportions and status on intergroup re-

source allocations. They found that high-status individuals who were members of a numerical minority displayed more discriminatory behavior than individuals who were members of a low-status minority (see also Fiske, 1993). Individuals with high-status social identities tend to maintain identification with their demographic in-group even when they are in the numerical minority, which bolsters their self-esteem and insulates them from the negative psychological effects of their minority position (Hewstone et al., 2002; Tajfel & Turner, 1985). Furthermore, high-status individuals tend to engage in just as much out-group discrimination when they are in the minority as when they are in the majority. Members of low-status groups (i.e., females, people of color) tend to accept their "inferior" position and are less likely to display discriminatory behavior against higher-status out-group members (see Jost and Burgess [2000] for more details).

Together with the findings reported in the previous section, findings such as those reported by Sachdev and Bourhis suggest that team composition is likely to have asymmetrical consequences for low- and high-status employees (i.e., women versus men and whites versus people of color). High-status team members are less likely to be discriminated against regardless of team composition, so they suffer less harm as their numbers decrease. Low-status team members can make incremental gains by working with a greater proportion of in-group members because their increasing numbers give them better access to social and work-related resources (Chattopadhyay et al., 2004; Hewstone et al., 2002).

In view of extensive evidence showing the behavioral effects of in-group and out-group membership and status hierarchies, we predicted that individual attributes (gender and ethnicity) and team composition (proportions of men, women, whites, and people of color) would interact to predict the earnings of individual sales personnel. Specifically, we propose the following relationships:

*Hypothesis 1. The individual attributes of gender and ethnicity interact with work team composition—that is, the proportions of women and people of color on a team—to predict individual pay (incentive-based pay and salary). The specific form of the proposed interaction depends on the status of an individual's demographic in-group:*

(a) *For members of lower-status in-groups (women and people of color), the relationship between the relative size of an individual's in-group and individual pay is positive.*

(b) For members of higher-status in-groups (men and whites), the relationship between the relative size of an individual's in-group and individual pay is not significant.

**The mediating role of performance.** By adopting policies and practices that link performance to pay, companies seek to align the interests of employees with those of their employer, motivate employees to perform well, and reward employee performance (Gerhart, 1990; Gerhart & Rynes, 2003; Gomez-Meija & Balkin, 1992; Rynes, Gerhart, & Parks, 2005). The arguments we have presented so far suggest that the in-group/out-group dynamics that occur within work teams can ultimately influence an employee's earnings by facilitating or hampering his or her job performance.

For sales employees, incentive-based pay is typically the reward for the quantity and/or quality of their completed sales (e.g., Colletti & Fiss, 1998; Jenkins, Mitra, Gupta, & Shaw, 1998). Over a period of years, sales people whose performance is above average may also be rewarded with increased base pay (salary). In the short term, incentive pay is more directly tied to recent sales performance, whereas current annual salaries reflect cumulative performance over time as well as factors such as local labor market conditions and employee tenure. Taking into account the differing degrees to which recent performance is likely to influence incentive-based pay and current annual salaries, we hypothesized the following:

*Hypothesis 2a. Performance partially mediates the moderated relationship between individual attributes, work team composition, and salary.*

*Hypothesis 2b. Performance fully mediates the moderated relationship between individual attributes, work team composition, and incentive pay.*

### **In-Group/Out-Group Dynamics and Management Composition**

Our focus is on understanding how the social context of a workplace can influence individual earnings. Whereas Hypotheses 1 and 2 address the consequences of work team composition, we next consider the consequences of the management composition of the larger work unit within which a team is embedded. As this discussion will reveal, the rationale we present to explain how the composition of teams might affect an employee's earnings is also relevant to understanding how the composition of a work unit's

management can influence the pay received by employees within the unit.

**In-group size and status.** Like team members, managers can provide or withhold access to social and tangible resources and thereby promote or hinder the performance of their subordinates (Murray, 1988). Managers can also influence performance through work assignments. For example, sales managers can contribute to the performance of in-group members by assigning them to clients and/or products that generate higher sales commissions. If in-group/out-group dynamics produce bias in sales assignments, reduced sales opportunities may constrain the performance of subordinates in a manager's out-group. Because managers can intentionally or unintentionally enhance the performance of in-group subordinates and limit the performance of out-group subordinates, their biases are likely to be reflected in the incentive-based earnings of their subordinates. Thus, the performance of employees may be enhanced—subtly or overtly—when they are managed by in-group members, and their performance may be harmed when they are managed by out-group members.

In-group/out-group biases in the allocation of resources may also have consequences for employees' salaries. Even in highly bureaucratic organizations, managers typically have at least some input into determining the salaries of newly hired subordinates and their subsequent salary increases. In addition, collectively managers can influence the earnings of lower-level employees through their input into their organization's official policies and the implementation of those policies (Beer & Cannon, 2004; Gerhart & Rynes, 2003).

Although managers who belong to a numerical majority may develop and sustain exclusionary practices that preserve higher-paying positions for members of their in-group (Murray, 1988; Tomasovic-Devey, 1993), the size of a minority may limit its members' influence (Allport, 1954; Ellemers, van Knippenberg, & Wilke, 1993). As the proportions of women and people of color in management increase, they may be more willing and more able to monitor pay and pressure their organization to reduce apparent inequities. Overall, then, the behavioral dynamics that occur when the proportions of women and people of color in management are relatively high create conditions that should support the equitable distribution of organizational resources, including pay.

In keeping with these arguments, we predicted that the proportion of women and people of color in managerial ranks would moderate the relationship between individual demographic attributes and pay. When the size of a lower-status minority is

relatively small within management, in-group/out-group dynamics will result in policies and practices that may be detrimental to minority sales employees. In contrast, when the lower-status minority is relatively large within management, in-group/out-group dynamics will be less likely to cause harm to minority sales people. Thus, following the logic we presented earlier, we expected women and people of color to benefit when there are more female and ethnic minority managers, and we expected the benefits of increasing minority numbers to accrue to lower-status sales people without bringing concurrent harm to higher-status sales people. Thus, we propose:

*Hypothesis 3. The individual attributes of gender and ethnicity interact with management demographic composition (the proportions of women and people of color in management) to predict the individual pay of salespeople (incentive pay and current annual salary). The specific form of the proposed interaction depends on the status of an employee's demographic in-group:*

*(a) For salespeople who belong to lower-status groups (women and people of color), the relationship between the proportion of managers in their in-group and pay is positive.*

*(b) For salespeople who belong to higher-status groups (men and whites), the relationship between the proportion of managers in their in-group and pay is not significant.*

**The mediating role of performance.** Like coworkers, managers can directly influence the performance of their subordinates and thereby indirectly influence their earnings. The in-group/out-group dynamics we discussed earlier can influence how managers allocate the resources that their subordinates need to perform effectively. The presence of more women and people of color at managerial levels should assure more equal access to resources (Ridgeway, 1997), but in organizations with low representations of female or ethnic minority managers, organizational hierarchies accentuate status differences (Wharton, 1992). In these settings, female or ethnic minority managers may engage in out-group favoritism and in-group discrimination in order to comply with existing status expectations (Jost & Burgess, 2000; Sachdev & Bourhis, 1991). In organizations with balanced representation of demographic groups among managers, on the other hand, discrimination based on demographic attributes is less likely (Ridgeway, 1997; Wharton, 1992).

As the proportions of women and ethnic minor-

ity managers increase, female and ethnic minority sales personnel should gain access to more of the resources they need to perform well (Ibarra & Smith-Lovin, 1997). In addition, research on performance appraisal processes has shown that managers tend to evaluate the performance of demographically similar subordinates more favorably than they evaluate the performance of dissimilar subordinates (Roberson & Block, 2001). When in-group/out-group biases influence how managers allocate the resources subordinates need to perform their jobs as well as how managers evaluate performance, it is likely that members of a manager's in-group will have higher levels of actual and perceived performance. It follows that these effects will be reflected in differences in the earnings of subordinates who are demographically similar to or different from the manager. As we have explained, incentive pay is a direct reflection of performance, whereas current annual salaries reflect performance over time and other factors, such as tenure and labor market conditions. Therefore, we expect sales performance to partially mediate the moderated effects on salary but fully mediate the effects on incentive pay.

*Hypothesis 4a. Performance partially mediates the moderated relationship between individual attributes, management composition, and salary.*

*Hypothesis 4b. Performance partially mediates the moderated relationship between individual attributes, management composition, and incentive pay.*

## METHODS

### Participants

The sales employees and managers of a large U.S. firm in the information-processing industry, which we call Company Goodheart, served as the population for our study. The salespeople (3,970 in all) sold equipment and supplies to customers. They were organized into 444 work teams with an average size of 9 salespeople, which in turn were organized into 46 sales units (the average unit size was 86 salespeople and 11 managers). Because of missing data and the exclusion of teams with fewer than three members, our final sample included 3,318 employees from 437 teams nested in 46 sales units (84 percent of the population). Of the sales personnel, 36 percent were female, 13 percent were African American, 7 percent were Hispanic American, and 3 percent were Asian American, Native American, or from another U.S. minority ethnicity. Their

average age was 39.8 years, and their average tenure in the company was 10.2 years. Of the managers, 33 percent were female, 15 percent were African American, and 6 percent were Asian American, Hispanic American, Native American, or from another U.S. minority ethnicity. The average age of the managers was 43.3 years, and their organizational tenure averaged 16.8 years.

At Company Goodheart, the education levels of whites and ethnic minority members did not differ significantly: On average, both groups had three years of post-high-school education. Unfortunately, educational information was missing for many individuals, so we were not able to include education in our statistical models.

### Research Setting

Company Goodheart had a long-standing commitment to providing equal employment opportunities and managing workforce diversity. Federal affirmative action compliance guidelines were used to develop staffing goals for all job categories and hierarchical levels in the organization. Corporate policies specifically developed over a several years to respond to employees' concerns about equal earnings opportunities governed decisions about salaries and incentive pay. Company Goodheart supported a variety of caucuses for employees from different backgrounds and encouraged these groups to express their concerns to management and engage in joint problem solving around important issues.

### Measures

**Individual demographic attributes.** Company records were used to determine the length of organizational tenure, age, gender (0 = "male," 1 = "female"), and ethnicity (0 = "white," 1 = "ethnic minority") for each individual (each salesperson and manager). We also used company records to determine work team and work unit membership.

**Work team composition.** We aggregated demographic indicators for individual sales personnel to the team level to determine the proportion of women and the proportion of people of color in each sales team. Our measures of work team composition (proportions) included only sales employees at the same hierarchical level; a team's manager was not included in its team-level measures.

**Management composition of work units.** For administrative purposes, Company Goodheart grouped sales teams into sales units. Sales units were defined by several criteria, including location and the size and number of clients. Our measures of

management demography captured the proportion of female managers and the proportion of managers of color in each sales unit.

**Performance.** Individual objective sales performance, which we refer to as "sales goal achievement," was defined as actual revenue generated expressed as a percentage of an individual's revenue target. Sales revenue targets were set at the corporate level. Company Goodheart used historical benchmarking to ensure that salespeople were assigned revenue goals of equal difficulty. As part of the company's total quality management efforts, the sales performance measure assessed an individual's sales performance against benchmarks that were calculated to take into account the products individuals were selling (e.g., the type of equipment or service), characteristics of the sales territory (e.g., geographic scope and density, urban versus rural location), and characteristics of potential clients (e.g., organizations in the private versus the public sector). We specifically designed the sales performance measure to permit meaningful performance comparisons across all sales employees. Scores above 100 indicated that sales representatives had exceeded their individual targets, and scores below 100 indicated that sales representatives had failed to achieve their targets.

**Pay.** Individual pay was measured as annual fixed salary and incentive (bonus) pay. Company Goodheart set annual salaries using factors such as employee experience, performance, job category, and cost of living by geographic area. Incentive pay was a function of annual salary, sales goal achievement, and a predetermined incentive pay ratio, which was allowed to vary somewhat depending on individuals' preferences.

**Control variables.** To reduce potential confounding effects, we controlled for several variables known to correlate with various work-related attitudes and behaviors. At the individual level, we controlled for age, age squared, tenure, and tenure squared to account for differences in human capital. Because employees had some choice in the degree to which their pay was comprised of performance-based incentive pay or a fixed salary, we controlled for incentive pay ratio in our analyses. At the team level, we controlled for team size. At the work-unit level, we controlled for the number of salespeople in a unit, the number of managers in a unit, and the median wage rate for comparable jobs in the geographic location of a unit (using data available from the Bureau of Labor Statistics). To account for managers' firm-specific skills and ability to manage teams, we controlled for the average tenure of managers in a unit.

### Analytic Strategy

Sales employees were nested within sales teams, which in turn were nested within sales units over the country, creating a hierarchical data structure with three levels of random variation: variation among employees *within sales teams (level 1)*, variation among sales teams *within sales units (level 2)*, and variation among sales units *(level 3)*. To date, relational demography researchers have predominantly used ordinary least squares (OLS) regression to examine the interaction between individual demographic characteristics and the demographic composition of work teams or work units. However, OLS does not take into account the interdependence of individual-level observations nested within higher-level teams and work units; hence, estimates of standard errors may be biased, and test statistics may not be valid. To avoid these potential problems, we estimated the random coefficient models using hierarchical linear modeling for three-level models (HLM3; Raudenbush, Bryk, Cheong, & Congdon, 2000). HLM explicitly accounts for the nested nature of data and can simultaneously estimate the impact of factors at different levels on individual-level outcomes while maintaining appropriate levels of analysis for predictors (Raudenbush et al., 2000). We estimated the null models (with no predictors involved) for the three outcome variables in this study (annual salary, incentive pay, and performance) and found significant level 2 and level 3 variances in these variables, which confirmed that HLM3 was the right analytic strategy to use. In addition, following the recommendation of Hofmann and Gavin (1998), we grand-mean-centered all level 1 predictors except for the dummy-coded gender and ethnicity variables. Further, we used the deviance index reported in HLM3 analysis to assess model fit. The deviance index is defined as the  $-2 \times \log\text{-likelihood}$  of a maximum-likelihood estimate. The smaller the deviance value, the better a model fits; and the difference in the deviance values for two nested models is distributed as chi-square with degrees of freedom equal to the difference in the number of parameters for the pair of nested models (Bryk & Raudenbush, 1992). Therefore, we performed a series of chi-square tests to examine whether the models including the cross-level interactions fitted the data significantly better than the ones without the interactions.<sup>1</sup>

<sup>1</sup> We thank an anonymous reviewer for this suggestion.

### RESULTS

Table 1 provides means, standard deviations, and correlations for all variables. The HLM3 results predicting annual salary, incentive pay, and performance are presented in Tables 2, 3, and 4, respectively.

#### Main Effects of Gender and Ethnicity on Earnings

As represented in models 1a and 1b in Table 2, our results show that the individual attributes of gender and ethnicity were associated with annual salary. Model 1a in Table 2 shows that, with incentive pay ratio, age, age squared, organizational tenure, and tenure squared accounted for, female sales people earned annual salaries that were \$2,105.64 lower than those of similar male peers ( $p < .001$ ), and the salaries of people of color were \$2,405.46 lower than those of their white peers ( $p < .001$ ). Model 1b in Table 2 shows that performance was significantly related to salaries, but accounting for performance did not eliminate the effects of gender and ethnicity. After controlling for performance, we found that women earned salaries that were \$2,081.62 lower than those of men, and people of color earned salaries that were \$2,288.55 lower than those of whites.

The findings were somewhat different for incentive pay, as shown in Table 3. Model 1a in Table 3 shows that people of color received bonuses valued at \$2,313.29 less than those of their white peers ( $p < .01$ ); model 1b shows that performance was significantly related to incentive pay, and controlling for performance reduced the pay loss for people of color to \$1,157.50 ( $p < .05$ ). Although women earned slightly less incentive pay than men, the gender effect was not statistically significant when performance was included in the model. The correlation coefficient shown in Table 1 and a comparison of models 1b in Tables 1 (salary) and 2 (incentive pay) reveals that sales performance was more strongly associated with incentive pay than salary, as expected.

#### Hypothesis 1

Hypothesis 1 proposes that the individual attributes of gender and ethnicity interact with work team demographic composition to predict the pay of salespeople (incentive pay and salary). The level 1 by level 2 interactions shown in model 2a of Table 2 and model 2a of Table 3 test this hypothesis.

**TABLE 1**  
**Descriptive Statistics and Correlations among Study Variables<sup>a</sup>**

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Percent annual sales goal achievement	103.27	72.47																	
2. Incentive pay	17,936.13	18,692.18	.62																
3. Annual fixed salary	66,495.26	18,651.93	.10	.21															
4. Incentive pay ratio	0.33	0.12	-.04	.30	-.21														
5. Organizational tenure	10.18	8.91	.07	.09	.64	-.28													
6. Age	39.80	9.33	.04	.03	.62	-.22	.67												
7. Gender	0.36	0.48	-.01	.01	-.10	.06	-.04	-.10											
8. Ethnicity	0.24	0.42	-.05	-.08	-.09	.00	-.03	-.05	.03										
9. Sales people on team	10.05	4.20	.04	-.05	-.04	-.15	-.02	-.04	.00	.02									
10. Proportion of women on team	0.36	0.19	-.03	.01	-.14	.14	-.08	-.13	.39	.06	-.03								
11. Proportion of people of color on team	0.24	0.20	-.03	-.06	-.10	.03	-.02	-.06	.05	.46	.04	.11							
12. Median market wage for comparable jobs in area	46,135.52	4,684.64	-.00	.05	-.02	.03	-.05	-.05	.02	-.06	.08	.03	-.13						
13. Sales people in sales unit	106.93	36.62	-.03	.04	-.08	.07	-.06	-.05	.00	.01	.11	.00	.03	-.01					
14. Sales managers in sales unit	11.19	4.45	-.04	.02	-.12	.09	-.07	-.06	.00	.02	.10	.02	.05	-.06	.93				
15. Average tenure of managers in sales unit	16.73	3.74	.04	.01	.30	-.23	.22	.19	-.02	-.01	.08	-.09	-.02	-.16	-.05	-.09			
16. Proportion of female managers in sales unit	0.33	0.21	.00	-.03	.01	-.06	.02	.02	.01	.11	-.09	.03	.24	-.05	-.10	-.09	-.10		
17. Proportion of minority managers in sales unit	0.23	0.21	-.02	-.08	.06	-.13	.08	.06	.02	.16	-.05	.06	.33	-.08	-.12	-.14	.05	.44	

<sup>a</sup>  $n = 3,318$ . Coefficients with an absolute value equal to or larger than .04 are significant at  $p < .05$ .

TABLE 2  
Hierarchical Linear Modeling Results for Annual Fixed Salary<sup>a</sup>

Variable	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
Intercept	46,671.53***	48,483.52***	47,807.26***	48,082.22***	48,416.42***	48,473.10***
Level 1						
Incentive pay ratio	-7,523.09 <sup>†</sup>	-7,791.34 <sup>†</sup>	-7,653.26 <sup>†</sup>	-7,841.86 <sup>†</sup>	-7,449.79 <sup>†</sup>	-7,638.35*
Organizational tenure	1,317.79***	1,295.63***	1,309.11***	1,284.93***	1,304.60***	1,281.51***
Organizational tenure squared	-20.75***	-20.16***	-20.51***	-19.83***	-20.41***	-19.76***
Age	2,344.38***	2,352.43***	2,355.34***	2,358.21***	2,353.78***	2,357.73***
Age squared	-20.75***	-20.82***	-20.85***	-20.86***	-20.83***	-20.85***
Gender	-2,105.64***	-2,081.62***	-2,157.21	-2,099.64	-3,733.80*	-3,593.24*
Ethnicity	-2,405.46***	-2,288.55***	-5,089.62***	-5,009.48***	-5,709.77***	-5,613.58***
Annual sales goal achieved		9.17**		9.20**		8.93*
Level 2						
Salespeople on team	-277.75**	-291.26**	-258.25**	-268.31**	-264.61**	-274.19**
Proportion of women on team	-2,365.20	-2,287.07	-2,227.29	-2,134.40	-2,238.69	-2,163.49
Proportion of people of color on team	-3,508.91 <sup>†</sup>	-3,611.96 <sup>†</sup>	-6,826.09**	-6,749.41**	-5,841.18**	-5,756.70**
Level 3						
Median market wage for comparable jobs in area	0.20*	0.17 <sup>†</sup>	0.19*	0.19 <sup>†</sup>	0.20*	0.20*
Salespeople in sales unit	61.36	65.88	68.94 <sup>†</sup>	69.01 <sup>†</sup>	64.14	64.46
Sales managers in sales unit	-719.04*	-749.12*	-797.31*	-793.08*	-770.30*	-766.02*
Average tenure of managers in sales unit	943.22***	927.57***	942.84***	931.75***	951.37***	940.85***
Proportion of female managers in sales unit	3,783.27	3,693.43	3,508.80	3,441.04	2,435.53	2,436.98
Proportion of minority managers in sales unit	1,264.01	1,227.90	948.38	959.93	-1,058.86	-924.90
Level 1 × level 2 interactions						
Gender × proportion of females on team			130.93	47.84	-58.62	-70.30
Ethnicity × proportion of people of color on team			8,694.38**	8,683.26**	6,429.68*	6,396.34*
Level 1 × level 3 interactions						
Gender × proportion of female managers in sales unit					4,984.23*	4,649.47*
Ethnicity × proportion of minority managers in sales unit					4,946.93*	4,890.13*
Model deviance <sup>b</sup>	71,737.99	71,729.46	71,730.90	71,720.70	71,722.20	71,712.72

<sup>a</sup>  $n$  (level 1) = 3,318;  $n$  (level 2) = 437;  $n$  (level 3) = 46. HLM3 analysis was used. Entries corresponding to the predictors in the first column are estimations of the fixed effects,  $\gamma_s$ , with robust standard errors.

<sup>b</sup> Deviance is a measure of model fit; it equals  $-2 \times$  the log-likelihood of the maximum-likelihood estimate. The smaller the model deviance, the better the fit.

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

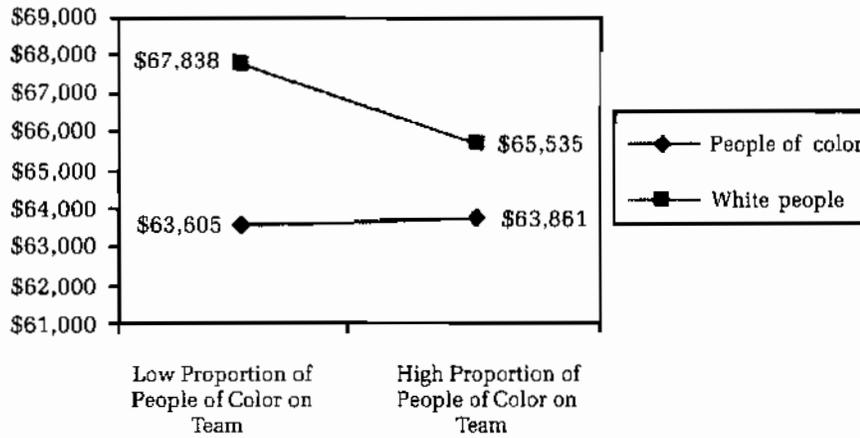
Two-tailed tests.

**Salary.** For salary (Table 2), model 2a reveals a statistically significant, positive value for the product of ethnicity and the proportion of people of color on a team ( $\hat{\gamma} = 8,694.38$ ,  $p < .01$ ). The value for gender by proportion of women on a team was not significant. A chi-square test of the change in the deviance statistic from model 1a to model 2a confirmed that including the level 1 by level 2 interactions significantly improved the model fit for salary ( $\chi^2 = 7.09$ ,  $df = 2$ ,  $p < .05$ ).

Hypothesis 1 further predicts that (a) for women and people of color (members of the lower-status demographic groups), the proportion of these subgroup members in teams and their earnings have a positive relationship, and (b) team composition has

no significant consequences for the earnings of men and whites (members of the higher-status demographic groups). The statistically significant interaction between ethnicity and the proportion of people of color on a team indicated that the relationships between salary and team ethnic composition differ significantly for people of color and whites. Figure 1, which we created using the coefficient estimates from the full model (Table 2, model 3b), illustrates the pattern for this interaction. Figure 1 shows that, everything else being equal, the salaries of people of color are positively but weakly associated with the proportion of people of color on a work team; contrary to our prediction, the salaries of whites are negatively associated with the proportion of people of

FIGURE 1  
Effects of Ethnicity and Team Composition on Predicted Annual Salary<sup>a</sup>



<sup>a</sup> The predicted salary estimates were based on the coefficient estimates of model 3b in Table 2. "High proportion of people of color on team" represents a score that is one standard deviation above the mean, whereas "low proportion of people of color on team" represents a score that is one standard deviation below the mean. All other variables were evaluated at their grand means.

color on a work team. Taking all other factors into account, including performance (that is, using the model 3b coefficients shown in Table 2), the estimated net value to salespeople of color of a one-standard-deviation increase in the proportion of people of color on a sales team is \$127.93. When the proportion of people of color increases by one standard deviation, whites earn more than people of color, but the salary advantage of whites decreases by \$1,151.34. From the company's perspective, improved pay equity may be a useful measure of the value of increasing the proportion of people of color. In Company Goodheart, pay differences between whites and people of color decreased from \$4,233 to \$1,674 when the proportion of people of color on a sales team increased from one standard deviation below the mean to one standard deviation above the mean (see Figure 1).

**Incentive pay.** For incentive pay (Table 3), model 2a reveals a statistically significant, positive value for the cross-product of ethnicity and the proportion of people of color on a team ( $\hat{\gamma} = 7,177.44$ ,  $p < .05$ ). The value for gender by the proportion of women on a team is not significant. A chi-square test of the change in the deviance statistic from model 1a to model 2a indicated that including the level 1 by level 2 interactions did not significantly improve model fit ( $\chi^2 = 3.91$ ,  $df = 2$ ,  $p > .10$ ); thus, we chose not to interpret the ethnicity-proportion of people of color interaction effect for bonuses. The decision to not interpret an interaction term with a significant coefficient is statistically conservative. Coincidentally, it might also be considered a socially conservative approach. Given that the study used data from nearly the entire

population of salespeople in the company, Company Goodheart might not want to ignore the practical implications of this coefficient.

Overall, we found only partial support for Hypotheses 1a and 1b. As we predicted, the ethnic composition of work teams moderated the relationship between individual ethnicity and salary, but a conservative interpretation of our results indicates that the same interaction does not hold for incentive pay. In addition, contrary to our prediction, the salary gains of people of color coincided with smaller salary advantages for whites. The proportion of women in work teams was inconsequential for salaries and incentive pay.

#### Hypotheses 2a and 2b

Hypotheses 2a and 2b predict that performance partially mediates the moderated relationship between individual attributes, work team composition, and salary and fully mediates the moderated relationship between individual attributes, work team composition, and incentive pay. For this mediation hypothesis to be supported, we would have to have found that the interaction between individual attributes and work team composition significantly predicted performance. Table 4 shows the HLM3 results for predicting performance (annual sales goal achievement). It was consistent with the logic we presented that the performance of women and people of color was somewhat lower than the performance of men and whites, with all of the other factors we measured taken into account (model 3). However, the values for ethnicity by the proportion of people of color on a team and for gender by the proportion of

**TABLE 3**  
**Hierarchical Linear Modeling Results for Incentive Pay<sup>a</sup>**

Variable	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
Intercept	6,723.15	8,428.21 <sup>†</sup>	6,994.55	8,579.10 <sup>†</sup>	8,239.04	9,037.89 <sup>†</sup>
Level 1						
Incentive pay ratio	55,192.46***	52,669.80***	55,295.32***	52,829.23***	55,363.96***	52,869.24***
Organizational tenure	1,031.21***	694.18***	1,026.77***	690.96***	1,027.07***	690.88***
Organizational tenure squared	-31.11***	-20.63***	-30.97***	-20.50***	-30.93***	-20.47***
Age	-413.69	-244.51	-392.22	-228.76	-388.50	-225.53
Age squared	2.51	1.25	2.26	1.07	2.23	1.03
Annual fixed salary	0.27***	0.21***	0.27***	0.21***	0.26***	0.21***
Gender	-295.56	-40.26	-1,353.96	-884.01	-3,057.94*	-865.46
Ethnicity	-2,313.29**	-1,157.50*	-4,558.85***	-2,992.57**	-5,185.96***	-3,538.05**
Annual sales goal achieved		155.23***		155.15***		155.13***
Level 2						
Salespeople on team	-6.84	-171.10*	16.79	-149.82 <sup>†</sup>	8.05	-153.67 <sup>†</sup>
Proportion of women on team	0.10	1,164.25	-799.22	424.72	-863.26	388.23
Proportion of people of color on team	-1,787.37	-861.51	-4,786.47 <sup>†</sup>	-3,519.09 <sup>†</sup>	-3,938.33	-3,066.29
Level 3						
Median market wage for comparable jobs in area	0.14	0.13*	0.14 <sup>†</sup>	0.14*	0.14 <sup>†</sup>	0.13*
Salespeople in sales unit	104.97*	67.12**	106.51*	71.14**	104.93*	70.28**
Sales managers in sales unit	-740.66*	-349.34 <sup>†</sup>	-764.97*	-393.81*	-752.85*	-387.68*
Average tenure of managers in sales unit	159.03	112.02	173.24	122.86	184.13	128.22
Proportion of female managers in sales unit	3,420.21	1,701.82	3,295.00	1,570.78	1,048.23	1,509.53
Proportion of minority managers in sales unit	-3,919.72 <sup>†</sup>	-2,660.01 <sup>†</sup>	-3,750.12 <sup>†</sup>	-2,540.48	-5,513.58*	-3,820.58*
Level 1 × level 2 interactions						
Gender × proportion of females on team			2,563.38	2,074.66	235.81	2,157.79
Ethnicity × proportion of people of color on team			7,177.44*	5,871.83*	5,437.85	4,873.16 <sup>†</sup>
Level 1 × level 3 interactions						
Gender × proportion of female managers in sales unit					5,422.49 <sup>†</sup>	-166.08
Ethnicity × proportion of minority managers in sales unit					4,306.79	3,205.91
Model deviance <sup>b</sup>	73,827.48	71,881.06	73,823.57	71,876.35	73,819.09	71,874.83

<sup>a</sup>  $n$  (level 1) = 3,318;  $n$  (level 2) = 437;  $n$  (Level 3) = 46. HLM3 analysis was used. Entries corresponding to the predictors in the first column are estimations of the fixed effects,  $\gamma_s$ , with robust standard errors.

<sup>b</sup> Deviance is a measure of model fit; it equals  $-2 \times$  the log-likelihood of the maximum-likelihood estimate; the smaller the model deviance, the better the fit.

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Two-tailed tests.

women on a team were not significant. Therefore, Hypotheses 2a and 2b were not supported.

To summarize our results so far, we found that women and people of color in Company Goodheart received lower pay than men and whites, respectively. We also found that pay but not performance was predicted by the interaction of individual ethnicity and team ethnic composition; the pay effects were clearest for salary. We found that the interaction between gender and team gender composition predicted neither pay nor performance. The proportion of women on work teams was not significantly related to performance, incentive pay, or salaries. Nor was the proportion of people of color

on work teams significantly related to performance. (It is also worth noting that our results do not reveal significant, negative consequences of work team feminization.) Overall, the results provided partial support for the predicted moderating effects of team composition. Next, we examined the effects of management composition.

### Hypothesis 3

Hypothesis 3 proposes that the individual attributes of gender and ethnicity interact with the management composition of work units to predict pay (incentive pay and salary). Specifically, we

**TABLE 4**  
**HLM3 Results for Percent Annual Sales Goal Achievement<sup>a</sup>**

Variable	Model 1	Model 2	Model 3
Intercept	88.16**	88.74**	95.52**
Level 1			
Incentive pay ratio	10.95	11.08	11.12
Organizational tenure	2.67***	2.66***	2.64***
Organizational tenure squared	-0.08**	-0.08**	-0.08**
Age	-0.35	-0.32	-0.32
Age squared	0.00	0.00	0.00
Gender	-2.23	-3.55	-15.29*
Ethnicity	-8.31*	-12.61**	-13.63*
Level 2			
Salespeople on team	0.97*	1.01**	0.97**
Proportion of women on team	-7.52	8.47	-8.49
Proportion of people of color on team	-4.54	-10.44	-7.28
Level 3			
Median market wage for comparable jobs in area	0.00	0.00	0.00
Salespeople in sales unit	0.22	0.22	0.20
Sales managers in sales unit	-2.36	-2.37 <sup>†</sup>	-2.26
Average tenure of managers in sales unit	0.67	0.69	0.73
Proportion of female managers in sales unit	12.32	12.00	-2.87
Proportion of minority managers in sales unit	-5.06	-5.05	-10.98
Level 1 × level 2 interactions			
Gender × proportion of women on team		3.17	0.97
Ethnicity × proportion of people of color on team		13.86	7.10
Level 1 × level 3 interactions			
Gender × proportion of female managers in sales unit			38.19**
Ethnicity × proportion of minority managers in sales unit			11.49
Model deviance <sup>b</sup>	37,684.10	37,683.39	37,674.91

<sup>a</sup> *n* (level 1) = 3318, *n* (level 2) = 437, *n* (level 3) = 46. HLM3 analysis was used. Entries corresponding to the predictors in the first column are estimations of the fixed effects,  $\gamma_s$ , with robust standard errors.

<sup>b</sup> Deviance is a measure of model fit; it equals  $-2 \times$  the log-likelihood of the maximum-likelihood estimate; the smaller the model deviance, the better the fit.

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Two-tailed tests.

predicted that (a) for women and people of color, there would be a positive relationship between the proportion of women and people of color in management and pay, respectively and that (b) for men and whites, there would be no relationship between the proportion of women and people of color in management and pay.

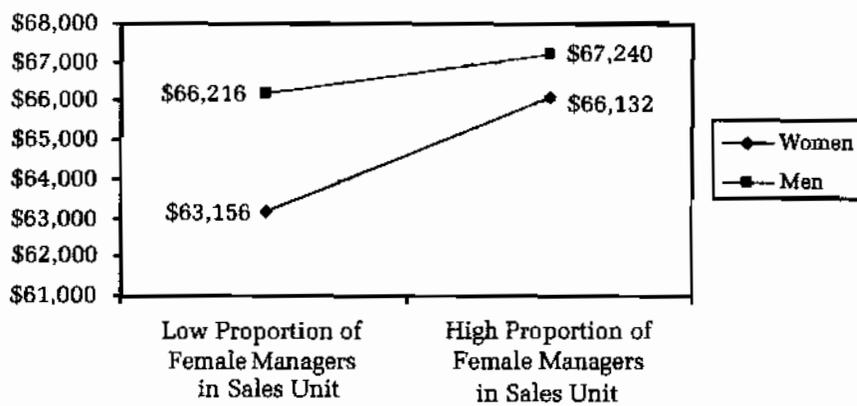
**Salary.** For salary (Table 2), model 3a shows significant values for both gender by the proportion of female managers in a sales unit ( $\hat{\gamma} = 4,984.23$ ,  $p < .05$ ) and ethnicity by the proportion of minority managers in a sales unit ( $\hat{\gamma} = 4,946.93$ ,  $p < .05$ ). A chi-square test of the change in the deviance statistic from model 2a to model 3a confirmed that including the level 1 by level 3 interactions significantly improved the model fit ( $\chi^2 = 8.70$ ,  $df = 2$ ,  $p < .03$ ) for predicting salary.

Figures 2a and 2b illustrate the moderated effects of management composition for salary. Supporting

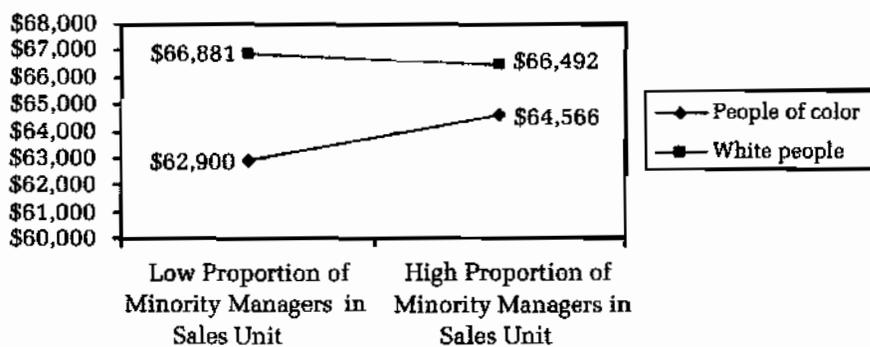
Hypothesis 2a, Figure 2a shows a positive association between the proportion of female managers in a work unit and the salaries of female salespeople. Surprisingly, there is also a positive (but weaker) association between the proportion of female managers in a work unit and the salaries of male salespeople. In other words, men and women alike earned higher salaries in units with proportionately more female managers. Taking all other factors into account, including performance, the salary value of a one-standard-deviation increase in the proportion of female managers in a work unit is approximately \$1,488.16 for saleswomen and \$511.77 for salesmen. Corresponding to these effects, pay differences between men and women dropped from \$3,060 to \$1,108 when the proportion of female managers increased from one standard deviation below the mean to one standard deviation above the mean.

**FIGURE 2**  
**Effects of Management Gender and Ethnic Composition on Predicted Annual Salary<sup>a</sup>**

**(a) Gender Effects**



**(b) Ethnic Composition Effects**



<sup>a</sup> The predicted salary estimates were based on the coefficient estimates of model 3b in Table 2. "High proportion of female (Minority) managers in sales unit" represents a score that is one standard deviation above the mean, whereas "low proportion of female (minority) managers in sales unit" represents a score that is one standard deviation below the mean. All other variables were evaluated at their grand means.

In keeping with Hypothesis 2b, Figure 2b shows a positive association between the proportion of managers of color in a unit and the salaries of salespeople of color; there also is a small, marginally significant, negative association between the proportion of managers of color in the unit and the salaries of white sales employees. Taking all other factors into account, including performance, we estimated that for people of color the salary value of a one-standard-deviation increase in the proportion of managers of color was \$832.70. When the proportion of people of color increases by one standard deviation, the advantage enjoyed by whites is reduced by \$194.23. Pay differences between whites and people of color dropped from \$3,981 to \$1,926 in sales units in which the proportion of managers of color increased from one standard deviation below the mean to one standard deviation above the mean.

**Incentive pay.** For incentive pay, model 3a in Table 3 shows a nonsignificant value for ethnicity

by the proportion of minority managers in a sales unit and a positive and marginally significant value for gender by the proportion of female managers in a sales unit ( $\hat{\gamma} = 5,422.49$ ,  $p < .10$ ). A chi-square test of the change in the deviance statistic from model 2a to model 3a indicated that including the level 1 by level 3 interactions did not significantly improve model fit ( $\chi^2 = 4.48$ ,  $df = 2$ ,  $p > .10$ ); thus, we do not interpret these interactions. We note that this was a conservative statistical decision that might risk ignoring a result that has practical importance in Company Goodheart.

Overall, the results are mixed for Hypothesis 3. Our predictions were fairly consistent with the results for salary, but predictions were not consistent with results for incentive pay. Both women and people of color earned higher salaries when they worked in units with more in-group managers, and these benefits accrued to those in the minority with little or no cost to those in the majority.

**Hypothesis 4**

Hypotheses 4a and 4b predict that performance partially mediates the moderated relationship between individual attributes, management composition, and salary and fully mediates the moderated relationship between individual attributes, management demographic composition, and incentive pay.

We found partial support for Hypothesis 4a. As shown in model 3 in Table 4, gender interacted with the proportion of female managers in a sales unit has a significant, positive value ( $\hat{\gamma} = 38.19, p < .01$ ) when predicting performance. A chi-square test of the change in the deviance statistic from model 2 to model 3 confirmed that including the level 1 by level 3 interactions significantly improved model fit ( $\chi^2 = 8.48, df = 2, p < .03$ ) for predicting performance. Consistently with our predictions, Figure 3 shows that there is a positive association between the proportion of female managers in a unit and the performance of saleswomen. The performance of women was substantially greater in units with higher proportions of women in management, but management gender composition had essentially no impact on the performance of men. In addition, when predicting salary, the positive effect of gender by the proportion of female managers in a unit drops (from  $\hat{\gamma} = 4,984.23, p < .05$ , model 3a in Table 2; to  $\hat{\gamma} = 4,649.47, p < .05$ , model 3b in Table 2). Therefore, as we predicted, performance partially mediates the moderated effect on salary of the proportion of female managers in a sales unit. Hypothesis 4b was not supported because there were no significant interactions between individual attributes and management composition when predicting incentive pay.

To summarize, our analyses provide substan-

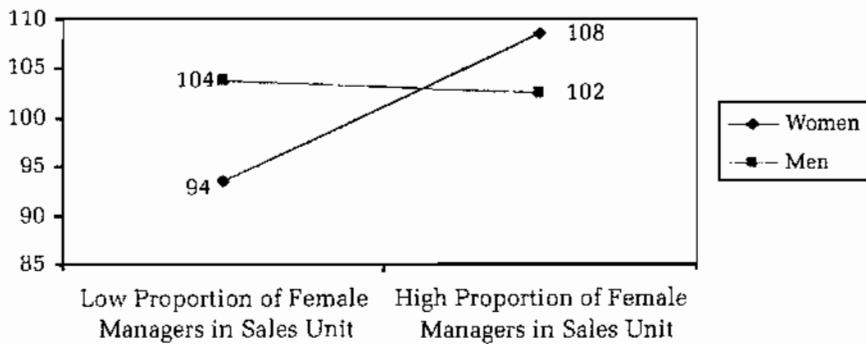
tial support for the predicted moderation of salary by the presence of female managers. On average, salaries were higher in sales units with proportionately more female managers; both men and women earned more, but the gains achieved by saleswomen were greater than those achieved by salesmen. Also, although the salaries of men were higher than those of women, salary differences were smaller in units with proportionately more female managers. As predicted, performance partly accounts for the relationships between demographics and salary.

We also found some support for our prediction that the presence of people of color in the managerial ranks would moderate salary. On average, salaries were lower in sales units with proportionately more managers of color, but management composition had different implications for whites and people of color. People of color earned higher salaries when they worked in units with proportionately more managers of color, but the salary advantages of whites were smaller in units with proportionately more managers of color. Together, these effects resulted in smaller salary differences in units with proportionately more managers of color. Performance gains partially accounted for the effects of management composition on earnings.

**DISCUSSION**

Despite growing corporate investments in diversity management, concerns about ethnic and gender discrimination persist. These concerns are fueled by evidence showing persistent differences in earnings for members of different demographic groups, with men and whites on the average earn-

**FIGURE 3**  
Effects of Gender and Management Gender Composition on Predicted Sales Goal Achievement<sup>a</sup>



<sup>a</sup> The predicted performance estimates were based on the coefficient estimates of model 3 in Table 3. "High proportion of female managers in sales unit" represents a score that is one standard deviation above the mean, whereas "low proportion of female managers in sales unit" represents a score that is one standard deviation below the mean. All other variables were evaluated at their grand means.

ing more than women and people of color. Human capital explanations account for some, but not all, of the observed earnings differences. Occupational segregation and the devaluation of work performed by women and people of color have also been offered as explanations for the observed relationships between demographic characteristics and earnings. However, these perspectives do not explain gender- and ethnicity-based pay differences within organizations.

Drawing on the social identity perspective and related research on status hierarchies, we hypothesized that earnings within a job category in a single organization would reflect the combined, interactive effects of individual attributes and the composition of work settings. Specifically, we reasoned that sales employees who were members of lower-status numerical minorities (women and people of color) would have less access to work-related resources and be more disadvantaged by the biases and out-group discrimination of higher-status majorities (men and whites). Within work teams, we reasoned that in-group/out-group dynamics might influence earnings through their effects on individual performance. Within larger work units, we reasoned that the in-group/out-group biases of managers could influence subordinates' earnings indirectly through performance as well as more directly through salary decisions and administrative policies that promoted pay equity. Recognizing the importance of numbers and status differences, we expected the disadvantages associated with being a member of a lower-status minority would be greater when the size of the lower-status minority was smaller. Finally, we expected members of the higher-status majority (men, whites) to experience relatively few disadvantages when they worked in settings with relatively high proportions of out-group members. Their higher status was expected to insulate them from the negative consequences of having relatively few in-group members in their work setting.

Our findings provided mixed support for the specific predictions we derived from the social identity perspective. Despite these mixed results, the evidence from Company Goodheart clearly indicates that individual attributes, the demographic composition of work teams, and the demographic composition of work units are all associated with pay. Whereas studies conducted at higher levels of aggregation seem to show that feminization depresses earnings, we found that men and women both reaped economic benefits from working in units with more female managers. We also found that people of color reaped economic benefits from working in teams with more people of color and in

units with more managers of color. Furthermore, we found that pay inequality was reduced as the proportions of women and people of color increased.

For scholars, the most important lesson seems to be that cross-level research focusing on job categories within firms is needed to develop a complete understanding of the relationship between workplace diversity and employees' earnings. Empirical observations of broad economic patterns in society may not hold at other levels of analysis, and patterns observed for one demographic group (e.g., women) may not hold for other demographic groups (e.g., people of color). Our results also hold an important lesson for managers: The adoption of formal pay policies that are designed to be gender-neutral and race-neutral may not achieve the goal of pay equity within occupational groups or job categories. We turn next to a more detailed discussion of our findings.

### Earnings and the Demographic Composition of Work Teams

Hypothesis 1 predicts that women and people of color earn more as the proportions of these groups within their work teams increase. Hypotheses 2a and 2b predicts that any such increases in the earnings of women and people of color are due to their improved performance. Our results reveal that the dynamics of gender and ethnicity are not equivalent.

**Gender.** Contrary to our expectation, women's performance and pay were not related to the proportion of women in sales teams. This nonfinding raises some questions about the extent to which in-group/out-group dynamics among coworkers account for differences in the employment outcomes of men and women working side-by-side. In Company Goodheart, having more women as teammates did little to disrupt the forces that led to women receiving lower pay. As Cleveland and her colleagues recently noted, nonwork factors such as child- and family-care responsibilities may have implications for women's performance (Cleveland, Vescio, & Barnes-Farrel, 2005), and those implications may be unrelated to the proportion of women on one's work team. Future research on gender diversity should probably supplement the social identity perspective with other approaches for understanding gender dynamics within work teams.

**Ethnicity.** As we expected, the salaries of whites and people of color were more similar in work teams with proportionately more people of color. However, contrary to our predictions, improved pay equality was achieved because the pay advan-

tage enjoyed by members of the higher-status majority was smaller in teams with more people of color, while members of the low-status minority achieved only marginal gains (Figure 1).

In our introductory arguments, we described past research examining the negative effects of the proportion of women and people of color on average wages in occupations and industries. The logic of that research suggests that negative stereotypes and biases regarding low-status groups such as people of color drive down the pay of everyone in teams that are ethnically more diverse (Baron & Bielby, 1980; Pfeffer & Davis-Blake, 1987). Although our findings were not consistent with predictions based on social identity theory, they were not entirely consistent with the devaluation logic, either. The devaluation logic does not explain the differential effects of team composition on the earnings of whites versus people of color. Nor does the devaluation logic justify the finding that whites in the same job earned more on average under all conditions.

The logic of devaluation implies that whites and people of color all suffer and all suffer equally as the proportion of people of color increases in teams. However, the results presented in Table 2, model 3b, reveal a significant, positive interaction between ethnic minority status and the proportion of people of color on a team (see Figure 1). People of color earned slightly more in teams with greater proportions of people of color, but whites working in teams with proportionately more people of color lost some of their salary premium. One explanation for the lower and more equitable salaries found in teams with more people of color is that managers find it more difficult to justify large pay differences between whites and people of color when a team includes several people of color, especially if the managers cannot attribute salary variations to differences in objective performance or tenure.

Another possible explanation for the reduced pay advantage of whites in teams with more people of color is that the managers of these teams are less likely to be white. In a separate analysis, we found that the managers of more diverse work teams were more likely to be women and people of color. The pay advantage for whites may be most likely to hold when a team manager also is white. Additional research is needed to explore this question.<sup>2</sup>

<sup>2</sup> Although our sample was relatively large, it did not provide sufficient power to conduct the analyses required to also assess team manager effects in a compre-

Finally, we note that past research has shown that white employees working in ethnically diverse groups tend to be less committed, absent more, and less engaged as organizational citizens than whites in more homogeneous groups (e.g., Chattopadhyay, 1999; Tsui et al., 1992). We did not measure these attitudes and behaviors, but it is possible that over time they resulted in salary decisions that were less favorable for whites working in ethnically diverse teams. That is, the lower salaries of whites in ethnically diverse teams may reflect lower levels of organizational citizenship behaviors, which were not measured in this study.

### Management Demographic Composition as Context

Several of our findings were consistent with our predictions concerning the role of management composition in shaping the relationship between individual demographics and earnings. Again, the findings for gender were somewhat different than those for ethnicity.

**Gender.** Women sold more and received marginally more incentive pay when they worked with a greater proportion of female managers, while the sales performance and incentive pay of men was essentially unaffected by the gender composition of their work units' management. Our results are consistent with the social identity perspective in that they may indicate that work units with more female managers provide more egalitarian access to resources (Ridgeway, 1997). Past research has shown that the presence of more women at higher levels in an organization fosters positive work relationships and provides increased opportunities for women to establish positive upward relationships with female managers (Ely, 1994; Ridgeway, 1997). Women at Company Goodheart may have been able to use these relationships to improve their sales performance.

Women also realized salary gains when they worked in units with proportionately more female managers, and these gains came at no cost to men. In fact, men working in units with more female managers realized salary gains, too (Figure 2a). The higher salaries of women working in units with more female managers might reflect the influence that female managers exerted in these units. As members of the lower-status minority, female managers may have been more motivated to establish pay equity and/or they may have been more effec-

hensive analysis that also included the variables of primary interest in this study.

tive in their efforts in units with proportionately more female managers (cf. Ellemers & Barretto, 2001; Ellemers, Barretto, & Spears, 1999). Additional research is needed to understand whether the influence tactics of members of a numerical minority change as the relative size of their in-group increases, and/or whether the out-group changes its response to those influence tactics (cf. Nemeth, 1986).

Performance partly explained the salary gains of women in units with more female managers, but factors other than improved performance were apparently important, too. The social identity perspective suggests that members of a lower-status in-group are most likely to exert their influence to achieve equality when existing inequalities are not perceived to be legitimate (Ellemers et al., 1993). In Company Goodheart, it is likely that women managers had access to performance data for their units and knew that the sales performance of men and women was approximately equal. Such knowledge might have bolstered their motivation to rectify gender-based pay inequalities. For example, in units with more female managers, there may have been more pressure exerted to ensure that sales assignments and salary decisions were based on objective qualifications rather than on personal negotiations and relationships that could disadvantage women.

**Ethnicity.** Regarding ethnicity, we found a positive relationship between the proportion of ethnic minority managers in work units and the salaries of salespeople of color, and we found a slight, negative relationship for white salespeople (Figure 2b). People of color realized salary gains when they worked in units with proportionately more managers of color; their white counterparts did not suffer significant salary losses. Thus, as for women, this finding suggests that improving the representation of ethnic minority managers may enhance their ability to rectify pay inequalities in an organization (Ellemers & Barretto, 2001; Ellemers et al., 1999).

Unlike gender, performance did not emerge as a significant mediator of the relationship between ethnicity, management ethnic composition, and salary. The proportion of ethnic minority managers in a sales unit was not associated with the performance of salespeople of color. It appears that managers of color may have used their influence to propagate and implement pay practices that reduced pay inequality directly (Beer & Cannon, 2004; Gerhart & Rynes, 2003). Their presence and influence yielded better pay, but perhaps even greater pay gains could have been made if performance gains had been realized too.

### **Performance as an Explanation for Differing Earnings**

Among the many reasons for differences in earnings among an organization's employees, differing performance is widely accepted as a legitimate one. At Company Goodheart, we observed small differences in the objective performance of men versus women and whites versus people of color, confirming the need to take performance into account when assessing relationships between demographic attributes and earnings. The relationship we observed between ethnicity and performance was consistent with findings from past research (Roberson & Block, 2001). Indeed, a meta-analytic review has indicated that objective performance measures are more strongly associated with employee ethnicity than are subjective performance measures (Roth, Huffcutt, & Bobko, 2003), perhaps because subjective measures are more prone to biases stemming from political correctness and social desirability than are objective measures.

Although the focus of this study was pay inequities, our findings also have implications for understanding job performance. Women and people of color performed better when they were not isolated from other women and people of color, suggesting that the social composition of a workplace may contribute to the individual and institutional biases that inadvertently interfere with performance. When performance measures are "objective," managers and subordinates alike may be less inclined to consider how individual and institutional biases can influence the performance of people of color (Meyer & Rowan, 1977) unless they are stimulated to do so by observed performance differences between the majority and a sizable minority. Our findings confirm the importance of taking performance into account when studying earnings inequality, and they suggest that a complete understanding of earnings inequality will require additional research on the social dynamics of performance.

### **How Similar Are the Dynamics of Gender and Ethnicity?**

Management scholars have grounded their studies of team and organizational composition in a variety of theoretical perspectives, including social identity theory, organizational demography, upper echelons theory, and the attraction-similarity-attrition model (see Jackson and Chung [forthcoming] for a detailed discussion). None of these perspectives makes differential predictions about the dynamics of gender and ethnicity. Instead, in for-

warding those perspectives researchers assume that relationships among members of different ethnic backgrounds can be explained using the same principles that explain relationships between men and women (or between young and old, or between occupations, and so on).

In their review of diversity research, Alderfer and Sims (2002) criticized the practice of treating race/ethnicity as if it were roughly the equivalent of other diversity variables and called for diversity research that acknowledges the unique history of race/ethnic relations in U.S. society and workplaces. Reinforcing this view, we found different patterns of results for the effects of gender and ethnicity. In Company Goodheart, the historical salience of ethnic caucuses might partially account for the dynamics of ethnicity in the organization. These company-supported groups met regularly with top management to voice their concerns, and through these meetings they influenced organizational pay policies and practices. Their discussions probably did not address the microlevel dynamics that unfolded within work teams and between individual managers and their subordinates, however. At the team level, people of color apparently did not leverage their increasing numbers to improve their performance.

It is possible, also, that the salary gains achieved by people of color were a source of some resentment among whites (e.g., see Alderfer, 1992). If whites sensed that the salary gains made by people of color were not justified by performance gains and also were accompanied by small salary losses among whites, the tendency to favor members of their in-group and discriminate against members of the out-group may have been amplified. If the competitive behaviors of whites increased as a reaction to the salary gains of people of color, the performance of people of color could have been negatively affected. A similar reaction against women would not be expected since both women and men benefited from the presence of more female managers.

Overall, in light of these and other discrepant findings for gender and ethnicity (e.g., Chattopadhyay, 1999; Riordan & Shore, 1997), it is clear that future research on pay equity should be grounded in a more nuanced understanding of the historical and social forces that serve as a backdrop against which intergroup dynamics unfold within organizations. Also, as we discussed earlier, future research may further analyze the effects of diversity for specific ethnic groups to obtain a deeper appreciation of how workplace diversity affects employees from each ethnic background.

## Practical Implications and Future Directions

A major objective of this research was to gain new insights into the pay consequences of workplace composition for men, women, whites, and people of color. Recognizing that employees are often organized into work teams, which are in turn nested within larger organizational units, we examined whether the social composition of an immediate work situation plays a role in shaping the pay inequalities that exist within a specific job category in a single organization.

Our findings suggest that the composition of a work team had few significant consequences for employees' pay or performance. In light of the mixed findings reported in past research on outcomes of work team composition (see Jackson, Joshi, and Erhardt [2003] for a review), these results suggest that in-group/out-group dynamics may be less salient in small and relatively stable work teams. In the case of Company Goodheart, employees had worked more or less together for a decade on average. In stable work teams whose members have long tenures, personal relationships between team members may override in-group/out-group distinctions. As such, our results might not generalize to other settings in which team membership is more dynamic.

For larger work units, our findings inform past discussions about whether staffing strategies based on affirmative action lead to bottom-line gains for women and minorities (Edelman, 1992; Leonard, 1985). Company Goodheart's staffing practices were designed to ensure that the demographics of the organization reflected the demographics of the available workforce. When staffing practices increase the proportions of women and ethnic minorities, they may also indirectly lead to improved pay equity, and perhaps to improved performance. Conversely, organizations that adopt policies intended to ensure pay equity among demographic groups may find that these policies are difficult to implement in work units that have few women and ethnic minorities in the managerial ranks. Clearly, additional research is needed to help organizational decision makers understand and manage the combined effects of individual attributes, team composition, and organizational composition on the full range of employment outcomes.

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