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The Link Between Diversity and Equality Management Practice Bundles and Racial Diversity in the Managerial Ranks: Does Firm Size Matter?

Orlando C. Richard, Hyuntak Roh, and Jenna R. Pieper

Abstract
Invoking strategic human resource management (SHRM) theory and tenets of the resource-based view of the firm, we explore how two bundles of diversity and equality management (DEM) practices influence racial diversity in the managerial ranks. By considering the conceptualization of DEM practices and the moderating role of firm size, our study disentangles subtle nuances in the DEM practices–racial diversity in managerial ranks relationship. Based on a sample of 137 Fortune 1,000 firms over a two-year period, our results suggest that minority opportunity-based DEM practices and manager accountability DEM practices positively relate to racial diversity in managerial ranks, and these relationships are stronger in smaller companies than large ones. Theoretical and practical implications for a strategic perspective on future diversity management research are elaborated.

Keywords: diversity and equality management practices, racial diversity, firm size

Since the passage of the Civil Rights Act of 1964, diversity and equality management (DEM) has been an enduring issue for organizations. While the DEM concept has historically been associated with mere legal compliance, the concept has advanced from affirmative action (AA) and equal employment opportunity (EEO) to assume the view of a competitive resource for organizations above and beyond traditional high-performance work systems (Armstrong, Flood, Guthrie, Liu, MacCurtain, & Mkamwa, 2010; Cox & Blake, 1991). Importantly, many business leaders recognize the inherent value in a diverse workforce and its bottom-line

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impact on the viability of their organizations. Evidence of this recognition can be seen in the substantial growth in corporate investments in DEM practices designed to create greater inclusion of all organizational stakeholders. For instance, nearly 95 percent of Fortune 1,000 companies have diversity training initiatives in place (Chavez & Weisinger, 2008; Grensing-Pophal, 2002), and DEM is an eight-billion-dollar industry, with diversity consultants generating annual revenues estimated to be just under $600 million (Hansen, 2003).

Research on the outcomes of workplace diversity has also grown exponentially during this time (e.g., Harrison & Klein, 2007; Jackson, Joshi, & Erhardt, 2003; Milliken & Martins, 1996; Richard, Barnett, Dwyer, & Chadwick, 2004; Van Knippenberg & Schippers, 2007; Webber & Donahue, 2001; Williams & O'Reilly, 1998). Given the value placed on diversity by both academics and practitioners, an evaluation of the extent to which DEM practices create a more diverse set of stakeholders would seem essential (Gilbert, Stead, & Ivancevich, 1999; Yang & Konrad, 2011). However, there have been few efforts to measure their effectiveness (Cox, 1991; Cox & Blake, 1991; Ellis & Sonnenfeld, 1994; Konrad & Linnehan, 1995; Naff & Kellough, 2003; Richard & Johnson, 1999). Rather, evidence regarding the efficacy of DEM practices in creating a diverse workplace has been implied through the workplace diversity–firm performance link, research examining DEM practices as key factors empowering the degree to which a diverse workforce is more (or less) effective (e.g., Cunningham, 2009; Kochan et al., 2003; Kossek, Lobel, & Brown, 2006; Yang & Konrad, 2011), and organization stratification research (e.g., Goodman, Fields, & Blum, 2003; Kalev, Dobbin, & Kelly, 2006; Reskin & McBrier, 2000) studying the association between broad-based HR practices (e.g., recruitment) and percentages of women and minority groups in organizations. In turn, the focus of our article is to investigate the overall racial diversity (or variety; Harrison & Klein, 2007) in firms' managerial ranks, as (a) race is a major component of diversity in firms (Richard, 2000) and (b) managers influence strategic decision making and implementation of strategic policies (e.g., Burgelman, 1994; Dwyer, Richard, & Chadwick, 2003; Floyd & Wooldridge, 1997), both of which affect a firm's bottom line.

Given the value placed on diversity by both academics and practitioners, an evaluation of the extent to which DEM practices create a more diverse set of stakeholders would seem essential. However, there have been few efforts to measure their effectiveness.

Based on a sample of 137 Fortune 1,000 firms over two years, the results of our article offer three contributions to the literature and speak to numerous constituencies directly concerned with the impact of DEM practices. First, we theorize about and empirically test whether two bundles of DEM practices are associated with greater overall representation of racial minorities in the managerial ranks, which we operationalize using Blau's (1977) index of heterogeneity. Invoking theory from strategic human resource management (SHRM), we examine minority-opportunity-based DEM practices (i.e., mentoring and networks, management tracks for minorities) and DEM practices aimed at increasing manager accountability for racial diversity (i.e., bonuses and performance appraisals tied to meeting diversity goals). Such a dimensional approach (similar to "bundles" in SHRM) lends to a better theoretical and practical understanding of those DEM practices associated with increased levels of racial diversity in the managerial ranks.

The second major contribution of our article is to provide a more clear understanding of the boundary conditions stipulating when the earlier mentioned DEM practice bundles are strongly (weakly) related to a firm's level of racial diversity in managerial ranks. Given the lack of in-depth knowledge of this relationship, plus the likelihood that developments in such knowledge will better expose how firms can create greater levels of diversity to stimulate their performance, the practical and conceptual payoff to uncovering such sub-

tle nuances is great. To this end, we theorize about and empirically examine how firm size moderates the value of DEM practices.

Our third contribution reflects the inclusion of multiple racial minority groups to investigate DEM practice effects on not only broad-based diversity indices (i.e., Blau's index of heterogeneity), but also specific minority groups. Going beyond previous research, which has narrowly focused on African American mobility into management, we consider other often disenfranchised minority subgroups such as Hispanics and Asians. Hence, our findings provide detailed insight into how DEM practices affect managerial representation across a multitude of racial minority subgroups.

Theoretical Development and Hypotheses

A significant body of research in the area of strategic human resource management (SHRM) purports that human resource practices can be aligned with firm business strategy and contribute to organizational performance goals (Delery & Doty, 1996; Huselid, 1995). These practices (e.g., rigorous selection procedures, group-based pay, merit-based promotion, high levels of training, and self-managed teams) are touted as "high-performance" work practices (HPWPs) or "strategic" HR practices. In a comprehensive review of 92 studies, Combs, Liu, Hall, and Ketchen (2006) found that HPWPs have a moderately positive (r = .20) effect on firm performance. Based on SHRM theory, such practices operate by increasing employees' human capital, empowering employees with the opportunity to act, and motivating employees to behave in ways conducive to meeting organizational goals (Becker & Huselid, 1998; Becker, Huselid, Pickus, & Spratt, 1997; Gerhart, 2007).

Some researchers have argued that DEM practices also fall into this framework and are likely to provide firms with a competitive advantage (e.g., Armstrong et al., 2010; Kossek et al., 2006; Richard & Johnson, 1999). Specifically, diversity management has been defined as a strategy that firms use to more efficiently capitalize on the opportunities that diversity offers (Society for Human Resource Management, 2008) and goes beyond Affirmative Action and EEO-based programs (R. R. Thomas, 1991). Under this broad definition, firms adopt a number of practices, including increasing awareness through training, mentoring and networking programs, management tracks for minorities, and so on. Indeed, in a recent study of 241 firms in Ireland, Armstrong and colleagues (2010) found that a diversity and equality management system predicted firms' labor productivity, workplace innovation, and employee voluntary turnover rates and uniquely accounted for an additional 2–2.5 percent of the variance in these outcomes above traditional HPWPs.

A predominant theoretical perspective in the area of SHRM useful to understanding how DEM practices lead to a competitive advantage is the resource-based view of the firm.

A predominant theoretical perspective in the area of SHRM useful to understanding how DEM practices lead to a competitive advantage is the resource-based view of the firm (Barney, 1991; Conner, 1991; Wright & McMahan, 1992). The theory has been applied to shed light on how HR practices shape a firm's human capital pool to provide a competitive advantage for the firm (Pfeffer, 1998; Schuler & MacMillan, 1984; Ulrich, 1991; Wright & McMahan, 1992). These researchers have considered four criteria by which human resource practices can add competitive advantage for the firm: human resource practices must add value to the firm, be rare, be inimitable, and not have substitutes (Wright & McMahan, 1992).

Extending these perspectives, some researchers have proposed that by broadening the talent pool, providing access to diverse perspectives, increasing the diversity of the customer base, enhancing the cultural competence of employees, and increasing the inclusion of diverse groups, DEM practices can provide firms with a sustained competitive advantage (Cox, 1991; Cox & Blake, 1991; Yang & Konrad, 2011). Under the RBV, DEM prac-

tices can also be characterized as a firm capability, as they are designed to heighten workplace diversity (Yang & Konrad, 2011). As we noted earlier, although a majority of firms have adopted a number of diversity practices (e.g., in 2010, 68 percent of firms indicated that they had practices in place to address workplace diversity; SHRM, 2010), there is limited empirical evidence to support the contention that these practices do in fact constitute an important firm capability in terms of facilitating greater diversity. Applying the RBV perspective, we consider how specific DEM practices can be a source of competitive advantage by enabling firms to meet an important effectiveness goal of increasing racial diversity in managerial ranks, which has implications for enhanced firm performance (Richard et al., 2004).

Invoking an SHRM perspective suggests that single DEM practices alone may not constitute a source of competitive advantage; rather, the "bundling" of different DEM practices together provides for unique arrangements of DEM practices that are difficult for competitors to imitate, leading to stronger effects on firm outcomes than individual HR practices.

In addition, invoking an SHRM perspective suggests that single DEM practices alone may not constitute a source of competitive advantage; rather, the "bundling" of different DEM practices together provides for unique arrangements of DEM practices that are difficult for competitors to imitate, leading to stronger effects on firm outcomes than individual HR practices (cf. Combs et al., 2006). Proponents of HR "bundles" (e.g., Appelbaum, Bailey, Berg, & Kalleberg, 2000; Gerhart, Trevor, & Graham, 1996; Ichniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995) and "configurations" (Delery & Doty, 1996) argue that an array of internally coherent HR practices creates "reinforcing effects" or "synergy" that maximizes firm effectiveness. In turn, we expand upon DEM practices conceptualization to include two bundles of DEM practices that have been designed to facilitate greater levels of racial diversity in managerial ranks and are widely adopted in US workplaces (SHRM, 2010). The individual DEM practices, and their corresponding umbrella dimensions, are deemed race-related DEM practices because they are specifically designed to address racial diversity in organizations, not other dimensions of diversity (e.g., gender and age).

Minority Opportunity-Based DEM Practices Targeted Toward Racial Minorities

In this section, we discuss DEM practices that are used to promote minority retention and development and those DEM practices that theoretically enhance firms' racial diversity in the managerial ranks. We use the term *minority opportunity-based DEM practices* to describe the following bundle of DEM practices: racial minority mentoring programs, racial minority network groups, internships for racial minorities, and career tracks for racial minorities with high potential as future managers. These DEM practices correspond to the identity-conscious HRM structures discussed by Konrad and Linnehan (1995) that are aimed at remedying current racial discrimination in the workplace, addressing past inequity, and achieving fair representation for various racial minority groups within managerial levels. Together, as a bundle, these DEM practices aimed at providing the necessary opportunity structures for racial minorities to achieve advancement operate by increasing racial minorities' social resources necessary to succeed, increasing organization efforts to identify and promote high-potential minority managers, and enhancing developmental opportunities for minorities.

Formal network programs and mentoring are viewed as essential elements of an organization's efforts to improve the social environment for racial minorities in firms. Minorities are often excluded from informal social networks in firms, and this can have a detrimental impact on their career success and retention (Blake-Beard, Murrell, & Thomas, 2007; Ibarra, 1993). Indeed, re-

search involving social networks has provided evidence that individuals with more social ties or "in the thick of things" are less likely to leave the organization (Feeley, 2000; Feeley, Hwang, & Barnett, 2008; Mossholder, Settoon, & Henagan, 2005). The social exclusion of minorities from informal networks in organizations has been attributed to the tendency of individuals to engage in homophilous interactions (i.e., interactions with similar others) that tend to facilitate greater acceptance, trust, and predictability. When minorities are represented in small numbers, they tend to be excluded from social interactions and lose out on developmental opportunities (Ibarra, 1992, 1993; Kanter, 1977; Miller, Lincoln, & Olson, 1981).

More specifically, formal network groups are associations of minority employees that exist within organizations to remedy social isolation and exclusion in organizations. Common activities within these groups include sharing information about happenings within the company, providing social support to members, and providing opportunities to interact with other minorities (Friedman & Holtom, 2002). The earliest network groups were formed by African American sales employees at Xerox in the late 1960s, and subsequently several firms have adopted ethnicity-based network groups to attract and retain qualified minority managers (Friedman & Deinard, 1991). Friedman (1996) identifies the following characteristics that distinguish formal network groups from other types of employee associations: these groups are organized based on social identity, such as common ethnicity; these groups are intra-organizational entities, organized by members rather than managers; and these groups are publicly recognized or formally organized. Although network groups are fairly ubiquitous in organizations, there is limited empirical evidence to test their effectiveness (Blake-Beard et al., 2007). Based on data from the National Black MBA Association, Friedman (1996) found that those managers who worked in organizations with network groups were more aware of the importance of networks, less likely to be kept out of informal networks, and more likely to have mentors in organizations. More recent research shows that networking had modest benefits in terms of increasing the representation of white women and a negative effect on the representation of black men (Kalev et al., 2006).

The positive effects of mentoring programs on career outcomes are more widely documented (e.g., Allen, Eby, Poteet, Lentz, & Lima, 2004; Eby, Allen, Evans, Ng, & DuBois, 2008). In particular, mentoring is seen as a powerful tool facilitating employees' career progression up the organization ladder (Blake-Beard, 1999; Murrell, Crosby, & Ely, 1999; D. A. Thomas & Gabarro, 1999). Mentoring programs tend to be formalized at the dyadic level with a matching between senior managers and their junior counterparts, with the two parties meeting regularly for career counseling and informal advice (Kram & Hall, 1991; Ragins, 1995). DiTomaso, Thompson, and Blake (1988) noted that a lack of mentors is seen by managers as the most important roadblock to career success. Cox and Nkomo (1991), in a study of 729 black and white MBAs, found that black MBAs were less likely to report having access to a mentor than their white counterparts. R. R. Thomas (1991) notes that even when black managers do have mentors, they still need to proactively cultivate multiple social relationships with black and white mentors to maximize the instrumental career and social support needed to succeed. These findings suggest that although minority mentoring can have beneficial consequences in organizations, there are challenges to fully realizing these benefits. Nevertheless, empirical evidence shows a positive impact of mentoring programs for increasing representation of black women in management (Kalev et al., 2006).

The earliest network groups were formed by African American sales employees at Xerox in the late 1960s, and subsequently several firms have adopted ethnicity-based network groups to attract and retain qualified minority managers.

While networking and mentoring programs provide opportunity structures by reducing so-

cial isolation, internships and career tracks for minorities reduce barriers by improving the access that minorities have to higher-level jobs in organizations (Konrad & Linnehan, 1995). Although the specific impact of these types of practices has received almost no prior research attention, related personnel practices (such as affirmative action plans) have been found to have the most immediate direct impact on increasing racial minority group representation in the management ranks (Kalev et al., 2006; Leonard, 1984). At the managerial level, we would also like to note that minority internships and career tracks for employees may make firms more attractive to qualified minority applicants. Thus, these practices could improve the attraction and retention of minority managers in firms and contribute to racial diversity in managerial ranks.

Hypothesis 1: *Race-based minority opportunity-based DEM practices will be positively related to racial diversity in the managerial ranks.*

Manager Accountability DEM Practices

The second bundle of DEM practices we discuss include those practices aimed at increasing managerial diversity by directly motivating actions and behavior of managers through performance appraisal and reward systems. Such practices, which we label *manager accountability DEM practices*, include providing managers with incentive pay when they meet organizational diversity goals and evaluating managers on diversity-related tasks or outcomes (e.g., establishing a positive diversity climate, promoting an equal opportunity environment, retaining minorities, and so forth) in the performance appraisal process. Importantly, little empirical research to date has evaluated the impact of these diversity practices on racial diversity within firms—a gap that we note may be due to the low incidence of such practices in firms (e.g., a 2010 SHRM survey finds that only 47 percent of surveyed firms evaluate managers on diversity-related goals and even fewer, 10 percent, tie managers' pay-for-performance to diversity goals). However, there is relevant theory suggesting that increasing accountability through formalized personnel practices can improve the representation of women and minorities in organizations (e.g., DiMaggio & Powell, 1983; Edelman, 1992). Morrison (1992) proposes enhancing accountability for increasing diversity through the inclusion of diversity goals in managers' performance appraisals and in the determination of bonuses. In fact, Fortune companies such as Hyatt and Denny's offer strong incentives (e.g., 15 percent bonuses) for meeting diversity goals and benchmarks (Brathwaite, 2002; Prince, 2005). At Colgate- Palmolive, for example, when retention levels for high-potential minorities fall below 90 percent, senior executives lose money (Greer & Virick, 2008).

These accountability practices provide the organization with tools to communicate the value it places on improving managerial racial diversity, thus fostering competitiveness (Prince, 2005). Nevertheless, organizations encounter difficulties defining and measuring specific behaviors that are directed at improving diversity or the diversity climate in the firm and, alternatively, may choose to make evaluative and reward decisions based on the extent to which managers are able to change the demographic profile of their direct reports (Greer & Virick, 2008). Limited evidence suggests that adoption of diversity-related performance evaluation improves the representation of white women but not black men (Kalev et al., 2006). In our study, we focus only on accountability practices aimed at increasing racial diversity in the managerial ranks (not the representation of women).

Hypothesis 2: *Manager accountability DEM practices will be positively related to racial diversity in the managerial ranks.*

The Moderating Role of Firm Size

Organization theorists have greatly elaborated factors that moderate the relationship between organizational features and their effectiveness (Lawrence, 1993; Lawrence & Lorsch, 1967). Like-

wise, a major focus of SHRM research is to identify the relevant organizational characteristics that shape the efficacy of HR practices (Schuler & Jackson, 1989). Accordingly, we next turn our attention to one of the more dominant contextual factors used in the sociological and organizational theory literatures (Haveman, 1993)— firm size—to provide a more nuanced understanding of the efficacy of our two DEM practice bundles in influencing racial diversity in the managerial ranks. We discuss the relevant logics concerning the importance of firm size, predicting that while larger firms adopt more DEM practices, DEM practices are more important in smaller companies in terms of influencing diversity effectiveness goals.

First, while firm size is often associated with the adoption of human resource policies (Matlay & Addis, 2002; van Eerde, Tang, & Talbot, 2008) and diversity practices specifically (Konrad & Linnehan, 1995; Rynes & Rosen, 1995), it also has implications for the implementation phase of DEM practices. Specifically, the implementation of DEM practices should be more effective in smaller firms for reasons such as greater firm flexibility and reduced inertia, both of which affect a firm's ability to compete in dynamic and competitive environments. Larger firms are more likely to have formalized routines, policies, and structures in place that impede implementation of HRM practices. In fact, smaller firms have been found to be more flexible (Fiegenbaum & Karnani, 1991; Levy & Powell, 1998) and experience less inertia (Hannan & Freeman, 1984) than larger firms. Further supporting our notion, Garrison (2009) found that organization size impeded organizational response capability on the early adoption of disruptive technology, with larger firms having fewer early adoptions. Such findings translate to more effective implementation of DEM practices in smaller firms, as well as the mere ability for small firms to adapt and change the demographic composition of management levels through their DEM practices. In large organizations, on the contrary, we expect higher levels of inertia to hinder the effectiveness of diversity practices intended to change the composition of the workforce.

Second, Goodman et al. (2003) suggested that smaller firms may be more resource-dependent and experience heightened pressure to remove the glass ceiling for minorities. In turn, the amount of DEM practices in place within small firms will prove to be more valuable in comparison to the same amount of DEM practices operating in larger firms. For instance, smaller firms often have a more difficult time recruiting and hiring minorities than larger ones (Carrington, McCue, & Pierce, 2000; Chay, 1998; Holzer, 1998). Given a greater resource need, the DEM practices that small firms implement should be even more critical for them to achieve their diversity effectiveness goals.

Third, research conducted by Sels, De Winne, Maes, Faems, Delmotte, and Forrier (2003) found that the adoption of HRM best practices was profitable for smaller organizations. Their results revealed that while the adoption of HRM best practices was low in small firms relative to large firms, the intense use of HR practices was more positively related to productivity and profitability in smaller firms. Thus, there is evidence that HRM best practices confer firm value for smaller organizations (Klein, 2004). In summary, we surmise that similar to HRM best practices, our DEM practices will be most beneficial for smaller organizations.

Hypothesis 3: *Firm size will moderate the race-based minority opportunity-based DEM practices–racial diversity in the managerial ranks relationship. Race-based minority opportunity-based DEM practices will have a stronger positive relationship with racial diversity in the managerial ranks in small versus large organizations.*

Hypothesis 4: *Firm size will moderate the manager accountability DEM practices–racial diversity in the managerial ranks relationship. Manager accountability DEM practices will have a stronger positive relationship with racial diversity in the managerial ranks in small versus large organizations.*

Methods

Sample

Our dataset merges data from two unique sources for two consecutive years (i.e., 2002– 2003). First, information on firms' demographic composition and DEM practices came from a sample of US firms participating in *Fortune* magazine's managing diversity questionnaire. The sampling frame represents a wide cross-section of Fortune 1,000 firms and the largest 200 privately held US companies spanning numerous industrial sectors; on average, a response rate of 14 percent was reported (e.g., Hickman, Tkaczyk, Florian, Stemple, & Vazquez, 2003). *Fortune* magazine, in conjunction with the Council on Economic Priorities (CEP; a nonprofit research organization that has evaluated corporate diversity since 1971), collected data on the demographic profiles of the participating organizations (both gender and race) and surveyed firms' DEM practices, especially with regard to racial diversity in the managerial ranks. Our sample was selected because (1) detailed demographic data on firms' racial composition was available across five racial categories and (2) the firms went through an extensive, rigorous evaluation process that required them to disclose their diversity practices at the headquarters level. Next, we utilized COMPUSTAT to acquire the financial variables (e.g., industry-level control measures) in our study and to cross-check the financial data reported in the *Fortune* survey. We used a conservative approach to test our hypotheses, including those cases where all data were available for both years; as a result, our sample of firms was varied from 68 to 137 depending on the model specification.

About 60 percent of the firms in our sample (approximately 87 of the 137 firms) were not a part of the 50 companies that compose the Diversity Elite, further increasing our confidence that our sample consisted of firms with varying levels of racial diversity and DEM practices.

It is important to highlight that our sample included firms that were listed in the Diversity Elite list (50 Best Companies for Minorities). However, about 60 percent of the firms in our sample (approximately 87 of the 137 firms) were not a part of the 50 companies that compose the Diversity Elite, further increasing our confidence that our sample consisted of firms with varying levels of racial diversity and DEM practices. For example, the range on the racial diversity in the managerial ranks index was from .02 (practically no diversity) to .60 (high levels of diversity), providing evidence of variation in our dependent variable.

To check whether response bias existed, we also compared our sample of respondents to nonresponding Fortune 500 companies in terms of revenue, total assets, and total number of workers. Following the work of Osterman (1994) and Delery and Doty (1996), we employed a logistical regression analysis, where the dependent variable was defined as a dummy variable coded 1 for respondents and 0 for nonrespondents. No significant differences were detected from the analysis, indicating that response bias was not a serious problem in the current dataset.

Measures

Dependent Measure

The dependent variable representing DEM practice effectiveness in our study was *racial diversity in the managerial ranks*. Blau's (1977) index of heterogeneity was used to develop the measure of racial diversity in the managerial ranks. The index is calculated as follows: racial diversity index = $(1 - \Sigma P_i^2)$, where P_i is the proportion of group members in a category *i*. The *Fortune* survey assessed the percentage of five categories of managers' race in firms (i.e., white, black [i.e., African American], Hispanic, Asian, and Native American [i.e., American Indian]). For five categories, Blau's index takes on a range from 0 to 0.80. An index of zero suggests only one category of employees, while a value of 0.80 implies that all five categories are equally represented in the organization. Racial diversity in managerial ranks in our study ranged

Table I. Factor Analysis Results

DEM Practices	Factor Loading 1	Factor Loading 2
Minority opportunity-based DEM practices		
Internship for racial minorities	**0.68**	0.08
Racial minority mentoring program	**0.82**	−0.01
Network groups for racial minorities	**0.66**	−0.03
Career tracks for high-potential racial minorities	**0.72**	0.21
Manager accountability DEM practices		
Performance appraisal tied to diversity goals	0.16	**0.90**
Managers' bonus tied to diversity goals	−0.04	**0.91**
Eigenvalue	2.06	1.47
Percentage of variance explained	34.37	24.47
Alpha	0.69	0.80

Factor loadings for the correct category are shown in bold type.
N = 146 firm year observations.

from .02 (practically no diversity) to .60 (high levels of diversity).

We also provided supplemental analyses using the proportion of each racial minority category in the managerial ranks (i.e., the proportion of managers in each racial category among total number of managers). While the index of racial diversity in the managerial ranks captured the overall level of diversity, examining the effects of DEM practices on individual racial categories provided for more detailed analyses. Such an approach yielded fine-grained information highlighting the drivers of overall racial diversity. Because we did not observe adequate variation across the proportional measure for Native American (which we believe to be due to the low incidence of firms employing Native American managers), we excluded this category from the detailed analyses.

Independent Variables

We selected two types of DEM practice bundles as antecedents to racial diversity in managerial ranks: *minority opportunity-based DEM practices* and *manager accountability DEM practices*. *Minority opportunity-based DEM practices* was the summate of several items that tapped into the presence (yes/no responses) of racial minority specific practices, including internships for racial minorities, racial minority mentoring programs, network groups, and career tracks for high-potential racial minority managers. *Manager accountability DEM practices* represented diversity practices that (1) evaluate managers on diversity-related goals and (2) tie managers' rewards (bonuses) to racial diversity goals. Managers' performance appraisal was the proportion of managers with appraisals tied to racial diversity goal accomplishment, while managers' bonus was the proportion of managers with their bonuses tied to racial diversity goal achievement. These two DEM practices were averaged to represent manager accountability DEM practices.

To assess and confirm the factor structure associated with these practice bundles, we factor-analyzed each practice's standard score using principal component extraction with Varimax rotation. As expected, two factors emerged from the analysis (minority opportunity-based and manager accountability DEM practices). Table I shows these results.

Other Measures

We included *firm size* as a moderator variable in the model and operationalized this variable as the

logged value of a firm's total assets in billions of dollars for the given year.[1] We also included two firm-level control variables that may have a direct effect on racial diversity in managerial ranks—*total number of managers* (logarithm) and *gender diversity in the managerial ranks* (Blau's index of heterogeneity applied to the firms' gender composition in the managerial ranks). We also included several environmental- level control variables that may influence racial diversity (cf. Richard, Murthi, & Ismail, 2007). Using each firm's standard industrial classification (SIC) code, *industry type* was coded as a dummy variable representing 0 for firms in the manufacturing industry (SIC code = 0 from 2,000 to 3,999) and 1 for firms in the service industry (SIC code = 1 if less than 2,000 and greater than 3,999) (Gomez-Mejia, Larraza-Kintana, & Makri, 2003). We calculated *industry growth (munificence)* as the percentage change in industry revenues from the previous year (Ferrier, 2001). *Industry revenue* was the logged value of total revenues of each industry. *Industry concentration (power)* was measured as the percentage of sales generated by the top four firms relative to total industry sales (Berman, Wicks, Kotha, & Jones, 1999).

Analytical Approach

The data were cross-sectional (across firms) and time series (over years) in nature; thus, we adopted a panel data methodology. The use of panel data has become increasingly popular in studies of firm-level management research and has a number of advantages (Hitt, Gimeno, & Hoskisson, 1998). For example, panel data and the associated methods allow researchers to control for unobserved heterogeneity, improve statistical estimates by enlarging the sample size (in our case, we could include multiple-year observations from firms), and capture both between- and within-unit effects of an entire sample (Kmenta, 1996). However, care must be taken when conducting statistical tests on panel data (Dielman, 1983; Neter, Kutner, Wasserman, & Nachtsheim, 1996). The main problems include cross-sectional heteroskedasticity and within-unit serial correlation. When these are present, the ordinary least squares (OLS) assumptions of constant variance and uncorrelated error terms are violated, rendering OLS inappropriate. To correct for heteroskedasticity and autocorrelated error terms, we used the generalized least squares (GLS) procedure (Kmenta, 1996; Sayrs, 1989).

Among the conventional panel data model specifications (fixed- and random-effects models), we utilized random-effects (RE) estimators in our analyses. Although fixed-effects (FE) models are commonly preferred (Greene, 2003), a major drawback of the FE model is its inability to estimate variables that are stable over time. Our independent variables varied little over time in our sample firms and, thus, resulted in a large reduction in available observations when applying the standard FE model (fixed on firms in our study)—a common problem when there are relatively few observations per cross-sectional unit (Greene, 2003). In turn, we deemed the FE model inappropriate and used RE models, which assume that the unobserved fixed effects are uncorrelated with the explanatory variables. A Hausman test (Hausman, 1978) revealed no significant correlations between independent variables and the firm-level fixed effects. In the RE specification, the intercept $\underline{\alpha}$ is assumed to consist of a deterministic component (α) and a random component u_i, which is assumed to be distributed according to a normal distribution (i.e., $\alpha = \underline{\alpha} + u_i$). Therefore, the model is given by:

$$Y_{it} = \underline{\alpha} + \beta X_{it} + u_i + \varepsilon_{it}$$

Results

Table II shows descriptive statistics and correlations among the variables used in the study. Mean racial diversity in the management ranks in the firms in our sample was .32 (*SD* = .12). In addition, the correlations between the variables do not suggest the potential for multicollinearity (high level of correlations among independent measures) in the multivariate regression analyses.

Table III presents the results of the multivariate analyses used to test our hypotheses regarding the effects of DEM practice bundles on racial

Table II. Descriptive Statistics and Correlations

Variables	*Nobs*	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Minority opportunity-based DEM practices	272	3.05	1.20													
2. Manager practices accountability DEM	146	58.95	36.80	0.15												
3. Number of managers[a]	272	8.10	1.16	0.40***	−0.16*											
4. Gender diversity in the managerial ranks	272	0.41	0.09	0.15*	−0.06	0.33***										
5. Service industry	244	0.61	0.49	−0.16*	−0.35***	0.11	0.27***									
6. Industry growth	240	0.03	0.12	−0.08	−0.06	0.06	0.19**	0.09								
7. Industry revenue[a]	255	25.65	0.89	0.10	−0.06	0.15*	0.01	0.19**	0.17**							
8. Power	253	0.60	0.20	0.11	−0.02	0.35***	0.18**	−0.23***	−0.12	−0.30***						
9. Firm size (total assets[a])	221	23.96	1.45	0.27***	−0.05	0.49***	0.27***	0.21**	0.06	0.45***	0.11					
10. Racial diversity in the managerial ranks	272	0.32	0.12	0.07	−0.13	0.36***	0.35***	0.28***	−0.12	−0.11	0.19**	0.12				
11. African American managers (%)	272	0.08	0.04	0.22***	−0.14	0.39***	0.31***	0.34***	0.09	−0.01	0.20**	0.24***	0.53***			
12. Asian managers (%)	272	0.05	0.04	0.08	0.12	0.08	0.20**	−0.14*	−0.27***	−0.08	0.20**	0.12	0.52***	−0.09		
13. Hispanic managers (%)	272	0.06	0.05	−0.09	−0.19*	0.11	0.16**	−0.29***	−0.04	−0.19**	−0.09	−0.15*	0.68***	0.18**	0.14*	
14. Native American managers (%)	272	0.01	0.01	−0.16**	−0.15	0.09	−0.06	0.13	−0.02	0.08	0.03	−0.03	0.28***	−0.10	−0.10	0.05

Correlations are based on pairwise deletion.

a. Logarithm.

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

Table III. Results of Random-Effects GLS Regression Analysis on Racial Diversity in the Managerial Ranks

Variables	Model 1	Model 2	Model 3	Model 4
Constant	0.229	0.344*	0.739**	0.808**
	(0.180)	(0.189)	(0.302)	(0.293)
Controls				
Number of managers[a]	0.018**	0.011	0.012	0.012
	(0.007)	(0.01)	(0.009)	(0.009)
Gender diversity in the managerial ranks	0.412***	0.360**	0.283*	0.229*
	(0.089)	(0.120)	(0.130)	(0.129)
Service industry	0.046*	0.076**	0.074***	0.080***
	(0.020)	(0.024)	(0.023)	(0.023)
Industry growth	−0.023	−0.031	−0.032	−0.026
	(0.015)	(0.019)	(0.021)	(0.020)
Industry revenuea	−0.010	−0.012*	−0.028**	−0.030**
	(0.007)	(0.007)	(0.012)	(0.011)
Power	0.003	0.014	0.030	0.022
	(0.032)	(0.042)	(0.042)	(0.041)
Main effects				
Minority opportunity-based DEM practices[b]		0.006	0.017*	0.020**
		(0.007)	(0.009)	(0.009)
Manager accountability DEM practices[b]		0.013***	0.013***	0.014***
		(0.004)	(0.004)	(0.004)
Moderator				
Firm size (total assets[ab])			0.006	0.021*
			(0.009)	(0.010)
Interactions				
Minority opportunity-based DEM practices × firm size				
				−0.016*
				(0.007)
Manager accountability DEM practices × fi rm size				
				-0.009*
				(0.005)
Number of observations	219	124	108	108
Number of firms	137	79	68	68
R^2	0.228	0.255	0.287	0.327

Unstandardized regression coefficients (*b*) reported; standard errors are in parentheses.
a. Logarithm.
b. Variables standardized prior to running the analyses.
* $p < .05$; ** $p < .01$; *** $p < .001$ (one-tailed test)

diversity in the managerial ranks and the moderating influence of firm size. The baseline model (Model 1) indicated that of the control measures included, total number of managers, gender diversity in the managerial ranks, and industry type (i.e., service industry) were positively and significantly associated with firms' racial diversity in the managerial ranks. The effects of gender diver-

sity in the managerial ranks and service industry on racial diversity in the managerial ranks were robust across all models. Models 2, 3, and 4 detail the results of Hypotheses 1–4. Hypothesis 1 predicted that the presence of minority opportunity-based DEM practices would be positively related to firms' racial diversity in the managerial ranks. As expected, we found a significant and positive effect of minority opportunity-based DEM practices on racial diversity in the managerial ranks ($b = .017$, $p < .05$ in Model 3 and $b = .02$, $p < .01$ in Model 4), indicating that managerial racial diversity index can be increased by .017–.02 for each standard deviation increase (SD = 1.20) in minority opportunity-based DEM practices, or roughly an adoption of 1 additional practice. For firms with average racial diversity in the managerial ranks (.32 based on Table II) and who implement an additional practice, this translates to a 5–6 percent racial diversity in the managerial ranks increase. Consistent with Hypothesis 2, which predicted that the proportion of managers held accountable for or receiving incentive pay for meeting diversity goals would be positively related to racial diversity in the managerial ranks, manager accountability DEM practices also had a significant and positive effect on firms' overall racial diversity in the managerial ranks. The results indicated that about a .013 point increase in the racial diversity index (or 4 percent increase for firms with an average level of racial diversity) can be expected when there is a one standard deviation increase (SD = 36.8 percentage points) in the proportion of managers held accountable for or receiving incentive pay for meeting diversity goals. This pattern of findings was robust across all models presented in Table III ($b = .013$, $p < .001$ in Models 2 and 3; $b = .014$, $p < .001$ in Model 4).

Hypotheses 3 and 4 stated that firm size moderates the relationship between the DEM practice bundles and racial diversity in the managerial ranks (Model 4). Supporting Hypothesis 3, we found a moderating influence of firm size on the effect of minority opportunity-based DEM practices—that is, the positive effect of these practices on racial diversity was stronger in smaller firms but not in larger firms ($b = -.016$, $p < .05$). This interactive effect is illustrated in Figure 1, which shows that smaller firms (one standard deviation below the mean in terms of logged value of total assets) have a strong, positive relationship between the use of minority opportunity-based DEM practices and racial diversity in the managerial ranks, whereas the relationship was weak in larger firms (one standard deviation above the mean). Thus, small firms with an average level of racial diversity in the managerial ranks (.32) will increase their racial diversity by approximately 11.25 percent with each standard-deviation increase in minority opportunity-based DEM practices, whereas large firms with the same level of racial diversity will expect only a 1.25 percent increase. We also found support for Hypothesis 4 regarding the moderating role of firm size on the relationship between manager accountability DEM practices and racial diversity in the managerial ranks ($b = -.009$, $p < .05$). As shown in Figure 2, the relationship between manager accountability DEM practices and racial diversity in the managerial ranks was positive and stronger in small firms (one standard deviation below the mean), but the pattern was less apparent in large firms (one standard deviation above the mean level). More specifically, small firms with average racial diversity in the managerial ranks will increase their diversity by about 7.18 percent if they increase their manager accountability DEM practices by 36.8 percentage points (1 SD), whereas large firms will receive a smaller increase of roughly 1.56 percent for the same increase in manager accountability DEM practices. Together, the fully specified model with the interaction terms (Model 4) accounted for an additional 4 percent of the variation in racial diversity in managerial ranks above the main effects model only (Model 3).

The effects of gender diversity in the managerial ranks and service industry on racial diversity in the managerial ranks were robust across all models.

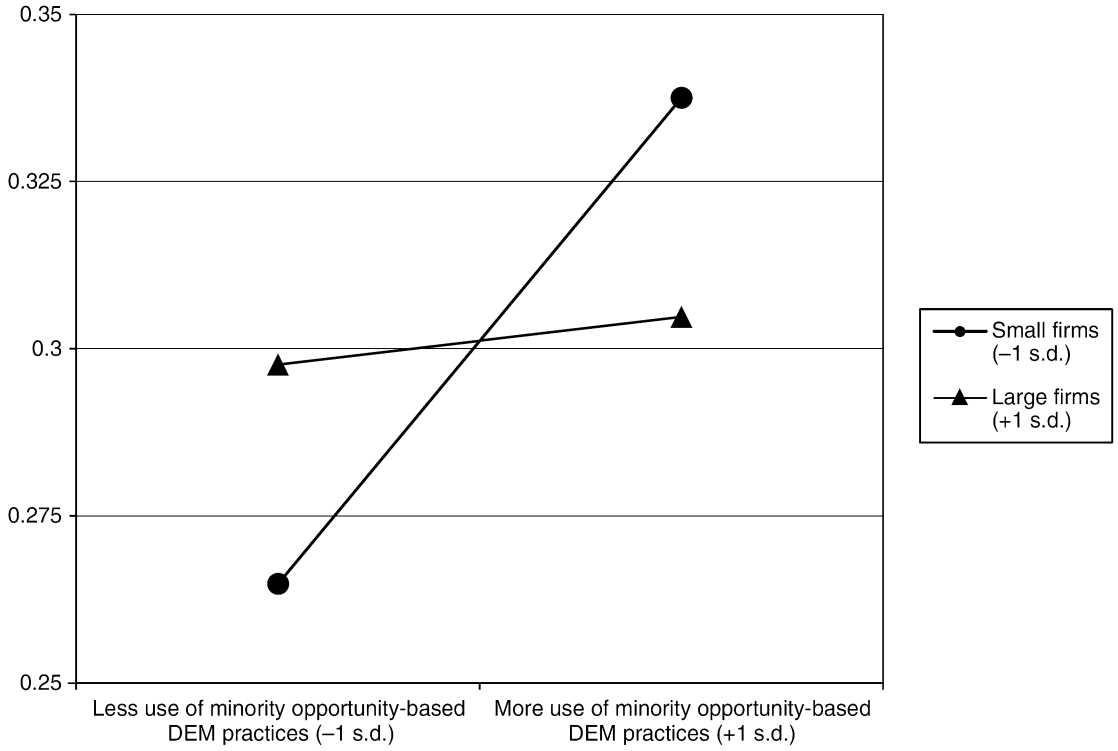

Figure 1. Interactive Effect of Firm Size and Minority Opportunity-Based DEM Practices on Racial Diversity in the Managerial Ranks

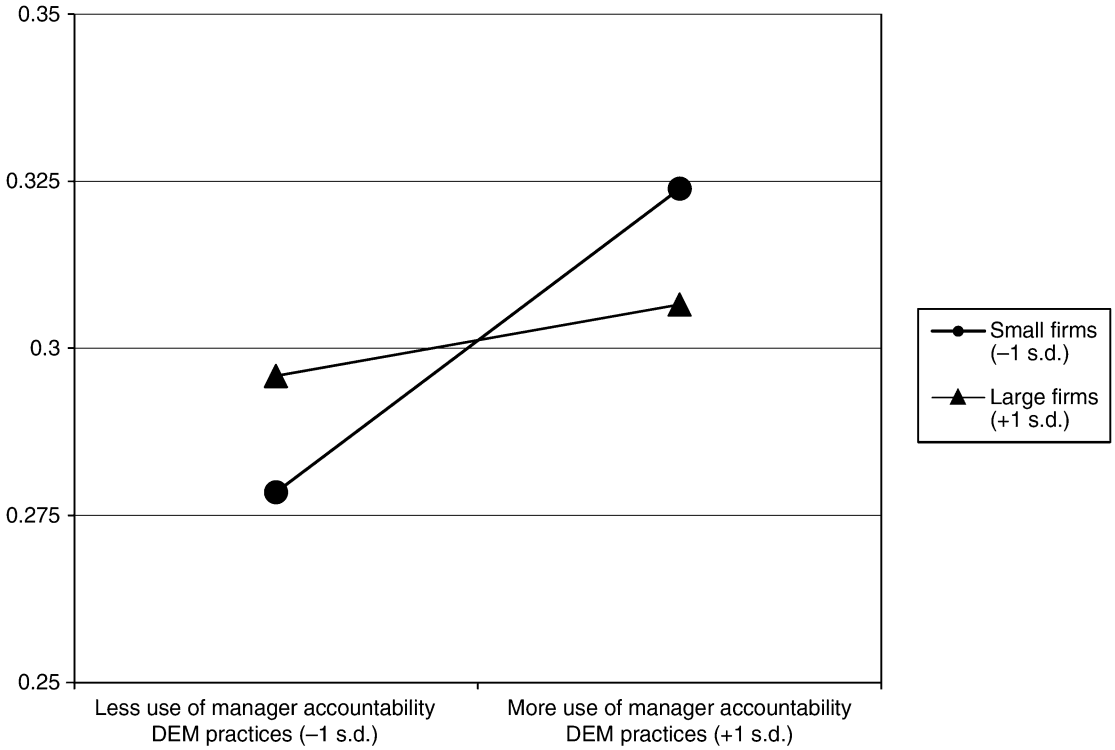

Figure 2. Interactive Effect of Firm Size and Manager Accountability DEM Practices on Racial Diversity in the Managerial Ranks

Supplemental Analyses

Table IV presents the results of supplemental analyses employed to better understand which racial groups' overall representation in firms' managerial ranks our bundles of DEM practices were more likely to influence. Specifically, we examined the effects of the two DEM practice bundles on the proportion of each racial minority category in the managerial ranks (the percentage of managers in each racial category among the total number of managers, excluding Native American managers due firms employing few Native American managers in our sample). Interestingly, we observed that increasing the amount of minority opportunity-based DEM practices was positively and significantly related to the proportion of African American managers in firms (b = .009, p < .01 in Model 4), indicating that a firm's adoption of one minority opportunity-based DEM practice approximately leads to about a 1 percent increase of African American manager representation in the managerial ranks, while manager accountability DEM practices had no effects. In contrast to the findings for African American managers, the proportion of Asian managers was positively and significantly affected by the use of manager accountability DEM practices (b = .008, p < .001 in Model 8), indicating that the representation of Asian managers increases about 1 percent as the percentage of managers are held accountable for or receive incentive pay for meeting diversity goals increases one standard deviation (or 36.8 percentage points), while no effects were found from the use of minority opportunity-based DEM practices. We found no statistically significant effects of DEM practice bundles on the proportion of Hispanic managers (Models 10–12).

The interaction between minority opportunity- based DEM practices and firm size was significant and negative for the proportion of African American managers (b = −.006, p < .01, Model 4), indicating that the positive effect of minority opportunity-based DEM practices on the proportion of African American managers was stronger in smaller firms than large firms (Figure 3 graphically illustrates this interaction). Specifically, small firms with an average African American manager representation, or 8 percent, can expect about an 18.75 percent increase in this minority subgroups representation in the managerial ranks for each minority opportunity-based DEM practice they adopt. In turn, larger firms adopting an additional practice will only expect about a 1.75 percent increase. Significant interactions with firm size were also evident for the proportion of Asian managers. As shown in Model 8, the effects of the two DEM practice bundles on firms' proportion of Asian managers were both qualified by a significant and negative interaction with firm size (b = −.006, p < .001 for minority opportunity-based DEM practices; b = −.006, p < .001 for manager accountability DEM practices). These interactions indicate that effects of the DEM practice bundles on the proportion of Asian managers were stronger in smaller firms than large firms (see Figures 4 and 5 for illustrations of these interactions). In particular, small firms with an average Asian manager representation of 5 percent will see about a 16–28 percent increase in this minority group representation.

The interaction between minority opportunity-based DEM practices and firm size was significant and negative for the proportion of African American managers (b = -.006, p < .01, Model 4), indicating that the positive effect of minority opportunity-based DEM practices on the proportion of African American managers was stronger in smaller firms than large firms.

Discussion

Over the past several decades, research on workplace diversity has grown dramatically. While organizations spend millions of dollars annually on various DEM practices, the benefit of these programs to increased workplace diversity is rarely documented. Our research rectifies this gap by focusing on the effects of specific bundles of DEM practices on racial diversity in the managerial ranks.

Table IV. Results of Random-Effects GLS Regression Analysis on the Proportion of Each Racial Minority Category in the Managerial Ranks

	African American Managers				Asian Managers				Hispanic Managers			
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Constant	−0.043	−0.020	−0.030	−0.029	0.038	0.019	0.119	0.180*	0.161**	0.113*	0.288**	0.294**
	(0.060)	(0.069)	(0.117)	(0.116)	(0.073)	(0.070)	(0.104)	(0.100)	(0.064)	(0.061)	(0.092)	(0.094)
Controls												
Number of managers[a]	0.005*	0.001	−0.000	−0.001	−0.000	0.000	−0.001	−0.001	0.003	0.005	0.007*	0.007**
	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Gender diversity in the managerial ranks	0.116***	0.069	0.027	0.015	0.097**	0.101**	0.092*	0.081*	0.073*	0.065	0.083*	0.074*
	(0.030)	(0.044)	(0.052)	(0.052)	(0.034)	(0.035)	(0.040)	(0.040)	(0.034)	(0.044)	(0.043)	(0.044)
Service industry	0.022**	0.033***	0.031***	0.032***	−0.018**	−0.002	−0.004	−0.001	0.023**	0.026**	0.024**	0.025**
	(0.007)	(0.009)	(0.010)	(0.009)	(0.01)	(0.006)	(0.007)	(0.007)	(0.008)	(0.010)	(0.008)	(0.008)
Industry growth	0.003	0.004	0.005	0.005	−0.010	−0.027**	−0.030**	−0.024**	−0.005	−0.007	−0.007	−0.007
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.009)	(0.010)	(0.008)	(0.005)	(0.006)	(0.005)	(0.006)
Industry revenue[a]	0.001	0.001	0.002	0.003	−0.001	−0.001	−0.004	−0.007*	−0.006**	−0.005**	−0.013***	−0.013***
	(0.002)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
Power	0.009	0.032*	0.032*	0.034*	0.010	0.010	0.011	0.004	−0.021	−0.009	−0.014	−0.015
	(0.011)	(0.015)	(0.016)	(0.016)	(0.013)	(0.014)	(0.015)	(0.014)	(0.012)	(0.014)	(0.013)	(0.013)
Main effects												
Minority opportunity-based DEM practices[b]		0.007**	0.008**	0.009**		−0.000	0.002	0.002		0.000	0.002	0.002
		(0.003)	(0.003)	(0.003)		(0.003)	(0.004)	(0.003)		(0.002)	(0.002)	(0.003)
Manager accountability DEM practices[b]		0.002	0.001	0.001		0.006***	0.007***	0.008***		−0.001	−0.000	0.000
		(0.001)	(0.001)	(0.001)		(0.002)	(0.002)	(0.002)		(0.001)	(0.001)	(0.001)
Moderator												
Firm size (total assets[ab])			0.002	0.005			0.008**	0.013***			−0.004	−0.003
			(0.003)	(0.004)			(0.003)	(0.004)			(0.003)	(0.003)

Variables	African American Managers				Asian Managers				Hispanic Managers			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Interactions												
Minority opportunity-based DEM practices × firm size				−0.006* (0.003)				−0.006* (0.003)				−0.001 (0.002)
Manager accountability DEM practices × firm size				0.001 (0.002)				−0.006*** (0.002)				−0.001 (0.002)
Number of observations	219	124	108	108	219	124	108	108	219	124	108	108
Number of firms	137	79	68	68	137	79	68	68	137	79	68	68
R^2	0.217	0.276	0.257	0.279	0.101	0.178	0.244	0.244	0.149	0.144	0.270	0.275

Unstandardized regression coefficients (*b*) reported; standard errors are in parentheses.
a. Logarithm.
b. Variables standardized prior to running the analyses.
* $p < .05$; ** $p < .01$; *** $p < .001$ (one-tailed test)

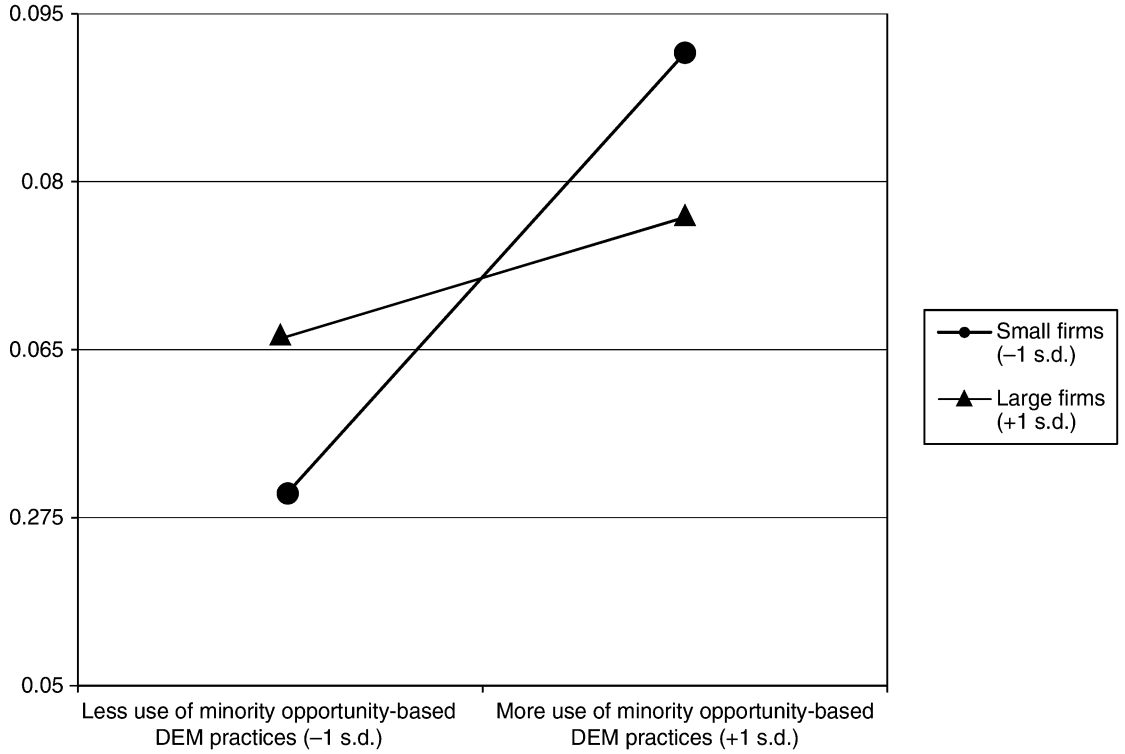

Figure 3. Interactive Effect of Firm Size and Minority Opportunity-Based DEM Practices on the Proportion of African American Managers

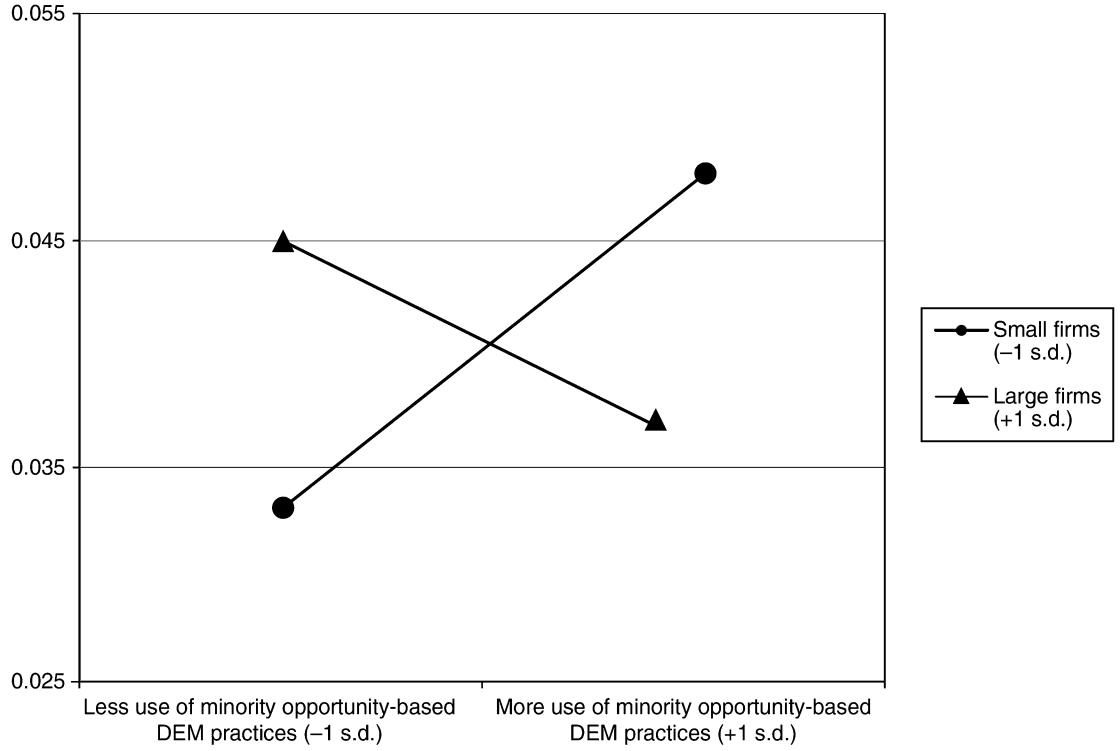

Figure 4. Interactive Effect of Firm Size and Minority Opportunity-Based DEM Practices on the Proportion of Asian Managers

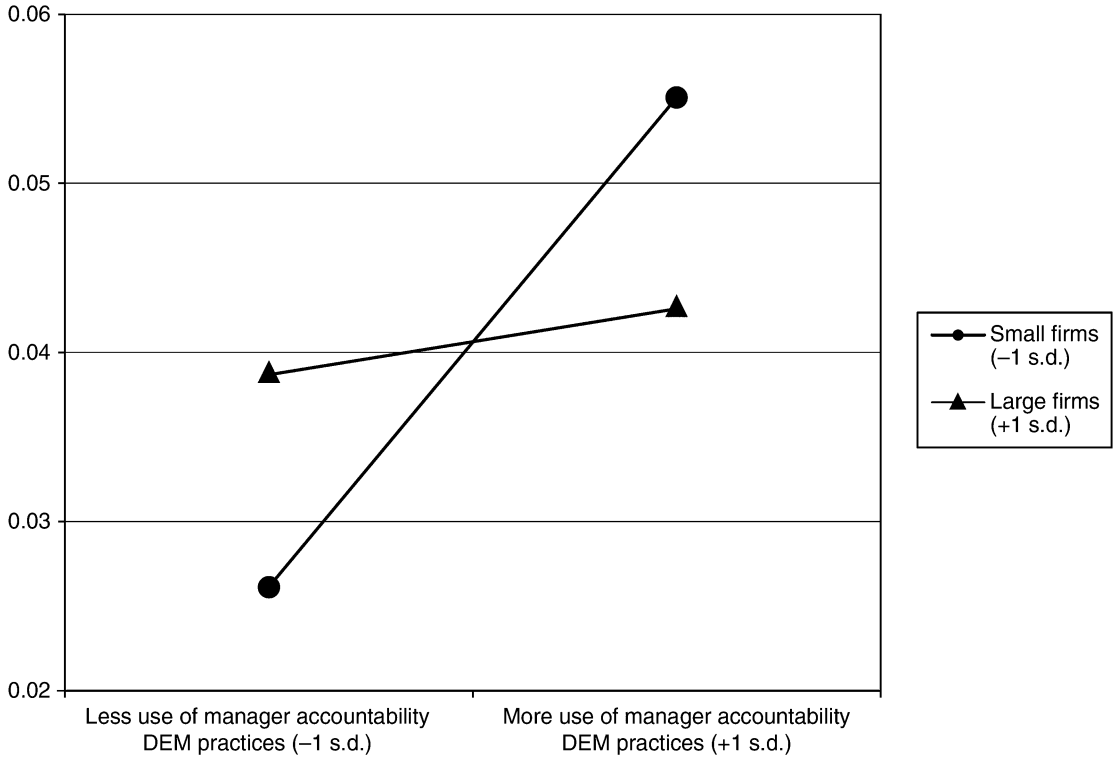

Figure 5. Interactive Effect of Firm Size and Manager Accountability DEM Practices on the Proportion of Asian Managers

Our results suggest that firms with greater levels of the two bundles of DEM practices—minority opportunity-based DEM practices and manager accountability DEM practices—have higher levels of racial diversity in their managerial ranks (approximately 4–6 percent higher levels). The practical effect of such increases can be further seen when considering the racial diversity in managerial ranks–firm performance link. Andrevski, Richard, Shaw, and Ferrier (in press) found that a .01 unit increase in racial diversity in the managerial ranks led to about a .0032 percent market share gain (i.e., the positive year-to-year change in the proportion of total sales in the focal firm's primary industry that its sales represented). Combining our findings (Table III's Model 4) with those of Andrevski et al., firms increasing either of their DEM bundle practices by 1 unit each will potentially see a .0051 to .0064 percent market share gain, as these increases were associated with .014–.02 higher levels of racial diversity in the managerial ranks in our study.

Furthermore, the results of our supplemental analyses indicated that a more nuanced approach to understanding the effects of these DEM practices on the representation of various racial groups in managerial ranks across firms is warranted. While minority opportunity-based DEM practices had a positive effect on overall racial diversity in managerial ranks, it appears that this effect was robust on the percentage of African American managers and Asian Americans only. Minority opportunity-based DEM practices are aimed at providing internships, management tracks, networking, and mentoring to minority employees. Our findings suggest that these DEM practices, which are designed to create opportunities and a socially inclusive climate in an organization, may be more valuable for the advancement of African American managers. Given that African Americans frequently experience "access to management" discrimination due to prejudice, stereotypes, and from having a "black"-sounding name (Bendick, Jackson, & Reinoso, 1994; Fryer & Levitt, 2004), it is a noteworthy finding that

minority opportunity-based DEM practices result in more access for them.

In addition, the effect of manager accountability DEM practices on racial diversity in managerial ranks was most robust for Asian managers. Manager accountability DEM practices are aimed at increasing racial diversity in managerial ranks by directly motivating the actions and behavior of managers to meet diversity goals through performance appraisal and reward systems. So why would senior managers, when held accountable for diversifying their management ranks, select Asian managers compared to African Americans and Hispanics? In the face of pressures to enhance diversity, it is possible that senior managers promote or hire Asian managers as opposed to other racial groups, as this demographic group may be more represented in the talent pool. For example, research suggests that Asian Americans, more than any other minority subgroup, are recognized by the dominant group for their commitment to educational achievement and overall success (Anderson, 1992). In fact, whites see Asians as the most successfully assimilated minority group in American society, and evidence shows that whites and Asians have the highest within-group participation rates (13.1 percent and 8.3 percent, respectively) in management (Equal Employment Opportunity Commission, 2012; Jo, 2004). Not only are Asians viewed favorably by whites because of their academic and financial success, but they are also viewed positively because of perceptions related to their cooperative group behavior. They are motivated to find a way to fit in with relevant others (Markus & Kitayama, 1991). It could be that these attributes, whether perceived or actual, explain why manager accountability DEM practices have a modest impact on Asian representation in management.

The results of our supplemental analyses indicated that a more nuanced approach to understanding the effects of these DEM practices on the representation of various racial groups in managerial ranks across firms is warranted.

Interestingly, we did not find any effects on the percentage of Hispanic managers in the managerial ranks. Such results compound the importance of distinguishing among various racial/ethnic groups across various contexts. In fact, the Hispanic subgroup is much broader relative to the other racial categories, so there may be something unique to the Hispanic subgroup that warrants special consideration. Such research is needed given that research reveals that whites also report less attraction to diversity consisting of Latinos whether it be living in communities with them or working with them (Bendick, Jackson, Reinoso, & Hodges, 1991; Brief, Umphress, Dietz, Butz, & Scholten, 2005). Thus, we propose that future research examine the effects of other contextual variables on the effects of DEM practices across a variety of racial/ethnic managerial groups.

We also examined the moderating role of firm size to disentangle the subtle nuances explaining when the bundles of DEM practices are valuable to firms. We argued that smaller firms are more flexible and experience less inertia, leading to more effective implementation of DEM practices as well as a greater ability to adapt and change the demographic composition of management. In addition, we argued that while larger firms adopt more DEM practices, the effect of DEM practices in smaller firms would be stronger given their greater resource dependency on these practices and greater flexibility in implementing them. Our findings suggest that both of our DEM practice bundles had stronger positive effects on overall racial diversity in the managerial ranks in small firms relative to large firms. The effect of minority opportunity-based DEM practices was further accentuated by small firm size when considering the proportion of black managers as an outcome measure. This finding is particularly valuable for small enterprises given that research has shown that small companies tend to hire a much smaller proportion of African Americans than larger ones (Holzer, 1998). A similar pattern of findings was revealed for the interaction effects of both DEM practice bundles and firm size on the proportion of Asian managers. These findings provide support for the notion that structural contextual fac-

tors shape the effects of DEM practices on diversity outcomes.

Limitations and Directions for Future Research

Our study has several limitations, which, in turn, offer future research opportunities. First, our DEM practices are limited to minority opportunity-based practices and manager accountability practices. Other diversity practices warrant attention. For example, minority recruitment should indirectly impact the proportion of racial minorities in management by contributing to a more diverse pool of applicants to be eventually selected for promotion. Also, various types of diversity training may or may not be useful in increasing representation of racial minorities in management.

Second, measurement of DEM practices should be advanced. Our typology assessed either the absence or presence of a diversity practice or the proportion of managers exposed to certain practices. Future research might account for how long the practice has been adopted and the frequency in which a practice is utilized. Fine-grained measures of minority opportunity-based DEM practices could also provide more in-depth comprehension related to their effects on overall diversity and minority representation. For example, is corporate mentoring for minority employees more effective when the minority protégés are assigned to minority or majority mentors, mentors inside or outside their immediate department, or when they receive more career or psychosocial support? Future research should welcome the opportunity to go more in depth into each DEM practice's frequency, intensity, and formulation.

Third, we were unable to draw solid inference on how our measures impacted the percentage of managers who were Native Americans. Although our percentage of Native Americans seems comparable to that in the general US population, which is less than 1 percent (www.census.gov), the lack of representation in our sample made it difficult for us to derive statistical significance. One way to overcome this problem involves targeting regions or states with higher proportions of Native Americans in the general population (e.g., New Mexico and Arizona). Nevertheless, we met the call for previous research that called for distinguishing among minority groups (i.e., African American, Hispanic American, Asian American, and Native American). Future research should investigate how DEM practices influence other types of diversity such as religion, national culture, gender, and age.[2] For example, companies often adopt opportunity-based DEM practices targeted toward women, which should theoretically impact the level of gender diversity in the managerial ranks. Qualitative research will also be helpful in understanding specific employment experiences of diverse groups of individuals undergoing diversity training as well as other diversity initiatives. Indeed, it would be delightful to gain insight into the creative, communication, and conflict processes utilizing a qualitative methodological framework.

Future research should welcome the opportunity to go more in depth into each DEM practice's frequency, intensity, and formulation.

Fourth, finer-grained measures of racial diversity in the managerial ranks would be valuable. Specifically, we tapped into overall racial diversity in the managerial ranks that included top managers, middle managers, and lower-level managers. Future research might obtain data at all three levels of management at both the corporate level and the business unit level. We concur with Konrad and Linnehan (1995) when they stated such measures seem ideal for identifying the presence or absence of "glass ceilings" or "glass walls."

Fifth, the issue of causality between diversity practices and outcomes warrants attention. It is quite possible that companies with more racial diversity in the managerial ranks are more likely to implement such DEM practices. We believe several factors lend support to our confidence in the findings reported here. First, from a theoretical stand-

point, DEM practices are adopted to meet specific goals of increasing racial diversity in management, improving financial performance, promoting goodwill, or reducing employee turnover. In general, these DEM practices are implemented at Time A and their effectiveness is assessed at Time B. Although over a small span of time, our panel data did allow us to investigate time invariant effects, revealing that time was not a significant factor. While the presence of a practice in the previous year did not significantly predict the dependent measures in subsequent years (within firm effects), there were significant findings between firms. Notwithstanding, the mere fact that the measures behaved along theoretical lines supports the validity of our research methodology (Konrad & Linnehan, 1995). Additionally, by introducing firm size as a moderator, we were able to investigate the impact of the DEM practices in different contexts. For example, although firm size was significantly correlated to racial diversity in the managerial ranks ($p < .05$), DEM practices were not as valuable in affecting racial diversity in managerial ranks for large firms relative to small firms (see Figure 1). In sum, we feel confident that our constructs are consistent with theory.

Although firm size appears to be a key moderator between DEM practices and racial diversity in the managerial ranks, other constructs that moderate the impact of DEM practices on a broad array of effectiveness measures should be explored.

Finally, although firm size appears to be a key moderator between DEM practices and racial diversity in the managerial ranks, other constructs that moderate the impact of DEM practices on a broad array of effectiveness measures should be explored. For instance, organizational culture may play an integral role in the DEM practice-to-effectiveness relationship. We argue that a clan-oriented culture that emphasizes group cohesion, acceptance, and inclusiveness represents a fertile ground for DEM practices to have desired effects. In addition, a decentralized organizational structure that entails participative decision making and less hierarchy and status differentials seems complementary to DEM practices. Such an environment promotes organizational justice and pay equality, which we believe to be essential components to reducing discrimination, stereotypes, glass ceilings, women and minority mobility, and other impediments, thereby allowing certain DEM practices to bring out the creativity of diverse organizational members. Top management team commitment may also influence the efficacy of DEM practices, as it has been shown to be critical to the effectiveness of human resource and diversity-related initiatives (Konrad & Linnehan, 1995). Future research should explore the intervening role of top management team members in both the adoption and effectiveness of various diversity practices. Finally, a DEM practice bundle will be more effective if it is integrated with and complements the overall human resource system (Armstrong et al., 2010). High-performance work systems (Huselid, 1995) seem ideal for diversity efforts to have a strong impact on organizational outcomes.

Implications for Applied Research and Diversity Management Practice

As we have already noted, despite the growing investments in DEM practices, there has been little systematic effort to see whether the presence of these practices is associated with important markers of diversity practice effectiveness. The SHRM framework we offer in this article provides us with a strong rationale to argue that while firms may adopt these practices to enhance their competitive advantage, they also need to examine which of these practices are more likely to yield optimal results in terms of improving racial diversity in the managerial ranks. Our study suggests that firms may also undertake a cost-benefit analysis to determine which DEM practice is most likely to yield maximum benefits (i.e., ROI) to offset the costs of implementing and running each DEM practice. In evaluating DEM practices, firms

must carefully choose which evaluation criteria are more important from the standpoint of external and internal stakeholders. In sum, our findings complement the SHRM framework that rests on the notion that our diversity practices can be valued within the resource-based view paradigm. Additionally, it appears that certain DEM practices might differ in the impact they have in influencing one racial subgroup compared to others. For example, a company with goals of increasing the representation of African Americans in management might benefit more from implementing minority opportunity-based DEM practices. These same practices might be less effective for increasing the proportion of Asian Americans possibly because of the low participation rates of Asians in such initiatives, as well as the well-known "model minority" perception that these practices are not necessary for such a well-regarded minority group. This perception could explain why manager accountability DEM practices have a substantial impact on Asian American representation in management. It could be that when given a choice on which minority to hire, senior managers have a natural inclination to select Asian Americans because of their "model minority" bias or their actual higher levels of educational attainment, practical experience, and other knowledge, skills, and abilities. A combination of qualitative and quantitative research might shed light on the dynamics that account for why particular DEM practices related to some racial subgroup representations but not others.

Concluding Remarks

In a nutshell, our findings offer evidence that bundles of DEM practices affect firms' racial diversity in managerial ranks in unique ways and vary in strength in small versus large firms. Furthermore, our results add an exclamation point to the notion that minority subgroups with under-representation should be addressed distinctly. Interestingly, DEM practices have a notable impact not only on African American representation in managerial ranks but on the proportion of Asians in management, and more informatively so, as this minority subgroup is seldom included in studies of racial minorities in management. Companies should not use a "one size fits all" approach to their DEM practices and initiatives because each entity is different based on specific internal factors as well as the external environment that impacts them (Chavez & Weisinger, 2008). We conclude that those companies desiring a competitive advantage should develop diversity program effectiveness metrics, distinguish among the various minority subgroups they desire to target, and consider contextual factors that will act as a hindrance or impediment in enabling them to meet their diversity program effectiveness goals.

Notes

1. We considered other potential measures of firm size such as total number of employees (e.g., Welbourne & Cyr, 1999), but we decided not to use this measure due to its high correlation with another size-related measure in the model (i.e., total number of managers as a control) (cf. Haleblian & Finkelstein, 1993). When included in the model, the total number of employees yielded a similar but slightly weaker pattern of moderating relationships compared to the results of total assets that we report here.
2. In analyses not shown here, we conducted supplemental analyses on the specific racial categories by gender and found no significant effects of the two DEM practice bundles on minority group representation in management of women or men.

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