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# A Status-Based Multilevel Model of Ethnic Diversity and Work Unit Performance

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*The present research builds theory regarding the consequences of work unit ethnic diversity by advancing a status-based, multilevel model of when ethnic diversity is likely to constrain work unit performance. In contrast to past work unit diversity research, which has largely ignored the varying degrees of status ascribed to members of different ethnic groups, I propose that ethnic diversity is most likely to constrain work unit cohesion, and in turn work unit performance, in work units composed of two ethnic subgroups that are separated by large differences in status (i.e., ethnic status subgroups; ESS). Furthermore, and consistent with evidence that the consequences of work unit diversity are contingent on the broader social contexts in which work units are embedded, I predict that the presence of ethnic status subgroups in the community exacerbates the detrimental consequences of ethnic status subgroups in work units. Findings from a multisource, field-based data set (N = 743 employees nested within 131 bank branches) support the study hypotheses. Implications for theory and practice are discussed.*

**Keywords:** *ethnicity/race; diversity; status distance; intergroup relations; social identity; social categorization; work groups and teams; performance; cohesion; community contexts*

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The degree of ethnic and racial diversity in organizations is on a steep upward trajectory. As a result, the consequences of increased diversity have generated significant interest among

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scholars and successfully managing ethnic diversity is seen as a strategic imperative in organizations. Yet conflicting narratives regarding the potential effects of diversity on performance have emerged (Mannix & Neale, 2005; Milliken & Martins, 1996; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). On one hand, diversity can be a source of divergent perspectives that improve decision making and facilitate performance. On the other hand, diversity can prevent work unit cohesion and negatively affect performance. A large body of research has addressed these competing possibilities, but does not provide clear answers; meta-analytic reviews indicate that work unit ethnic diversity has either no effect (Joshi & Roh, 2009; van Dijk, van Engen, & van Knippenberg, 2012) or a small negative effect (Bell, Villado, Lukasik, Belau, & Briggs, 2011; Thatcher & Patel, 2011) on performance.<sup>1</sup>

In light of evidence that work unit ethnic diversity does not have a consistent main effect on performance, scholars have shifted away from a focus on *whether* ethnic diversity affects performance to a focus on *when* ethnic diversity affects performance. For example, some researchers have focused on different patterns of diversity by proposing that units composed of two ethnic or cultural subgroups perform worse than heterogeneous units, in which each member has a different ethnicity (Earley & Mosakowski, 2000; Richard, Murthi, & Ismail, 2007). Others have focused on contextual influences by proposing that the diversity–performance relationship is contingent on the broader contexts (e.g., organization, industry, community) in which units are embedded (e.g., Ely & Thomas, 2001; Jackson & Joshi, 2004; Joshi & Roh, 2007, 2009).

In spite of much research, one surprising omission in the quest to understand when work unit ethnic diversity affects performance—and specifically when ethnic diversity negatively affects performance—is attention to the varying degrees of status ascribed to different ethnic groups. It is well documented that ethnicity is a source of status (i.e., respect and prestige), such that some ethnic groups are ascribed higher status than others (Berger, Cohen, & Zelditch, 1972; Blau, 1977; DiTomaso, Post, & Parks-Yancy, 2007; Ridgeway, 1991; Sidanius & Pratto, 1999). Yet the dominant approach in the work unit diversity literature is to treat ethnicity as a series of nominal categories that do not account for status (e.g., Asian = 1, Black = 2, Hispanic = 3, White = 4). As a result, units composed of relatively low and relatively high status ethnic subgroups (e.g., Hispanic and White Americans, respectively), relatively moderate and relatively high status ethnic subgroups (e.g., Asian and White Americans, respectively), and two relatively low status ethnic subgroups (e.g., Black and Hispanic Americans) are all treated as conceptual equivalents. Failure to differentiate these units is inconsistent with evidence that members of different ethnic groups are less likely to form high-quality relationships with one another when the status differential between them is large than when it is small (cf. Allport, 1954; Blau, 1977; Pettigrew, 1998; Phillips, Rothbard, & Dumas, 2009). Indeed, greater attention to ethnicity-based status has been cited as a critical avenue for future workplace diversity research (DiTomaso et al., 2007).

To further integrate status into the work unit ethnic diversity literature, I propose a status-based model that integrates the subgroups perspective on work unit diversity with the literature on status distance. The subgroups perspective suggests that because individuals tend to prefer similar others to dissimilar others, members of work units composed of two ethnic subgroups are likely to lack cohesion (i.e., unlikely to form high-quality relationships with one another), which in turn prevents strong performance (cf. Bezrukova, Jehn, Zanutto, &

Thatcher, 2009; Earley & Mosakowski, 2000; Lau & Murnighan, 1998). Theory and research on status distance—or the status differential between individuals—indicates that as the status distance, and hence the degree of dissimilarity, between members of different ethnic groups increases, the likelihood that they will form high-quality relationships decreases (Blau, 1977; McPherson & Smith-Lovin, 1987; Phillips et al., 2009). Thus, an integration of these literatures suggests that cohesion, and in turn performance, will be lowest in units composed of two ethnic subgroups that are separated by large differences in status—a pattern I label ethnic status subgroups (ESS).

To the extent that work unit members prefer their ethnic ingroup over ethnic outgroups with dissimilar status, work unit ESS is likely to have negative consequences for cohesion and performance. Individuals have a basic tendency to prefer similar others; however, the salience of ethnic differences, and in turn their impact on work unit interactions, varies across settings (cf. Chatman, Polzer, Barsade, & Neale, 1998; Joshi & Roh, 2007; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). As a result, ESS is more likely to have negative effects in some contexts than in others. In particular, evidence is growing that the effects of ethnic diversity in organizations often depend on the ethnic composition of the surrounding community (Avery, McKay, Tonidandel, Volpone, & Morris, 2012; Brief, Umphress, et al., 2005; King et al., 2011). Building a status-based model therefore requires consideration of not only ethnic status differences within work units, but also ethnic status differences in the broader community. Research on community-level intergroup relations suggests that communities characterized by ESS (i.e., two ethnic subgroups separated by large differences in status) tend to be characterized by high levels of prejudice and discrimination (cf. Blalock, 1956; Quillian, 1996; Taylor, 1998). The negative interethnic group relations present in communities characterized by ESS are likely to increase the salience of ethnic status differences in work units embedded in those communities, with the result that work unit ESS is most likely to have detrimental consequences for cohesion and performance when embedded in communities also characterized by ESS.

I test the proposed status-based, multilevel model of ethnic diversity in a sample of bank branches, using data gathered from an employee survey, archival performance records, and the U.S. Census Bureau. Support for the study hypotheses helps advance current understanding in several ways. In contrast to prior research, which tends to treat ethnicity as a set of nominal categories, the present work substantiates that status is a meaningful dimension along which ethnic groups vary and that accounting for ethnicity-based status differences enhances understanding of the effects of ethnic diversity on work unit cohesion and performance. Moreover, evidence that the effects of work unit diversity depend on the pattern of diversity in the surrounding community contributes to a growing body of research that substantiates the role of community ethnic composition in shaping performance outcomes in diverse work units (e.g., Avery et al., 2012; King et al., 2011). Finally, from a practical standpoint, the findings lend insight into strategies for avoiding the potential drawbacks associated with ethnic diversity and thus facilitating strong performance in diverse organizations.

## Theory Development

Extant theory and research indicate that diversity in ethnicity and other demographic characteristics is most likely to have negative consequences in work units composed of two

subgroups of equal size (e.g., Bezrukova et al., 2009; Carton & Cummings, 2013; Cramton & Hinds, 2005; Earley & Mosakowski, 2000; Gibson & Vermeulen, 2003; Lau & Murnighan, 1998, 2005; Polzer, Crisp, Jarvenpaa, & Kim, 2006; Richard et al., 2007; Thatcher & Patel, 2011, 2012).<sup>2</sup> The subgroups perspective is grounded in social identity and self-categorization theories, which posit that individuals use demographic characteristics to categorize one another and prefer similar others to dissimilar others to maintain a positive sense of self (Tajfel & Turner, 1986; Turner et al., 1987). In work units composed of subgroups, preferences for similar others lead members to identify with their subgroup, rather than the unit as a whole, which prevents work unit cohesion—defined as high-quality relationships among work unit members, characterized by interpersonal attraction, liking, trust, and satisfaction (cf. Dobbins & Zaccaro, 1986; Katz & Kahn, 1978; Shaw, 1981). Low cohesion, in turn, negatively affects performance. By comparison, both heterogeneous units, in which members lack a subgroup to identify with, and homogeneous units, in which all members have the same ethnicity, have higher cohesion and performance (e.g., Earley & Mosakowski, 2000; Richard et al., 2007).

An implicit assumption underlying the subgroups perspective is that work units composed of ethnic subgroups experience low cohesion, due to preferences for similar others, regardless of the specific ethnic groups present in the unit. Yet some ethnic groups are likely to be perceived as more similar to one another than others, and work units composed of ethnic subgroups that differ drastically from one another on a given dimension may be less cohesive than work units composed of ethnic subgroups that are more similar to one another. Although ethnic groups may differ from one another along any number of underlying dimensions (e.g., attitudes, values, beliefs, etc.), it is well established that status is a highly salient dimension along which ethnic groups vary (Berger et al., 1972; Magee & Galinsky, 2008; Ridgeway, 1991; Sidanius & Pratto, 1999) and that status differences have a powerful impact on interpersonal interactions (cf. Allport, 1954; Blau, 1977; Pettigrew, 1998; Phillips et al., 2009). Accounting for the extent of ethnic status differences—or ethnic status distance—among work unit members is thus likely to add insight into when work unit ethnic diversity may have negative consequences.

### *Ethnic Status Distance*

Ethnic groups within societies tend to be arranged along a status-based hierarchy, such that some ethnic groups are afforded higher prestige and respect than others (Berger et al., 1972; Magee & Galinsky, 2008; Ridgeway, 1991). Ethnic status is therefore defined as shared perceptions regarding the degree of prestige and respect afforded to members of different ethnic groups within a society. For example, in the United States White Americans are widely perceived as higher in status than Asian Americans, who in turn are perceived as higher in status than Black or Hispanic Americans (Phillips et al., 2009; Sidanius & Pratto, 1999). Building off the concept of ethnic status, ethnic status distance is defined as the status differential between members of different ethnic groups (cf. Blau, 1977; McPherson & Smith-Lovin, 1987; Phillips et al., 2009). For example, the ethnic status distance between an Asian and a White American is smaller than the ethnic status distance between a Black and a White American because White and Asian Americans are closer in status than White and Black Americans are (Phillips et al., 2009).

Ethnic status, and in turn ethnic status distance, exist at the societal level of analysis, but also influence how individuals perceive and interact with one another in small groups. In small group settings individuals “do not create a social organization *de novo*, out of the interaction of their members, but instead maintain external status differences inside the group” (Berger, Rosenholtz, & Zelditch, 1980: 479). Thus, members of ethnic groups with low (high) status in the society tend to be perceived as low (high) status by others in work units and other small groups (Berger et al., 1980; Riches & Foddy, 1989; Ridgeway, 1982; Webster & Driskell, 1978). As a result, the status distance between two ethnic groups in the society has the potential to shape interpersonal relationships and interactions between individual members of those two groups.

In particular, theory and research indicate that status distance prevents high-quality relationships (cf. Allport, 1954; Blau, 1977; McPherson & Smith-Lovin, 1987; Phillips et al., 2009). Blau (1977) introduced the concept of status distance and theorized that individuals with similar status tend to have similar experiences and attitudes. Due to preferences for similar others, individuals with similar status are likely to form high-quality relationships, whereas the reverse is true of individuals with dissimilar status. Based on this logic, Blau proposed that as the status distance between individuals increases, the likelihood that they will form a high-quality relationship decreases, due to the greater dissimilarity between them. Blau’s proposition is grounded in the idea that preferences for similar others prevent high-quality relationships among dissimilar individuals and thus mirrors the tenets of other theoretical perspectives, including social identity and self-categorization (e.g., Tajfel & Turner, 1986; Turner et al., 1987), similarity attraction (e.g., Byrne, 1971), and homophily (e.g., Lazarsfeld & Merton, 1954). At the same time, Blau’s theory differs from related theoretical perspectives by (a) proposing that because status is a powerful driver of social interactions the effects of dissimilarity are particularly strong for traits that convey status and (b) focusing more explicitly on dissimilarity along a continuum (i.e., distance).

Consistent with Blau’s (1977) theory, evidence in a variety of literature documents that the greater the distance between two individuals on status-based characteristics (e.g., age, education, social class), the less likely they are to form a high-quality relationship, for example by becoming friends or discussing important topics (e.g., Feld, 1982; Lincoln & Miller, 1979; Marsden, 1987; McPherson & Smith-Lovin, 1987). Research similarly supports that ethnic dissimilarity prevents high-quality relationships (e.g., Dumas, Phillips, & Rothbard, 2013; Ibarra, 1995; Lincoln & Miller, 1979; Marsden, 1987; Thomas, 1990), although ethnicity tends to be treated as a categorical construct that does not capture status distance. Nevertheless, evidence that the likelihood of high-quality relationships among different ethnic groups decreases with status distance comes from a related literature on social distance; research indicates that the desire to interact with members of ethnic outgroups decreases with the distance between the outgroup and one’s own group on the ethnic hierarchy (Bogardus, 1925; Hraba, Hagendoorn, & Hagendoorn, 1989). Thus, in all, theory and research support that as the status distance between two individuals increases, the likelihood that they will form a high-quality relationship decreases.

### *Integrating the Subgroups Perspective and Ethnic Status Distance*

The subgroups perspective suggests that preferences for similar others prevent cohesion (i.e., high-quality relationships characterized by attraction, liking, trust, and satisfaction) in

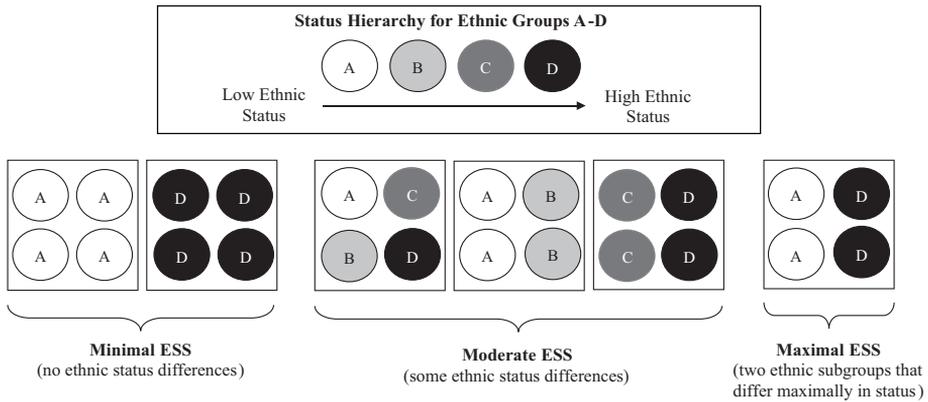
units composed of ethnic subgroups (cf. Earley & Mosakowski, 2000; Lau & Murnighan, 1998). Sociological research on status distance is also grounded in the idea that preferences for similar others prevent high-quality relationships; however, whereas the subgroups perspective focuses on categorical ethnic dissimilarity, the status distance literature indicates that perceived similarity, and thus the likelihood of high-quality relationships, decreases with status distance (Blau, 1977; McPherson & Smith-Lovin, 1987; Phillips et al., 2009). Thus, an integration of the literatures on subgroups and status distance suggests that work units will be least cohesive if composed of two ethnic subgroups separated by large differences in status—a pattern I label ethnic status subgroups (ESS).

Specifically, in units characterized by maximal ESS, which are composed of two ethnic subgroups that differ maximally in status (e.g., two Hispanic and two White Americans), preferences for similar others lead members to identify with their ethnic subgroup, not the unit as a whole. Members may form high-quality relationships within their subgroups, but cohesion is likely to be low at the work unit level because high-quality cross-subgroup relationships are unlikely (cf. Cronin, Bezrukova, Weingart, & Tinsley, 2011; Thatcher & Patel, 2011). By comparison, cohesion is likely to be higher in units in which there are some ethnic status differences, but ESS is not maximized (i.e., moderate ESS). For example, compared to maximal ESS units, units composed of either moderate and high status subgroups (e.g., two Asian and two White Americans) or two low status subgroups (e.g., two Black and two Hispanic Americans) will be more cohesive because the status distance, and hence the degree of dissimilarity between subgroups, is smaller. Similarly, heterogeneous units (e.g., an Asian, a Black, a Hispanic, and a White American) are likely to be more cohesive than maximal ESS units because members lack a subgroup to identify with. Finally, homogeneous units (e.g., four Black Americans), which are characterized by minimal ESS, are likely to be highly cohesive due to a lack of ethnic status differences. It follows that work unit ESS is likely to negatively affect cohesion, such that work units composed of two ethnic subgroups separated by large differences in status are least cohesive and homogeneous work units are most cohesive (see Figure 1 for an illustration of the ESS construct).

Notably, ESS is likely to prevent cohesion because ethnicity is an illegitimate (or ascribed) source of status. Specifically, status based on ethnicity and other social categories (e.g., gender, age) stems from group-level stereotypes and is not a valid reflection of the traits and abilities of individual group members (Bettencourt, Dorr, Charlton, & Hume, 2001; Gould, 2002; Sidanius & Pratto, 1999). Thus, differences in ethnicity and other illegitimate status sources are likely to have a dysfunctional impact on work unit interactions (cf. Bezrukova, et al., 2009; Bunderson, 2003). By comparison, legitimate (or achieved) status sources (e.g., education, position) reflect individuals' ability to contribute to work tasks and may thus have a functional impact on work unit interactions, for example by prompting work unit members to show appropriate deference to high status others (cf. Bezrukova et al., 2009; Bunderson, 2003; van Dijk & van Engen, 2013). Indeed, evidence indicates that distance based on illegitimate, as compared to legitimate, sources of status is a stronger impediment to high-quality relationships (Lincoln & Miller, 1979; Marsden, 1987; McPherson, Smith-Lovin, & Cook, 2001).

In summary, an integration of the subgroups perspective with the status distance literature suggests that work unit ESS will negatively affect cohesion, due to preferences for similar others. A key assumption underlying this proposition is that work unit members view ethnic

**Figure 1**  
**Example Work Units Illustrating the Ethnic Status Subgroups (ESS) Construct**



status differences as salient and meaningful; however, the salience of ethnic differences varies substantially across contexts (e.g., Turner et al., 1987). As a result, the effects of ethnic differences in organizations are often contingent upon elements of the broader context, including the ethnic composition of the surrounding community (e.g., Brief, Butz, & Deitch, 2005; Brief, Umphress, et al., 2005; Chatman et al., 1998; Jehn & Bezrukova, 2010; Joshi & Roh, 2007, 2009). It follows that the relationship between work unit ESS and cohesion is likely to vary with the ethnic composition of the community in which work units are embedded.

### *Community Ethnic Composition*

Research on community-level intergroup relations suggests that communities composed of two ethnic groups separated by large differences in status (i.e., community ESS; e.g., 50% White and 50% Black Americans) tend to be characterized by significant prejudice and discrimination between members of different ethnic groups (e.g., Blalock, 1956). I propose that the negative interethnic group relations that characterize high ESS communities increase the salience of ethnic status differences in work units, with the result that work unit ESS is more likely to negatively affect cohesion when community ESS is high than when it is low.

More specifically, theories of resource competition dictate that ethnic groups residing in the same community tend to perceive one another as competition for scarce resources, which leads to negative intergroup relations in the community, as evidenced by high levels of prejudice and discrimination (e.g., Blalock, 1956; Brief, Butz, et al., 2005; Brief, Umphress, et al., 2005; Nagel, 1995; Quillian, 1996; Sherif, 1958; Taylor, 1998). Moreover, the quality of intergroup relations decreases with the status distance between ethnic groups. For example, prejudice among members of different ethnic groups tends to be most prevalent in communities composed of one low status ethnic subgroup and one high status ethnic subgroup (i.e., 50% Black and 50% White Americans; Blalock, 1956; Taylor, 1998). Similarly, members of

different ethnic groups in the same community are less likely to bridge their differences, for example by intermarrying, when the status distance between ethnic groups is large than when it is small (Blau, 1977; Blau, Blum, & Schwartz, 1982; Kennedy, 1944). Thus, similar to the proposition that work unit ESS prevents high-quality relationships among work unit members, theory and research indicate that community ESS prevents high-quality relationships among community members.

Due to the presence of negative interethnic group relations in high ESS communities, work unit ESS is particularly likely to prevent cohesion in these contexts (cf. Joshi & Roh, 2007). Scholars have long noted that organizations are open systems (e.g., Katz & Kahn, 1978) and the quality of interethnic group relations in the community can therefore affect how individuals respond to ethnic differences in organizations (cf. Brief, Butz, et al., 2005; Brief, Umphress, et al., 2005; Pugh, Dietz, Brief, & Wiley, 2008; Ragins, Gonzalez, Ehrhardt, & Singh, 2012). In particular, the negative intergroup relations that characterize high ESS communities are likely to signal that ethnic status differences are salient and meaningful and increase the likelihood that ethnic differences will influence work unit interactions. Thus, if a high ESS work unit is embedded in a high ESS community, work unit members are particularly likely to prefer their ethnic ingroup over ethnic outgroups with dissimilar status and the work unit is likely to lack cohesion. Consistent with this notion, evidence indicates that community ethnic diversity and the associated negative interethnic group relations increase preferences for similar others in organizations; individuals are less attracted to diverse organizations and report lower quality relationships with dissimilar coworkers when community-level ethnic diversity and interethnic group tensions are high than when they are low (Brief, Umphress, et al., 2005).

As compared to high ESS communities, negative intergroup relations are less problematic in moderate ESS (i.e., heterogeneous) and low ESS (i.e., homogeneous) communities (cf. Blalock, 1956; Taylor, 1998). As a result, ethnic status differences are less likely to be salient and work unit ESS is less likely to influence work unit interactions. It follows that work unit ESS is more likely to prevent cohesion when community ESS is high than when it is low.

*Hypothesis 1:* Work unit ESS is more likely to be negatively related to work unit cohesion in high ESS communities than in low ESS communities.

The theory underlying Hypothesis 1 suggests that the salience of ethnic status differences, and in turn the effect of work unit ESS on cohesion, varies across contexts. At the same time, ethnic status is a shared, societal level construct and perceptions of ethnic status in a society are relatively stable across contexts (cf. Ridgeway, 1991; Sidanius & Pratto, 1999). Thus, although perceptions of ethnic status are unlikely to vary substantially across communities, the presence of ethnic status differences in a work unit (i.e., ESS) is more likely to affect cohesion in some communities (i.e., high ESS communities) than in others (i.e., low ESS communities).

### *Work Unit Performance*

To the extent that work unit and community ESS have a direct negative effect on cohesion, they are also likely to have an indirect negative effect on performance, through cohesion. Low cohesion prevents work unit members from working together effectively to achieve

strong performance. Not surprisingly, meta-analytic evidence documents a strong positive relationship between cohesion and performance (Beal, Cohen, Burke, & McLendon, 2003). Moreover, prior work demonstrates that decreased cohesion and social integration are key mechanisms through which work unit diversity can negatively affect performance (cf. Harrison, Price, Gavin, & Florey, 2002; Thatcher & Patel, 2011; Webber & Donahue, 2001; Williams & O'Reilly, 1998). It follows that the proposed work unit by community ESS interaction will be related to performance, and that this effect will be mediated by cohesion.

*Hypothesis 2:* Work unit ESS is more likely to be negatively related to work unit performance in high ESS communities than in low ESS communities.

*Hypothesis 3:* Work unit cohesion will mediate the effect of the work unit by community ESS interaction on work unit performance.

## Method

I tested Hypotheses 1 to 3 in a sample of commercial bank branches. The employees in the sample worked in the retail division of the bank and were responsible for delivering banking and other financial services to individuals and small businesses in the local area. The employees worked as either tellers, who assisted customers with basic account transactions (e.g., deposits, withdrawals, etc.) or relationship bankers, who assisted customers with additional services (e.g., opening a new account, assisting with loans, etc.). Employees in both positions worked together toward the common goal of increasing customer loyalty and bank performance. For example, tellers are the first point of contact for customers entering the branch and then direct customers to the appropriate relationship banker, depending on the type of transaction requested by the customer. When assisting customers, tellers also suggest additional services provided by relationship bankers. Due to the interdependence among the bank employees, the bank defines branches as teams and lists teamwork as a core competency for all branch employees (cf. Ely, Padavic, & Thomas, 2012; Man & Lam, 2003; Schaubroeck, Lam, & Cha, 2007).

### *Sample and Procedures*

Surveys were mailed to the bank employees in early 2005. Employees were told that the survey's purpose was to better understand employees' perspectives on how to improve the workplace. Employees completed the survey during work hours and used prepaid envelopes to return the surveys. All participants were entered in a lottery with a chance of winning one of five \$60 prizes. The survey contained measures of ethnicity and work unit cohesion. I supplemented the survey data with financial performance data from the bank's records and community ethnic composition data from the U.S. Census Bureau.

A total of 862 bank employees completed the survey (response rate: 59% overall, 62% within units). I limited the sample to work units in which three or more employees provided data. The resulting sample included 743 employees nested within 131 units. Most employees worked full-time (75%), and the average tenure was 3.37 years ( $SD = 5.09$ ). The majority of employees were tellers (62%), as opposed to relationship bankers, and female (79%). Approximately half of the employees were White (51%), 17% were Asian, 10% were Black, 7% were Hispanic, 11% reported other ethnicities, and 3% did not report ethnicity. In terms

of age, 18% of participants were 22 or younger, 27% were 23 to 29, 19% were 30 to 39, and 37% were 40 or older.

### Measures

*Ethnic status.* To construct a measure of work unit ESS, it was first necessary to develop a measure of ethnic status (i.e., the degree of status ascribed to different ethnic groups). The methodology used to develop the ethnic status scores is fully described in the online appendix (<http://jom.sagepub.com/supplemental>) and also summarized below.

Ethnic status is a societal-level construct, in that members of a given society largely agree on the status of different ethnic groups (Magee & Galinsky, 2008; Sidanius & Pratto, 1999). Moreover, the ethnic status hierarchy that emerges in small groups tends to match the ethnic status hierarchy in the broader society (Berger et al., 1980; Webster & Driskell, 1978). I therefore assessed the status of American ethnic groups in general in a separate sample and used the resulting ethnic status scores to calculate work unit ESS. In addition to being consistent with theory on the form and function of ethnic status, this approach has two other advantages. First, use of a separate sample provides construct separation between ethnic status and other sources of status. By comparison, asking bank employees to report on the status of ethnic groups in their unit would allow ethnic status to be contaminated by other status-based characteristics (e.g., gender, education) that happen to covary with ethnicity in a given unit. Second, bank employees may be unwilling to report that certain ethnic groups have low status in their unit due to social desirability concerns (cf. Bunderson, 2003); framing questions in terms of the status of ethnic groups in general mitigates this concern.

I used Thurstone (1927) scaling, specifically the method of paired comparisons, to develop the ethnic status scores. Thurstone scaling is based on the premise that the best estimate of the distance between two objectives (ethnic groups) on an underlying continuum (status) is the typical response when respondents are asked to compare the two objects on the underlying continuum (e.g., "Which group has higher status: X or Y?"). Although less common, Thurstone scales have a number of advantages over Likert-type scales (e.g., "How much status does group X have?" 1 = *a little*, 7 = *a lot*). Specifically, it is easier to make comparative than absolute judgments and paired comparisons therefore yield more reliable data (Nunnally & Bernstein, 1994). Moreover, paired comparisons require a forced choice and are thus less vulnerable to response biases (e.g., central tendency, social desirability) than absolute judgments are (Jackson, Wroblewski, & Ashton, 2000; Nunnally & Bernstein, 1994). Finally, Thurstone scales have interval-level properties and are therefore useful for accurately capturing the status differences (i.e., status distance) between ethnic groups.

To develop the ethnic status scores, I asked 520 American working adults, who were diverse in terms of their ethnicity, gender, age, socioeconomic status, and geographic location, to compare the status of four American ethnic groups. I theorized that individuals use observable differences in ethnicity to make status judgments about others and thus used relatively large, easily observable ethnic categories (i.e., Asian, Black, Hispanic, White). Participants made all pairwise comparisons among the four ethnic groups on three status items: status, prestige, and respect (e.g., "Which ethnic group has higher *status* in American society: Asian or Black Americans?"). Transforming the paired comparisons into Thurstone scores involved four steps (Dunn-Rankin, Knezek, Wallace, & Zhang, 2004; Nunnally & Bernstein, 1994). First, I calculated the percentage of participants who selected group X over

group Y for all pairs of ethnic groups. Second, I standardized the percentages by converting them to normal deviates (i.e.,  $z$  scores). Third, I calculated the average  $z$  score for each group, which represents the average distance of a given ethnic group from all other ethnic groups. Fourth, I subtracted the lowest average  $z$  score from each group's average  $z$  score to anchor the scale at zero and ease interpretation. I created a separate Thurstone scale for each of the status items (status, prestige, respect) and then averaged the three sets of Thurstone scale scores ( $\alpha = 1.00$ ).

The resulting status scores revealed that White Americans are perceived as the highest status American ethnic group (1.77), followed by Asian (0.67), Black (0.22), and Hispanic (0.00) Americans. Notably, Thurstone scales have interval-level properties, but not ratio-level properties. Thus, the scores indicate that the status distance between Black and Hispanic Americans ( $0.22 - 0.00 = .22$ ) is smaller than the distance between Black and Asian Americans ( $0.67 - 0.22 = 0.45$ ), for example, although the zero point on the scale is arbitrary.

To provide evidence of the reliability of the status scores across time and contexts, I correlated the scores described above with a second set of scores I developed in a sample of undergraduates from an east coast university using the same methodology ( $r = .98, p < .05$ ) and with a set of scores developed by different researchers in a sample of California undergraduates in 1989 using Likert-type items ( $r = .98, p < .05$ ; Sidanius & Pratto, 1999). The near-perfect correlations among the status scores developed at different times and using different samples are consistent with the notion that ethnic status tends to be stable across time and is shared by members of a given society. This conclusion is further supported by additional analyses indicating that Americans largely agree on the status ascribed to different ethnic groups, regardless of their ethnicity, gender, age, socioeconomic status, and geographic location.

Socioeconomic success is a key correlate of status (cf. Gould, 2002; Keltner, Gruenfeld, & Anderson, 2003) and I therefore validated the ethnic status scores by correlating them with indicators of each group's socioeconomic success (employment rate:  $r = .62$ ; percentage with at least a high school degree:  $r = .77$ ; percentage at or above the poverty line:  $.83$ ; all  $ps < .05$ ), which were gathered from the *American Community Survey*, which is conducted by the U.S. Census Bureau (2006). The correlations between the status scores and the socioeconomic success indicators were large, but not as large as the correlations among the measures of ethnic status developed in different samples, which provides evidence in support of the validity of the ethnic status scores.

*Work unit ESS.* I used the ethnic status scores to construct the work unit ESS measure. The bank employees completed a survey-based ethnicity measure (Asian, Black, Latino, White, other), which I used to assign an ethnic status score to each employee (e.g., White employees received a status score of 1.77, Asian employees received a status score of 0.67, etc.). Status scores for individuals who reported their ethnicity as "other" were treated as missing data.

To calculate ESS I computed the population standard deviation in ethnic status for each work unit. When operationalizing diversity constructs, it is critical to ensure that the index used is consistent with theory regarding when diversity is maximized versus minimized (Harrison & Klein, 2007). Conceptually, ESS is maximized in units composed of two ethnic subgroups on opposite ends of the status hierarchy and minimized in homogeneous units (see

Figure 1). The standard deviation is therefore an appropriate metric for assessing ESS because it is maximized in the case of two subgroups on opposite ends of the dimension of interest and minimized in the case of homogeneity (Harrison & Klein, 2007). Example work unit ESS scores verify that the operationalization and conceptual definition of ESS were aligned. The work unit with the highest ESS score in the sample consisted of roughly equal numbers of the highest and lowest status ethnic groups (i.e., three White and two Hispanic Americans;  $ESS = .87$ ). This unit was higher on ESS than a unit with three White and two Asian Americans ( $ESS = .54$ ) because White and Asian Americans are closer in status than White and Hispanic Americans are. The work unit consisting of three White and two Hispanic Americans was also higher on ESS than more heterogeneous units, including a unit with one Black, two Asian, and two Hispanic Americans ( $ESS = .30$ ). Finally, homogeneous units had ESS scores of zero, regardless of the ethnic group present in the unit (e.g., five Black or five White Americans).

Notably, diversity in status-based characteristics is often maximized when one unit member has high status and the remaining members have low status (i.e., diversity as disparity) and should thus be operationalized using the coefficient of variation or the Gini coefficient (Harrison & Klein, 2007). Such operationalizations, however, are inconsistent with the prediction that work unit cohesion and performance are lowest in units composed of subgroups that differ maximally in status. I therefore operationalized ESS using the standard deviation, but also explored alternative operationalizations (see the Results section).

*Community ESS.* To assess community ESS, I gathered data from the U.S. Census Bureau (2000). I used 2000 data because the other study variables were gathered in 2005. Consistent with past research (e.g., Brief, Umphress, et al., 2005; Sacco & Schmitt, 2005), I linked work units to communities via zip codes. Specifically, I collected census data on the number of Asian, Black, Hispanic, and White individuals in each zip code. The census does not treat race (Asian, Black, White) and the Hispanic ethnicity as mutually exclusive categories. I therefore included all individuals who reported ethnicity as Hispanic in the Hispanic category, regardless of race. The remaining categories included individuals who reported race as Asian, Black, or White and also reported ethnicity as not Hispanic. I calculated community ESS (i.e., the *SD* in ethnic status for each community) with the same method I used to calculate work unit ESS.

*Cohesion.* The survey contained an eight-item cohesion scale (adapted from Dobbins & Zaccaro, 1986;  $\alpha = .88$ ; e.g., “The members of my branch get along well together;” response scale: 1 = *strongly disagree* to 7 = *strongly agree*). Aggregation indices supported aggregating the cohesion scale to the work unit level; the average  $r_{wg(j)}$  indicated adequate within-unit agreement ( $M = .75$ ,  $Mdn = .89$ ) and an analysis of variance revealed significant between-unit differences,  $F = 2.42$ ,  $p < .01$ , intraclass correlation (ICC)1 = .20, ICC2 = .58.<sup>3</sup>

*Performance.* I gathered performance data from the bank’s archival records. The sample comprised front-line employees in a service organization and the ability to provide high-quality customer service was a key competency for all employees in the sample. I therefore used customer service ratings, specifically mystery shop scores, to assess performance. The mystery shop scores were provided by external consultants who visited the work units,

pretended to be customers, and rated the quality of the service they received on a scale that ranged from 0% to 100%. I hypothesized that cohesion, which was gathered in the employee survey, causes performance and therefore gathered each unit's average mystery shop score for the 6 months that followed the survey administration. Some branch managers did not respond to the request for performance data and performance scores were therefore available for 56 of the 131 units.

*Controls.* I controlled for factors that may affect work unit cohesion, including size (number of employees) and mean tenure (in years). I also tested whether the effects of ESS operate independently of diversity in other characteristics that are sources of either illegitimate (i.e., gender, age) or legitimate (i.e., tenure, education, part-time work status, position) status by controlling for diversity in gender (percentage female), age (*SD*; response scale: 1 = 22 or younger to 4 = 40 or older), tenure (*SD*), education (*SD*; response scale: 1 = less than primary to 6 = graduate degree), work status (percentage part-time), and position (percentage teller). I also controlled for community size (residents per zip code) and the percentage of community members who work and live in different communities because community contexts may have a stronger effect if individuals work and live in the same community. The census does not provide data on individuals who work and live in different zip codes, so I used the percentage of individuals who work and live in different counties as a proxy. Finally, I controlled for work unit and community mean ethnic status to separate the effects of ESS (*SD* in ethnic status) from average ethnic status (cf. Harrison & Klein, 2007).

### *Analyses*

I used hierarchical regression to test Hypotheses 1 to 3. Work unit and community ESS were centered in the analyses to reduce multicollinearity and facilitate coefficient interpretation (Aiken & West, 1991). The 131 work units were partially nested within 101 communities. Nested data violate the independence assumption associated with ordinary least squares regression, which can lead to biased standard errors and in turn biased tests of statistical significance (Bliese & Hanges, 2004). I therefore used maximum likelihood estimation with robust clustered standard errors (Wooldridge, 2002). This approach releases the assumption of independence by allowing nonzero correlations among the error terms for work units in the same community and thus prevents biased results.<sup>4</sup>

## **Results**

Table 1 includes the correlations among the study variables and Tables 2 and 3 include the regression results. Work unit ESS did not have a main effect on either cohesion ( $b = -0.21$ , *ns*; see Table 2, Model 2) or performance ( $b = -3.81$ , *ns*; see Table 3, Model 2). The nonsignificant main effects are consistent with prior research, which indicates that the effects of work unit diversity are often context-dependent (e.g., Joshi & Roh, 2009).

### *Hypothesis Testing*

Hypotheses 1 and 2 state that work unit ESS is more likely to be negatively related to cohesion and performance, respectively, in high ESS communities than in low ESS (i.e.,

**Table 1**  
**Means, Standard Deviations, and Correlations Among the Study Variables**

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Work unit size	—															
2. Work unit tenure	.10	—														
3. Work unit % female	-.02	.22**	—													
4. Work unit <i>SD</i> in age	.17	-.18*	.04	—												
5. Work unit % teller	-.14	-.14	.12	.19*	—											
6. Work unit % part-time	.03	-.22**	.03	.18*	.37**	—										
7. Work unit <i>SD</i> in education	.10	.00	.13	.17	-.05	.07	—									
8. Work unit <i>SD</i> in tenure	.15	.86**	.13	-.07	-.26**	-.24**	.14	—								
9. Community size (in thousands)	.31**	-.08	-.07	.10	-.02	.16	.12	.00	—							
10. Community % work outside county	.14	-.11	-.02	.03	.04	-.09	-.03	-.13	.20*	—						
11. Work unit ethnic status mean	.01	.36**	.30**	-.13	-.11	-.14	-.03	.31**	-.19*	-.20*	—					
12. Community ethnic status mean	-.15	.26**	.19*	-.16	.01	-.07	-.06	.20	-.45**	-.27**	.61**	—				
13. Work unit ethnic status subgroups	.19*	-.27**	-.28**	.28**	.00	.17	.08	-.13	.23**	.22**	-.27**	-.28**	—			
14. Community ethnic status subgroups	.24**	-.34**	-.30**	.21**	-.03	.06	.14	-.24**	.50**	.32**	-.57**	-.82**	.45**	—		
15. Work unit cohesion	-.20*	-.01	-.12	-.14	-.09	.04	.09	.06	.03	-.09	-.06	.00	-.07	-.04	(.88)	
16. Work unit performance	.04	-.16	-.32*	.04	-.08	-.04	-.08	-.06	-.08	.06	.06	.04	.01	-.04	.37	—
<i>M</i>	9.81	2.97	0.79	0.95	0.64	0.25	0.74	2.98	25.00	0.49	1.16	1.41	0.34	0.57	5.42	79.91
<i>SD</i>	3.81	2.57	0.19	0.29	0.19	0.19	0.30	2.62	14.21	0.17	0.53	0.26	0.31	0.18	0.72	11.75

Note: Values below the diagonal are correlations and values on the diagonal in parentheses are interitem reliabilities ( $\alpha$ ).  $N = 131$  for all variables, except work unit performance ( $N = 56$ ).

\* $p < .05$ .

\*\* $p < .01$ .

**Table 2**  
**The Effects of Work Unit and Community Ethnic Status Subgroups (ESS) on Cohesion**

Variable	Model 1		Model 2		Model 3	
Step 1						
Work unit size	-0.04	(0.01)	-0.04	(0.01)**	-0.04	(0.01)**
Work unit tenure	0.00	(0.01)	-0.01	(0.01)	-0.01	(0.01)
Work unit gender diversity (% female)	-0.39	(0.34)	-0.54	(0.37)	-0.55	(0.37)
Work unit age diversity ( <i>SD</i> )	-0.34	(0.28)	-0.29	(0.27)	-0.26	(0.26)
Work unit position diversity (% teller)	-0.27	(0.34)	-0.29	(0.34)	-0.32	(0.34)
Work unit work status diversity (% part-time)	0.34	(0.39)	0.37	(0.40)	0.44	(0.37)
Work unit education diversity ( <i>SD</i> )	0.24	(0.20)	0.27	(0.20)	0.22	(0.20)
Work unit tenure diversity ( <i>SD</i> )	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)
Community size (in thousands)	0.00	(0.01)	0.01	(0.01)	0.01	(0.00)
Community % work outside county	-0.22	(0.36)	-0.10	(0.37)	-0.09	(0.35)
Work unit ethnic status mean	-0.08	(0.14)	-0.10	(0.14)	-0.01	(0.15)
Community ethnic status mean	0.09	(0.31)	-0.15	(0.36)	-0.52	(0.30)
Step 2						
Work unit ESS			-0.21	(0.24)	-0.08	(0.24)
Community ESS			-0.55	(0.68)	-1.32	(0.63)*
Step 3						
Work unit ESS × community ESS					-3.06	(1.24)*
$R^2$	.13*		.14*		.17**	
$\Delta R^2_{\text{previous model}}$	—		.01		.03*	

Note: Unstandardized regression coefficients ( $b$ ) are reported, with standard errors in parentheses.  $N = 131$ .

\* $p < .05$ .

\*\* $p < .01$ .

homogeneous) communities. The work unit by community ESS interaction was related to both cohesion ( $b = -3.06$ ,  $\Delta R^2 = .03$ ,  $p < .05$ ; see Table 2, Model 3) and performance ( $b = -122.21$ ,  $\Delta R^2 = .06$ ,  $p < .05$ ; see Table 3, Model 3). I tested the simple slopes for the effect of work unit ESS at one standard deviation above and below the mean of community ESS (Aiken & West, 1991). Work unit ESS was negatively related to cohesion in high ESS communities ( $b = -0.63$ ,  $p < .05$ ), but unrelated to cohesion in low ESS communities ( $b = 0.47$ ,  $ns$ ; see Figure 2a). Work unit ESS was also negatively related to performance in high ESS communities ( $b = -21.33$ ,  $p < .05$ ), but unrelated to performance in low ESS communities ( $b = 9.39$ ,  $ns$ ; see Figure 2b). These results support Hypotheses 1 and 2.

Hypothesis 3 states that cohesion will mediate the effect of the work unit by community ESS interaction on performance. To test for mediated moderation, I calculated the indirect effect of work unit ESS on performance, through cohesion, when community ESS was high and low, and used 95% bias-corrected confidence intervals ( $CI_{95}$ ) to test for significance (Edwards & Lambert, 2007). Specifically, I first regressed performance on cohesion, controlling for the work unit by community ESS interaction (see Table 3, Model 4). Cohesion was positively related to performance ( $b = 6.90$ ,  $p < .05$ ) and the work unit by community ESS interaction was no longer significant ( $b = -66.45$ ,  $ns$ ), which provides initial support for mediation. To calculate the indirect effect of work unit ESS on performance when

**Table 3**  
**The Effects of Work Unit and Community Ethnic Status Subgroups (ESS) on Performance**

Variable	Model 1		Model 2		Model 3		Model 4	
Step 1								
Work unit size	0.38	(0.54)	0.38	(0.55)	0.35	(0.58)	0.90	(0.50)
Work unit tenure	-0.30	(0.13)*	-0.31	(0.12)*	-0.28	(0.13)*	-0.23	(0.11)*
Work unit gender diversity (% female)	-23.18	(7.24)**	-24.33	(6.94)**	-24.08	(6.95)**	-16.60	(8.98)
Work unit age diversity ( <i>SD</i> )	2.31	(4.85)	2.44	(4.88)	3.13	(4.86)	3.58	(4.13)
Work unit position diversity (% teller)	-2.96	(7.93)	-3.72	(7.94)	-4.88	(8.16)	-5.58	(6.89)
Work unit work status diversity (% part-time)	-6.73	(9.65)	-5.51	(9.72)	-0.63	(9.31)	-6.02	(8.60)
Work unit education diversity ( <i>SD</i> )	-0.11	(5.01)	-0.36	(4.96)	1.87	(5.09)	0.56	(4.72)
Work unit tenure diversity ( <i>SD</i> )	0.12	(0.10)	0.13	(0.10)	0.09	(0.11)	-0.02	(0.09)
Community size (in thousands)	-0.14	(0.17)	-0.11	(0.20)	-0.03	(0.19)	-0.16	(0.15)
Community % work outside county	6.34	(15.39)	5.03	(14.67)	8.13	(11.77)	5.80	(10.92)
Work unit ethnic status mean	4.41	(3.28)	4.72	(3.19)	7.01	(3.46)*	5.91	(3.57)
Community ethnic status mean	4.23	(7.38)	1.04	(14.24)	-27.67	(18.25)	-19.52	(16.11)
Step 2								
Work unit ESS			-3.81	(4.92)	-5.97	(4.33)	-3.83	(0.42)
Community ESS			-4.20	(28.16)	-59.57	(36.99)	-33.16	(36.18)
Step 3								
Work unit ESS × community ESS					-122.21	(62.25)*	-66.45	(68.48)
Work unit cohesion							6.90	(2.70)*
<i>R</i> <sup>2</sup>	.21*		.22*		.28*		.39**	
$\Delta R^2_{\text{previous model}}$	—		.01		.06*		.11*	

Note: Unstandardized regression coefficients (*b*) are reported, with standard errors in parentheses. *N* = 56.

\**p* < .05.

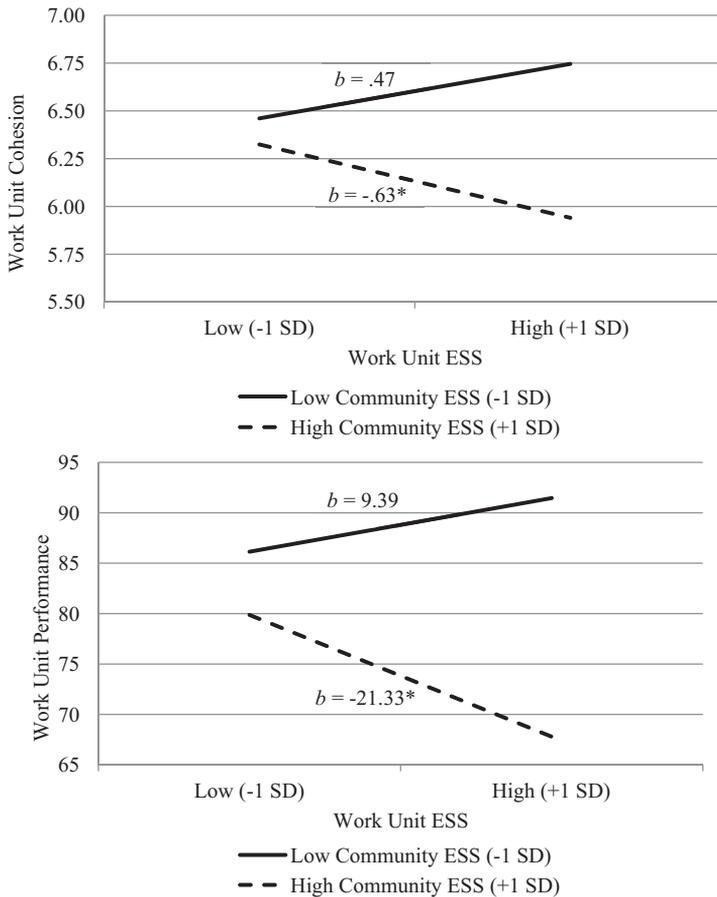
\*\**p* < .01.

community ESS was high, I multiplied the coefficient for the simple effect of work unit ESS on cohesion when community ESS was high ( $b = -0.63$ ) by the coefficient for the effect of cohesion on performance ( $b = 6.90$ ). The resulting indirect effect was significant and negative ( $b = -4.35$ ,  $CI_{95} = -13.45$  to  $-0.70$ ). To calculate the indirect effect when community ESS was low, I multiplied the simple effect of work unit ESS on cohesion when community ESS was low ( $b = 0.47$ ) by the effect of cohesion on performance ( $b = 6.90$ ). The resulting indirect effect was not significant ( $b = 3.24$ ,  $CI_{95} = -1.33$  to  $13.07$ ). Thus, in support of Hypothesis 3, the results indicate that work unit ESS had an indirect negative effect on performance, through cohesion, when community ESS was high, but not low.

### Alternative Ethnic Diversity Measures

The present research departs from past work by accounting for ethnic status, instead of treating ethnicity as a set of nominal categories. I therefore compared the results using the ESS measures to the results using categorical ethnicity measures that do not account for status. Specifically, I calculated the squared term for Blau's (1977) heterogeneity index to capture work unit ( $r_{\text{with ESS}} = .65$ ,  $p < .01$ ) and community ( $r_{\text{with ESS}} = .88$ ,  $p < .01$ ) diversity. Blau's index is minimized in homogeneous units, moderate in units composed of subgroups, and

**Figure 2**  
**Interaction of Work Unit and Community Ethnic Status Subgroups (ESS)**



\* $p < .05$ .

\*\* $p < .01$ .

maximized in heterogeneous units. Thus, when Blau's index is controlled, Blau-squared captures a curvilinear effect, and provides a test of whether diversity is more detrimental at moderate levels (i.e., ethnic subgroups) than at high (i.e., heterogeneity) or low (i.e., homogeneity) levels. Thus, like ESS, Blau-squared provides a test of whether outcomes are worst in units composed of ethnic subgroups. Unlike ESS, Blau-squared does not account for ethnic status. Work unit Blau-squared was unrelated to cohesion ( $b = 0.48$ , *ns*) and performance ( $b = 36.15$ , *ns*) and did not interact with community Blau-squared (cohesion:  $b = -48.24$ ; performance:  $b = 1,767.33$ ; both *ns*). The significant results for ESS, coupled with the non-significant results for Blau-squared, suggest that accounting for ethnic status advances

understanding of the effects of ethnic diversity. (The results were also nonsignificant when Blau's index was used instead of Blau-squared.)

An integration of the subgroups perspective with the literature on status distance suggests that cohesion and performance will be lowest in work units composed of ethnic subgroups that differ maximally in status (i.e., ESS). Yet diversity in status-based characteristics often constitutes diversity as disparity, which is instead maximized when one member has high status and the remaining members have low status (Harrison & Klein, 2007). As compared to units characterized by ESS, units characterized by maximal disparity are likely to be more cohesive because the majority of unit members have the same ethnicity and there is only a single outgroup member (cf. Carton & Cummings, 2013; Lau & Murnighan, 1998). To test this idea, I used the coefficient of variation (CV), an index of disparity, to operationalize ethnic status diversity at the work unit ( $r_{\text{with ESS}} = .76, p < .01$ ) and community ( $r_{\text{with ESS}} = .85, p < .01$ ) level and reran the analyses. The work unit ethnic status CV was unrelated to cohesion ( $b = 1.59, ns$ ) and performance ( $b = 122.20, ns$ ) and did not interact with the community ethnic status CV (cohesion:  $b = -0.62$ ; performance:  $b = 10.47$ ; both *ns*). The nonsignificant results for the CV, combined with the significant results for ESS, support that ethnic status diversity is most likely to have negative consequences in the case of ethnic subgroups that are separated by large differences in status.

A few prior studies have also found that community ethnic composition is relevant for understanding performance in diverse work units (Avery et al., 2012; King et al., 2011), but have focused on representativeness—or the extent to which the proportion of each ethnic group in a work unit matches the proportion of that same ethnic group in the community—not diversity. Representativeness and diversity are distinct constructs; a representative unit can be diverse or homogeneous. Moreover, theory on representativeness is grounded in the idea that the effects of ethnic composition on performance are driven by customer interactions, not unit cohesion. To provide evidence that representativeness and ESS are distinct constructs that affect performance through distinct mechanisms I reran the study analyses controlling for representativeness ( $r_{\text{work unit ESS}} = -.12, ns$ ;  $r_{\text{community ESS}} = -.51, p < .01$ ). The work unit by community ESS interactions remained significant (cohesion:  $b = -3.07$ ; performance:  $b = -121.82$ ; both  $ps < .05$ ), but representativeness was not significant (cohesion:  $b = 0.03$ ; performance:  $b = -1.34$ ; both *ns*).

### *Missing Data Sensitivity*

Ethnicity was missing for some employees, which may have biased the work unit ESS measure. When calculating dispersion indices, such as ESS, missing data produce a downward bias—or underestimation—when data are missing systematically but not when they are missing randomly (Newman & Sin, 2009). Thus, missing ethnicity data only biased the work unit ESS measure if members of some ethnic groups were less likely to respond to the survey than others. Research does not strongly support a relationship between ethnicity and survey nonresponse (Mayer & Pratt, 1967; Rogelberg & Luong, 1998; Spitzmüller, Glenn, Sutton, Barr, & Rogelberg, 2007), which suggests that the extent of bias in the work unit ESS measure was small or nonexistent. Nevertheless, I conducted a sensitivity analysis to determine if the findings were robust to the possibility of systematic missing data.

I used Newman and Sin's (2009) procedure to calculate a corrected work unit ESS estimate that accounts for the possibility of systematic missing data. The corrected estimate is a

function of the response rate for each unit and the strength of the missingness effect ( $d_{miss}$ ), that is, the extent to which respondents differ from nonrespondents on ethnic status. Consistent with recommendations, I used a  $d_{miss}$  value of  $-.30$ , which implies that nonrespondents' ethnic status was  $.30$  standardized units lower than respondents' ethnic status.<sup>5</sup> The corrected work unit ESS measure was perfectly correlated with the original ESS measure ( $r = 1.00$ ,  $p < .01$ ). Moreover, the work unit by community ESS interactions remained significant using the corrected ESS measures (results available by request). Thus, the results were robust to the possibility of systematic missing data, which suggests that missing data do not pose a threat to the validity of the findings.

### *Diversity in Other Status-Based Characteristics*

Although my focus is ethnic diversity, diversity in other status-based characteristics may influence work unit outcomes. I therefore controlled for diversity in other sources of illegitimate (i.e., gender, age) and legitimate (i.e., position, work status, education, tenure) status to determine if the effects of ESS operate independently of other status-based diversity types. Only gender diversity produced a significant effect; percentage female was negatively related to performance (e.g.,  $b = -23.18$ ,  $p < .01$ ; see Table 3, Model 1).<sup>6</sup> Percentage female was unrelated to cohesion ( $b = -0.39$ , *ns*; see Table 2, Model 1), which indicates that low cohesion does not explain the effect on performance. One possibility is that the direct negative effect of percentage female on performance is instead explained by a lack of diverse perspectives. The majority of the employees were female ( $M = 79\%$  female). Thus, as work unit percentage female increases, and units become increasingly homogeneous, a lack of diverse perspectives may inhibit performance.

In addition to having independent effects, another possibility is that diversity in other status-based characteristics moderates the effects of ESS. For example, the negative effect of ESS, an illegitimate source of status, may be exacerbated in units with diversity in other illegitimate sources of status, such as gender and age. The work unit ESS by gender diversity interaction was not significant, but the work unit ESS by age diversity interaction was (cohesion:  $b = -2.20$ ; performance:  $b = -50.71$ ; both  $ps < .01$ ); work unit ESS had negative effects when age diversity was high (cohesion:  $b = -0.84$ ,  $p < .01$ ; performance:  $b = -22.59$ ,  $p < .05$ ), but not low (cohesion:  $b = 0.45$ ; performance:  $b = 7.63$ ; both *ns*). Thus, the potential for subgroups based on one source of illegitimate status (i.e., ESS) to produce negative effects was exacerbated by the presence of subgroups based on a second source of illegitimate status (i.e., *SD* in age).

ESS may also interact with diversity in legitimate status-based characteristics. Specifically, I explored if ESS is more likely to have negative effects in units that lack a legitimate status hierarchy, based on education, tenure, position, or work status. The only significant interaction was the work unit ESS by position diversity (percentage teller) interaction, which predicted cohesion ( $b = -1.94$ ,  $p < .05$ ), but not performance ( $b = -26.90$ , *ns*); work unit ESS was negatively related to cohesion when percentage teller was high ( $b = -0.55$ ,  $p < .05$ ; 1 *SD* above the mean = 83% tellers) but not low ( $b = 0.43$ , *ns*; 1 *SD* below the mean = 45% tellers). Thus, the negative effect of diversity in an illegitimate status source (ESS) was greater when the work unit lacked a legitimate status hierarchy (i.e., most members held a low status position).

## Discussion

Facilitating strong performance in diverse work units is a key challenge facing contemporary organizations, yet extant scholarship has produced inconsistent findings regarding the relationship between ethnic diversity and performance. The present research provides new insight into when ethnic diversity is likely to constrain performance by accounting for the degree of status ascribed to members of different ethnic groups. I theorized and found that the presence of two ethnic subgroups that are separated by large differences in status within a work unit (i.e., ESS) is negatively related to work unit cohesion, and in turn performance, but only in communities also characterized by ESS. By comparison, work unit and community ethnic diversity were unrelated to cohesion and performance when diversity was assessed using indices that do not account for status. Thus, accounting for ethnic status enhanced understanding of when ethnic diversity is likely to negatively affect work unit cohesion and performance.

### *Implications for Theory and Practice*

Support for the status-based model contributes to extant theory in several ways. The notion that ESS constrains work unit outcomes is consistent with the subgroups perspective on work unit diversity, which posits that diversity is likely to have negative consequences in units composed of two ethnic subgroups (cf. Earley & Mosakowski, 2000; Lau & Murnighan, 1998). At the same time, I build on prior work by integrating the literature on status distance and proposing that ethnic diversity is most likely to have negative consequences in units composed of ethnic subgroups that are separated by large differences in status. Scholars have previously theorized and found that the distance between subgroups has detrimental consequences. For example, work units composed of age-based subgroups perform worse when the age-based distance between subgroups is large than when it is small (Bezrukova et al., 2009). Although previous work has accounted for between-subgroup distance for continuous demographic characteristics (i.e., age), ethnicity has been treated as a set of nominal categories and scholars have not accounted for the distance between ethnic subgroups. I demonstrate that status is a meaningful dimension along which ethnic groups vary, and that accounting for ethnic status distance enhances understanding of when ethnic diversity has negative consequences.

The present research also contributes to research on Harrison and Klein's (2007) tripartite diversity typology—including separation (diversity in attitudes or beliefs), disparity (diversity in resources, such as status), and variety (diversity in information)—by extending theory on the intersection of multiple diversity types. The subgroups perspective reflects separation, given that it captures diversity in attitudes or beliefs (i.e., preferences for one's ingroup), is maximized in the case of two homogeneous subgroups, relies on social categorization as the foundational theory, and has negative implications for work unit cohesion and performance (Harrison & Klein, 2007). I build on the subgroups perspective by proposing that diversity is most likely to have negative effects in the case of two subgroups separated by large status differences (i.e., ESS). Diversity in status is defined as disparity; however, disparity is maximized in units composed of one high status and many low status members (Harrison & Klein, 2007). The ESS construct therefore represents the alignment of maximal separation (i.e., ethnic subgroups) with moderate disparity (i.e., there are some status differences, but

disparity is not maximized). Harrison and Klein focus on three pure diversity types, but also discuss the need for more complex models that capture the combined effects of multiple diversity types and speculate that maximal separation aligned with moderate disparity may be particularly dysfunctional. Theory and evidence regarding the detrimental consequences of ESS support this speculation.

Evidence that the effects of work unit ESS are contingent upon community ESS also further highlights the importance of community contexts for understanding the work unit diversity–performance relationship. Prior work demonstrates that representativeness (i.e., the extent to which the proportion of each ethnic group in a work unit matches the proportion of that same group in the community) facilitates positive interactions with customers and positively affects performance (Avery et al., 2012; King et al., 2011), which suggests that diverse work units perform better when the pattern of diversity in the work unit mirrors that in the community. In contrast, I theorized and found that work unit ESS is most likely to prevent work unit cohesion and performance in communities also characterized by ESS. This finding held after controlling for representativeness and the results therefore demonstrate that the ways in which community contexts influence the diversity–performance relationship are multifaceted and are driven by multiple mechanisms (i.e., customer interactions and work unit cohesion).

I proposed that the negative interethnic group relations present in high ESS communities increase the salience of ethnic differences and that work unit ESS is therefore particularly likely to have negative effects in these contexts. Another possibility, however, is that ethnic differences are most salient in homogeneous contexts. Consistent with this idea, one study found that work unit ethnic heterogeneity negatively affected work unit outcomes in a homogeneous organization but not in a heterogeneous organization (Martins, Milliken, Wiesenfeld, & Salgado, 2003), although several other studies have found that the effects of work unit ethnic heterogeneity did not vary with community ethnic heterogeneity (Leonard, Levine, & Joshi, 2004; Sacco & Schmitt, 2005). To explore this alternative possibility, I tested whether the moderating effect of community ESS was curvilinear, such that work unit ESS was negatively to cohesion in both high ESS and low ESS (i.e., homogeneous) communities, but not in moderate ESS communities; however, the results (available by request) were not significant. These findings indicate that work unit ethnic diversity is most likely to have negative effects in diverse communities, at least when diversity is assessed as ESS (cf. Joshi & Roh, 2007).

Beyond contributions to the work unit diversity literature, the present work has implications for classic sociological research on status distance (Blau, 1977). Status distance is a dyadic construct and, to date, scholars have focused on how status distance influences dyadic outcomes (e.g., relationship quality; Phillips et al., 2009). The present research extends the concept of status distance to the work unit level of analysis by building theory regarding the pattern of ethnic status differences that are most likely to constrain work unit cohesion and performance. In addition, prior work supports that as the distance between individuals on status-based characteristics increases, the likelihood of a high-quality relationship decreases (e.g., Blau, 1977; McPherson & Smith-Lovin, 1987), but has relied on measures that are proxies for status (e.g., age, education, social class) rather than direct measures of the degree of status afforded to individuals based on these characteristics. I developed and validated a measure of the degree of status ascribed to different ethnic groups, which I used to calculate

the ethnic status distance among work unit members (i.e., ESS). As a result, the present work provides more direct support for Blau's (1977) theory regarding the effects of status distance.

The status-based model also has broader implications for the study of ethnicity. Ethnic groups are likely to differ in many rich, complex ways that can be difficult to quantify and it is therefore not surprising that ethnicity is often studied as a set of nominal categories in the work unit diversity literature as well as in other literatures on ethnic differences. At the same time, scholars have criticized nominal measures of ethnicity on the grounds that they fail to account for any substantive differences between ethnic groups (cf. Helms, Jernigan, & Mascher, 2005; Markus, 2008; Phinney, 1996). I find that status is a meaningful dimension along which ethnic groups vary that enhances understanding of outcomes in diverse work units. Although certainly not the first to suggest that ethnicity is a source of status (e.g., Tsui, Egan, & O'Reilly, 1992), I depart from prior work by developing and validating a measure of the ethnic status hierarchy among the four largest American ethnic groups, which can be used in future work to better understand other outcomes associated with ethnic differences.

Evidence that work unit and community ESS have detrimental effects has practical implications for preventing ethnic diversity from having negative consequences in organizations. Specifically, attention to community diversity can help managers identify work units in which ethnic differences are likely to prevent strong performance and provide those units with extra training and other resources aimed at facilitating cohesion. In addition, the community context findings may have implications for the broader societal problem of continued discrimination. The present work indicates that community contexts seep through organizational boundaries and shape work unit outcomes. To the extent that the process is reciprocal, and workplace experiences affect individuals' nonwork lives (cf. Leslie, Snyder, & Glomb, 2013), facilitating cohesion in diverse units may help alleviate intergroup tensions in other walks of social life.

### *Strengths, Limitations, and Future Research*

The study findings emerged using data gathered from a variety of independent sources, including an employee survey, archival performance records, the U.S. Census Bureau, and ethnic status scores developed in a separate sample. As a result, common method variance does not provide a plausible alternative explanation for the study findings. The data set also included an objective measure of performance, whereas existing ethnic diversity research has often relied on either subjective performance measures or measures of performance in artificial settings.

One potential limitation is an inability to draw strong causal inferences. At the same time, several features of the study design guard against the possibility of reverse causation. Ethnic status was assessed in a separate sample and it is thus not possible that cohesion or performance caused the ethnic status scores used to calculate ESS. In addition, the performance data were gathered after the cohesion data to reduce the possibility that performance caused cohesion. As an additional check, I reran the moderated mediation analyses treating performance as the mediator and cohesion as the dependent variable. Work unit ESS did not have an indirect effect on cohesion, through performance, at any community ESS level (results available by request).

The bank was legally constrained from releasing employee data on ethnicity and I therefore used a survey to measure ethnicity, resulting in some missing data. At the same time, a sensitivity analysis revealed that the results were robust to the possibility of systematic missing data. Moreover, missing data are problematic because they can increase random error, which reduces power and results in conservative hypothesis tests (Newman & Sin, 2009).

I theorized that ESS negatively affects work unit cohesion (i.e., relationship quality among unit members), due to preferences for similar others, which in turn prevents strong performance. Cohesion mediated the effect of work unit and community ESS on performance, which supports the theorized mechanism. I furthermore proposed that work unit ESS is most likely to be negatively related to cohesion in high ESS communities because the presence of negative intergroup relations in these communities increases the salience of ethnic status differences within work units. Work unit ESS negatively affected cohesion in high ESS, but not low ESS, communities; however, I do not provide direct evidence that the moderating effect of community ESS was driven by the quality of intergroup relations in the community. At the same time, negative interethnic group relations are a likely explanation; prior work indicates that community diversity breeds interethnic group tensions (e.g., Blalock, 1956; Quillian, 1996), which exacerbate the potential negative effects of diversity within organizations (e.g., Brief, Umphress, et al., 2005).

I focused on the effects of ethnic status diversity, rather than other diversity types, which is consistent with evidence that ethnic differences are particularly likely to shape interpersonal interactions (cf. Blau, 1977; King et al., 2011; McPherson et al., 2001; Richard et al., 2007; van Knippenberg, De Dreu, & Homan, 2004). Moreover, inattention to ethnic status is particularly problematic in prior research. For example, education, tenure, and age also convey status but, unlike ethnicity, these variables are continuous. Higher education, tenure, and age generally indicate higher status and measures of these variables thus capture status differences, at least implicitly. Gender, like ethnicity, is a nominal variable, but has only two categories. Units composed of gender-based subgroups therefore necessarily contain male and female subgroups, and there is little to be gained by accounting for the status distance between gender-based subgroups.

I demonstrated that the effects of ESS are independent of other diversity types by controlling for diversity in other sources of status and also explored the intersection of multiple diversity types. Work unit ESS was more likely to have negative effects in the presence of subgroups based on other types of illegitimate status (i.e., age) and when the work unit lacked a legitimate status hierarchy (i.e., most unit members occupied the low status position of teller). Another potentially fruitful avenue for future work is to determine the relative weight of different status-based characteristics in determining overall judgments of status and to use overall status judgments to capture status diversity. By demonstrating that ethnicity is a source of status with implications for work unit outcomes, the present research takes an important first step toward models that account for multiple status-based diversity types simultaneously.

Consistent with prior studies (e.g., Avery et al., 2012; Kirkman, Tesluk, & Rosen, 2004; McKay, Avery, & Morris, 2008; Richard et al., 2007), I focused on broad, easily observable ethnic categories (Asian, Black, Hispanic, White). It is important to note, however, that individuals may at times inaccurately categorize others' ethnicity. Likewise, individuals may make finer-grained distinction when categorizing others, for example by differentiating the

status of East Asians (e.g., Koreans) and South Asians (e.g., Pakistanis). Both of these possibilities suggest a potential lack of precision in the ethnic status scores, which would work against finding significant effects for ESS. Thus, future work that captures more nuances in how ethnic status is ascribed to others may increase the ability to detect the effects of ethnic status diversity.

A key contribution of this research is demonstrating that ethnic groups can be differentiated along an underlying dimension (i.e., status) and that accounting for the status distance among ethnic groups provides a richer understanding of the effects of work unit diversity, as compared to treating ethnicity as a categorical construct. I focused on the status-based distance between ethnic groups because perceptions of ethnic status are widely shared (Ridgeway, 1991; Sidanius & Pratto, 1999) and because status differences are highly salient and thus have a powerful impact on interpersonal relationships and behavior (cf. Blau, 1977; Phillips et al., 2009). At the same time, ethnic groups may differ from one another on any number of underlying dimensions, including attitudes, beliefs, or values. Research on other dimensions along which ethnic groups differ may add additional insight into understanding the effects of work unit ethnic diversity.

Future work should also explore potential boundary conditions. For example, some evidence indicates that the effects of diversity in ethnicity and other demographic characteristics weaken over time, although findings are inconsistent (see van Knippenberg & Schippers, 2007, for a review). Additional analyses revealed that the work unit by community ESS interaction was not further moderated by work unit tenure (results available by request); however, the average tenure in the branches was less than 3 years, and these findings may not generalize to units with longer tenure. Moreover, I tested my hypotheses among employees engaged in interdependent work, which is consistent with the notion that cohesion mediates the effect of ESS on performance. By comparison, the study findings are less likely to apply to units engaged in independent work, in which cohesion is less likely to drive performance. In addition, it is possible that the results may not generalize beyond the specific years in which the study was conducted. At the same time, the building blocks of my theory—that ethnic differences prevent high-quality relationships, particularly when the status distance between groups is large—are well-documented phenomena that date back to the 1950s (e.g., Allport, 1954; Blalock, 1956) and continue to affect workplace interactions today (e.g., Bezrukova et al., 2009; Phillips et al., 2009). Thus, the observed negative effects of ESS likely reflect relatively enduring phenomena.

The status distance literature indicates that members of different ethnic groups are less likely to form high-quality, cohesive relationships when the status distance between them is large than when it is small. In contrast, the rivalry literature indicates that individuals are less likely to form high-quality relationships (i.e., are more likely to compete with one another) when the status distance between them is small than when it is large (e.g., Garcia, Tor, & Gonzalez, 2006; Kilduff, Elfenbein, & Staw, 2010). Yet studies of rivalry focus on individuals engaged in direct competition with one another in situations where status is legitimate (i.e., a direct reflection of performance) and efforts to undermine similar-status others are thus likely to benefit one's own status. By comparison, status similarity is less likely to lead to competition in interdependent work units, particularly when status is based on ethnicity and other illegitimate source of status (i.e., based on group-level stereotypes, not individual abilities; cf. Bettencourt et al., 2001). Future work on the conditions under which status

distance has positive versus negative consequences for relationship quality is likely to add additional insight into status dynamics in organizations.

The present study is grounded in the notion that members of different ethnic groups are ascribed varying degrees of status in American society. Yet it is critical to emphasize that ethnic status is illegitimate; it is not a valid reflection of individual differences, but is instead a social construction that reflects the historical experiences of members of different ethnic groups within a society (cf. Gould, 2002; Sidanius & Pratto, 1999). Thus, future efforts are needed to identify interventions that prevent ethnic status differences that exist in the broader society from having a detrimental impact on workplace interactions and outcomes. For example, research demonstrates that the potential drawbacks associated with diversity can be avoided by facilitating a climate for diversity (cf. Ely & Thomas, 2001; Leslie & Gelfand, 2008; McKay et al., 2008). Emphasizing the value in diversity may similarly prevent ESS from producing negative outcomes.

## Conclusion

Ethnic diversity is an increasingly prevalent feature of the American workplace and facilitating positive outcomes in diverse work units is a major challenge facing contemporary organizations. The present work contributes to current understanding by advancing a status-based, multilevel model of the impact of ethnic differences on work unit cohesion and performance. The results revealed that work unit ESS has detrimental consequences, but only in communities also characterized by ESS. Efforts to prevent the potential negative effects of ethnic status differences are likely to improve work unit members' social experiences (i.e., cohesion), as well as work unit performance.

## Notes

1. For the sake of parsimony, I use the terms *ethnic* and *ethnicity* to refer to the confluence of race (e.g., Asian, Black, White) and ethnicity (e.g., Hispanic, non-Hispanic) (cf. Leslie, Snyder, & Glomb, 2013; Phinney, 1996).

2. I use the term *subgroups* instead of *faultlines* because faultlines are typically defined as subgroups based on the alignment of multiple characteristics (e.g., Lau & Murnighan, 2005) and I focus on subgroups based on ethnicity alone (cf. Earley & Mosakowski, 2000).

3. The ICC2 was lower than the recommended .70 value, likely because work unit size was relatively small (Bliese, 2000). The ICC2, however, was not small enough to make aggregation inappropriate and was consistent with values reported in prior work (e.g., Gelfand, Leslie, Keller, & de Dreu, 2012; Schneider, Salvaggio, & Subirats, 2002). Moreover, a low ICC2 value works against finding significant results, given that ICC2 indicates reliability.

4. I could not use random coefficient modeling (RCM) because branches were only partially nested within communities. Like RCM, the robust clustered standard errors technique prevents biased results when analyzing nested data. Unlike RCM, this technique can be run on partially nested data (e.g., Leslie, Manchester, Park, & Mehng, 2012).

5. The recommendation to use a  $d_{miss}$  value of  $-.30$  is based on research on job attitudes and survey nonresponse. Job attitudes are more strongly related to survey nonresponse than ethnicity is (Newman & Sin, 2009) and a  $d_{miss}$  value of  $-.30$  is therefore a conservative choice.

6. I also explored the effect of gender-based subgroups by running analyses that included the curvilinear effect (i.e., squared term) for percentage female, but the results were not significant.

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## Online Appendix

### Development and Validation of the Ethnic Status Scores

Supplemental material for:

A Status-Based Multilevel Model of  
Ethnic Diversity and Work Unit Performance

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Ethnic status is defined as the degree of status ascribed to members of different ethnic groups in a society. To develop ethnic status scores, which I use to calculate work unit ESS, I asked American working adults to report on the status held by Asian, Black, Hispanic and White Americans. To assess the scores' reliability, I compared the scores to scores developed in two different samples. To validate the scores, I correlated them with indicators of each group's socio-economic success, a key correlate of status (Gould, 2002; Keltner, Gruenfeld, & Anderson, 2003). Finally, I tested whether participants with different demographic characteristics and from different regions agree on the status of ethnic groups. The results support the validity and reliability of the ethnic status scores and that ethnic status is a shared, societal-level construct.

#### Method

To develop the ethnic status scores, I used Thurstone (1927) scaling, and specifically the method of paired comparisons. Thurstone scaling is a useful methodology for developing an interval-level scale that captures the distance between objects (e.g., ethnic groups) on an underlying continuum (e.g., perceived status). A key assumption of Thurstone scaling is that reactions to an object, and in turn the distance between two objects, are normally distributed. Thus, although there is some variability, the best estimate of the distance between two objects is the most common (i.e. modal) reaction to a comparison of those objects, which is equivalent to the mean due to the assumption of normality. Thurstone scaling therefore involves asking individuals which of two objects (ethnic groups) is higher on a continuum of interest (status), and expressing the average response in standardized units (i.e. Z-scores).

#### *Participants*

A total of 520 working adults participated in the study. All participants were American citizens who had lived in the United States for at least 15 years. Participants were sampled to ensure diversity in terms of ethnicity (35% White, 20% Asian, 17% Hispanic, 16% Black, 12% multiracial/other), gender (51% female), age ( $M = 39.53$  years,  $SD = 16.85$ ), socio-economic status (SES; 17% lower, 73% middle, 9% upper), and geographic region of residence (32%

Southerners, 29% Westerners, 19% Midwesterners, 19% Northeasterners). The participants were recruited through a market research company and received gift certificates as compensation.

### *Procedures*

Participants completed an online survey in which they compared Asian, Black, Hispanic, and White Americans, on a three traits: status, prestige, and respect (e.g., “Which ethnic group has higher *status* in American society: Asian or Black Americans?). Prestige and respect were included because these terms frequently appear in definitions of status (e.g., Berger, Cohen, & Zelditch, 1972; Magee & Galinsky, 2008; Ridgeway, 1991). For each of the three status traits, participants made all paired comparisons among the four ethnic groups of interest and therefore responded to each item six times. I counterbalanced the order of presentation of pairs of ethnic groups and ethnic groups within pairs across eight versions of the survey.

To assess the reliability of the ethnic status scores, I compared them to ethnic status scores developed for the same four groups by other researchers in 1989 (Sidanius & Pratto, 1999), as well as scores I developed in a sample of students at an East Coast university. To validate the ethnic status scores, I gathered indicators of each group’s socio-economic success from the American Community Survey (U.S. Census Bureau, 2006), including employment rate, the percent of group members with a high school degree, and the percent of group members at or above the poverty line. I used 2006 American Community Survey data because the ethnic status data were gathered in early 2007.

## **Results and Discussion**

### *Scale Development*

To create the ethnic status scores, I transformed the paired comparisons for each status item (status, prestige, respect) into a Thurstone scale and then averaged the scales. Creating each Thurstone scale involved four steps (Dunn-Rankin, Knezek, Wallace, & Zhang, 2004; Nunnally & Bernstein, 1993), which are described below and illustrated in Table A1 for the status item.

First, I created a matrix that reflects the percentage of participants who selected the group listed at the top of each column over the group listed at the left of each row. For example, Table A1 (Step 1) illustrates that 69% of participants indicated that Asian Americans have higher status than Black Americans. I placed values of .50 on the diagonal, because the number of times that an ethnic group is judged to have higher status than itself is equivalent to a coin flip.

Second, I expressed the perceived difference between ethnic groups in standardized units by converting the percentages to normal deviates (i.e. Z-scores). As illustrated in Table A1 (Step 2), 69% of participants indicated that Asians Americans have higher status than Black Americans, which corresponds to a Z-score of .49 (i.e. .49 standard deviations above the mean is the point in the normal distribution at which 69% of responses fall below and 31% fall above).

Third, I averaged the Z-scores for each group by calculating the average Z-score for each column (see Table A1, Step 3). Notably, the Z-score for the percent of participants who chose Asian Americans over Black Americans, for example, captures the distance between these two groups; however, averaging the Z-scores for each group reduces sampling error and produces more accurate estimates. Thus, the average Z-score for each group reflects the average status distance between that group and all of the other ethnic groups, expressed in standardized units.

Fourth, I subtracted the lowest column average from all column averages to anchor the scale at zero and ease interpretation (see Table A1, Step 4). Notably, the assignment of zero to the lowest status group is arbitrary because Thurstone scales do not have ratio-level properties.

I created a separate Thurstone scale for each of the status items (status, prestige, respect) and averaged the three scales ( $\alpha = 1.00$ ). White Americans emerged as the highest status ethnic group (1.77), followed by Asian (.67), Black (.22), and Hispanic (.00) Americans. Because Thurstone scales have interval-level properties, it is appropriate to infer from the scores that the status distance between Black and Hispanic Americans (.22 - .00 = .22) is smaller than the status distance between Asian and Black Americans (.67 - .22 = .45), for example.

**Table A1**  
**Thurstone Scaling Example for the Status Item**

Step 1: Percentage matrix				
	Asian	Black	Hispanic	White
Asian	.50	.31	.23	.92
Black	.69	.50	.36	.95
Hispanic	.77	.63	.50	.95
White	.08	.05	.05	.50
Step 2: Z-score matrix				
	Asian	Black	Hispanic	White
Asian	.00	-.49	-.73	1.40
Black	.49	.00	-.34	1.62
Hispanic	.73	.34	.00	1.66
White	-1.40	-1.62	-1.66	.00
Step 3: Column averages				
	Asian	Black	Hispanic	White
Column averages	-.05	-.44	-.68	1.17
Step 4: Subtract lowest column average				
	Asian	Black	Hispanic	White
Subtract lowest	-(-.68)	-(-.68)	-(-.68)	-(-.68)
Scale scores	.63	.24	.00	1.85

### *Reliability*

The inter-item reliability of the ethnic status scores was high ( $\alpha = 1.00$ ). To provide additional reliability evidence, I compared the scores to scores developed by different researchers, using a different methodology. In 1989, researchers asked California undergraduates to indicate how much status each of the same four groups has on a Likert-type scale (1 = very low status to 7 = very high status; Sidanius & Pratto, 1999). White Americans were rated as the highest status group (6.42), followed by Asian (4.80), Black (3.31), and Hispanic (3.00) Americans. The correlation between these ethnic status scores and the scores I developed was almost perfect ( $r = .98, p < .05$ ), even though the Sidanius and Pratto scores were developed almost 20 years earlier, in a different sample, and using a different methodology. I also used the same Thurstone scaling procedures used to develop the ethnic status scores in the adult sample (described above) to develop a set of scores in a sample of 1123 undergraduates at an East Coast university. The scores developed in the student sample also revealed that White Americans were rated as the highest status group (2.42), followed by Asian (1.26), Black (.77), and Hispanic (.00) Americans. Moreover, the correlation between the ethnic status scores from the adult and student samples was almost perfect ( $r = .98, p < .05$ ). These results are consistent with the notion that perceptions of ethnic status are shared within a society and thus relatively stable across samples.

### *Validity*

To validate the ethnic status scores, I correlated them with indicators of the socio-economic success of each group. Each correlation was based on four observations (i.e. one observation per ethnic group) and was therefore only significant if its absolute value was .95 or greater. Although reasonable to expect that correlations between items intended to measure the same construct will reach this level (e.g., the three status items or the ethnic status scores developed in different samples), it is unlikely that the magnitude of correlations between measures of related, but distinct, constructs will reach statistical significance with only four observations. I therefore used 95% bias-corrected bootstrap confidence intervals ( $CI_{95\%}$ ) to interpret the correlations between the ethnic status scores and the validation data. Specifically, I sampled with replacement to create 1,000 bootstrap samples and calculated the ethnic status scores and correlations between the ethnic status and the indicators of socio-economic success in each sample. I interpreted correlations with a  $CI_{95\%}$  that did not include zero as significant. As expected, ethnic status was positively related to each indicator of socio-economic success (employment rates:  $r = .62, CI_{95\%} = .59$  to  $.65$ ; % of group with a high school degree:  $r = .77, CI_{95\%} = .75$  to  $.79$ ; % of group at or above the poverty line ( $r = .83, CI_{95\%} = .80$  to  $.85$ ).

### *Subsample Comparisons*

Ethnic status is consensual, in that members of a society tend to agree on the status of different groups (cf. Magee & Galinsky, 2008; Ridgeway, 1991; Sidanius & Pratto, 1999). I therefore tested if perceptions of ethnic status were shared among participants with different characteristics, including gender (male, female), ethnicity (Asian, Black, Hispanic, White), age (18-24, 25-34, 35-44, 45-54, 55 or older), SES (lower, middle, upper), and geography (Midwest, Northeast, South, West). I calculated the ethnic status scores separately in each subsample (e.g., separately for women and men) and used chi-square difference tests to determine if the status

scores differed between subsamples (Moesteller, 1951). Perceptions of ethnic status did not differ by participants' gender ( $\chi^2(3) = 5.82, ns$ ), age ( $.16 \leq \chi^2(3) \leq 2.93, .40 \leq p \leq .98$ ), SES ( $1.00 \leq \chi^2(3) \leq 7.10, .07 \leq p \leq .80$ ), or geographic region of residence ( $.16 \leq \chi^2(3) \leq 1.66, .65 \leq p \leq .98$ ). The non-significant chi-square values support that ethnic status is a shared construct that is not systematically influenced by a number of demographic characteristics.

Some differences in perceptions of ethnic status by participant ethnicity emerged (see Table A2). Ethnic status perceptions were shared by Black and White Americans ( $\chi^2(3) = 2.17, ns$ ), but differed for all other pairs of ethnic groups ( $9.32 \leq \chi^2(3) \leq 46.78, all ps < .05$ ). The differences followed a pattern of ingroup bias; participants decreased the status distance between their ingroup and higher status outgroups, but increased the status distance between their ingroup and lower status outgroups. For example, the status distance between Asian and Black Americans was greatest when rated by Asians Americans (status difference = .91) and smallest when rated by Black Americans (status difference = .03). Perceptions of status among participants with different ethnicities were statistically different, but practically similar. Participants agreed on the rank order of groups, with the exception of Hispanic Americans, who rated the ingroup as higher status than Black Americans. Moreover, correlations among perceptions of status as rated by different ethnic groups were large ( $.89 \leq r \leq .98, .02 \leq p \leq .11$ ).

**Table A2**  
**Ethnic Status Scores by Participant Ethnicity**

	Ethnic status scores			
	Hispanic Americans	Black Americans	Asian Americans	White Americans
Overall scores	.00	.22	.67	1.77
Scores by participant ethnicity				
Asian American participants	.00	.21	1.12	1.83
Black American participants	.00	.55	.58	1.83
Hispanic American participants	.33	.00	.57	1.81
White American participants	.00	.41	.92	2.04

### *Conclusions*

The results indicate that the ethnic status scores are reliable and valid and that it is therefore appropriate to use the ethnic status scores to calculate work unit ESS (see the main study method section for a description of how ESS was calculated). Perceptions of ethnic status were largely shared by participants with different demographic characteristics, but there were some differences in perceptions of ethnic status by participant ethnicity. In the main study, I use the ethnic status scores from the full adult sample (White = 1.77, Asian = .67, Black = .22, Hispanic = .00) to calculate work unit ESS. To explore the impact of different perceptions of ethnic status by participant ethnicity on the study findings, I also used ethnic status scores that were weighted by the ethnic composition of each work unit to calculate work unit ESS. Specifically, the weighted ethnic status score I assigned to a given ethnic group (e.g., Asian Americans) in a given branch was determined using the following equation:

$$ESA = \frac{\sum (ESA_k * N_k)}{N}$$

where  $ESA$  is the weighted ethnic status score for Asian Americans in a given branch,  $ESA_k$  is the ethnic status score for Asian Americans as rated by members of ethnic group  $k$  (i.e., Asian, Black, Hispanic, or White Americans),  $N_k$  is the number of members of ethnic group  $k$  in the branch, and  $N$  is the branch size. The work unit ESS measures based on the overall and weighted ethnic status scores were strongly correlated ( $r = .99, p < .01$ ), and the main study results were the same, regardless of whether the overall or weighted ESS measure was used. As a final robustness check, I also ran the main study analyses using the ethnic status scores developed in the student sample to calculate work unit ESS. This methodology produced the same conclusions as the results based ethnic status scores developed in the adult sample. Thus, the study findings are not a function of the specific sample used to develop the ethnic status scores.

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