

## ABSTRACT

Title of dissertation: Putting Differences in Context: Incorporating the Role of Status and Cooperation into Work Unit Ethnic Composition Research

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Due to increasing diversity within organizations, understanding the impact of ethnic differences in work units has become a strategic imperative. Although the topic of much research, findings regarding the effect of work unit ethnic composition on unit-level outcomes are inconsistent. I begin to address inconsistencies in the literature by incorporating the role of two moderators of intergroup contact, status and cooperation (Allport, 1954), into ethnic composition research. First, I introduce the construct of ethnic status, which reflects the degree of status ascribed to individuals based on ethnic group membership, and predict that work unit ethnic status separation (ESS) will negatively impact work unit processes (conflict, cohesion, trust) and performance (financial, manager-rated, citizenship behaviors). Second, I theorize that elements of the work unit (learning climate, performance climate) and community (ethnic composition, economics, political climate) context will moderate work unit ethnic composition effects, such that cooperative contexts ameliorate, but competitive contexts exacerbate, the negative relationship between work unit ESS and unit-level outcomes. In Study 1, I developed a measure of ethnic status and found support for the stability and validity of the measure in both student and adult samples. In Study 2, I used the status measure to calculate work unit ethnic composition (i.e., ESS). I then tested the interaction of work unit ESS with

elements of the work unit and community context as a predictor of unit-level outcomes in a sample of 703 employees of a large bank, who were nested within 121 geographically dispersed work units (i.e., branches). To assess community contexts, I supplemented the bank sample with data from the United States Census. At the work unit level, I found that high ESS work units experienced less conflict and better financial performance in high learning climates than in low learning climates. At the community level, I found that the negative outcomes of work unit ESS, including high conflict, low cohesion and trust, and poor financial performance, were most severe in communities similarly characterized by high ESS. Results for the remaining work unit (performance climate) and community (economics, political climate) context factors were mixed. Theoretical and practical implications are discussed.

PUTTING DIFFERENCES IN CONTEXT:  
INCORPORATING THE ROLE OF STATUS AND COOPERATION INTO WORK  
UNIT ETHNIC COMPOSITION RESEARCH

by

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## Chapter 1: Introduction and Overview

Throughout history, contact among members of different ethnic, religious, and political groups has led to conflict and discrimination. As far back as the 5<sup>th</sup> century BCE, conflict between the Spartans and the Athenians in ancient Greece led to the Peloponnesian War. Furthermore, strife between members of different ethnic groups continues to color present-day societies. Examples of current conflicts include fighting between Sunni and Shi'a Muslims in Iraq, the conflict between Arabs and Israelis in Palestine, and the persecution of non-Arabs by the Arab Janjaweed in the Darfur region of Sudan.

Similarly, American history is replete with examples of ethnic-based conflict and discrimination. Examples include the Trail of Tears in the 1830s during which the United States government forced the Cherokee Indians out of Georgia, blatant employment discrimination against Irish immigrants during the mid-19<sup>th</sup> century, the Jim Crow laws of the 1870s – 1960s which legalized the segregation of Black Americans, the use of Japanese internment camps on the West Coast during World War II, and, most recently, increased claims of discrimination against Arab Americans after the terrorist attacks of September 11<sup>th</sup>, 2001. The specific ethnic group targeted as the victim of discrimination has shifted over time, yet ethnic conflict has been a constant throughout American history.

Not surprisingly, given the prevalence of intergroup conflict throughout history, the effects of contact among diverse individuals have long been studied in the social sciences. For example, abundant research within both social psychology (e.g., Brewer & Kramer, 1985; Hewstone, Rubin, & Willis, 2002; Messick & Mackie, 1989; Tajfel, 1982)

and sociology (e.g., Blalock, 1956; Burr, Galle, & Fossett, 1991; Fossett & Kiecolt, 1989; Frisbie & Neidert, 1977; Giles & Evans, 1986; Quillian, 1996; Taylor, 1998; Tienda & Lii, 1987) indicates that contact among members of different social groups, even if the basis for group formation is minimal, results in intergroup bias, competition, conflict, and discrimination. The negative impact of contact on intergroup biases, however, is not universal. Certain features of the situation, such as equal status and cooperative goals, attenuate tendencies toward ingroup favoritism and outgroup derogation and therefore improve outcomes of intergroup contact (e.g., Allport, 1954; Pettigrew, 1998).

The dynamics of intergroup contact, especially inter-ethnic group contact, have also recently become a topic of interest in organizational psychology. Two recent trends have increased the importance of understanding the effects of contact among members of different groups in organizational contexts. First, the increasing number of ethnic minorities within the United States has led to greater diversity in the applicant pools from which organizations select employees and, in turn, more diversity within organizations (Jackson & Ruderman, 1996; Williams & O'Reilly, 1998). Second, the increasing popularity of work units (e.g., teams, task groups) means greater interaction among organizational members (e.g., Devine, Clayton, Philips, Dunford, & Melner). In combination, these two factors have increased the frequency of contact among individuals from different ethnic groups in workplace settings. Thus, the ability of organizations to effectively manage ethnic diversity, and therefore avoid potential negative outcomes, is a key strategic imperative.

The relationship between work unit ethnic composition, or the pattern of ethnic differences within a work unit, and unit-level outcomes has been the topic of much

research (see Williams & O'Reilly, 1998 for a review), yet findings are inconsistent. Researchers frequently find a negative effect of work unit ethnic diversity on outcomes (e.g., Kirkman, Tesluk, & Rosen, 2004), but also often fail to find a significant effect of work unit ethnic diversity (e.g., Harrison, Price, & Bell, 1998), and in some cases even find a positive effect of work unit ethnic diversity (e.g., Watson, Kumar, & Michaelson, 1993). The lack of consistent findings is both encouraging and problematic. On the one hand, equivocal results suggest that negative outcomes are not an inevitable consequence of contact among ethnically diverse individuals. On the other hand, the literature provides little understanding of the conditions that either ameliorate or exacerbate work unit ethnic composition effects, and therefore fails to provide insight into how diversity can be effectively managed.

In this dissertation, I argue that considering the context in which work units function provides one means for clarifying the seemingly inconsistent findings for work unit ethnic composition effects. Both organizational researchers in general (e.g., Johns, 2006) and work unit composition researchers in particular (e.g., Martins, Milliken, Wiesenfeld, & Salgado, 2003; Milliken & Martins, 1996; Riordan, 2000; van Knippenberg, De Dreu, & Homan, 2004; Williams & O'Reilly, 1998) have observed that contextual factors may account for variation in the significance and direction of effects across research studies. Yet few researchers have investigated the social situation as a boundary condition for work unit ethnic composition effects. I aim to further understand when interaction among members of different ethnic groups within work units will lead to positive or negative outcomes by considering the role of two factors, status and cooperation, originally identified by Allport (1954) as key moderators of intergroup

contact. To this end, I present and test a contextualized model that incorporates both the role of status differences within work units and the level of cooperation in the social context into the study of work unit ethnic composition.

The proposed model makes two contributions to the work unit ethnic composition literature. First, I integrate status into ethnic composition research by introducing the construct of ethnic status. Ethnic status is a continuum which reflects the degree of status ascribed to individuals based on ethnic group membership. Previous research has conceptualized ethnicity as either a set of qualitative categories or a dichotomous construct in which all ethnic minorities are lumped together in a single low status category (e.g., Chattopadhyay, 1999; Riordan & Shore, 1997; Tsui, Egan, & O'Reilly, 1992), but ethnic status is a quantitative continuum. I theorize that work units composed of ethnic groups with drastically different status will have worse outcomes than work units composed of ethnic groups with minimally different status. For example, I predict that a work unit composed of Blacks and Whites will have worse outcomes than a work unit composed of Asians and Whites. Previous methods for assessing work unit ethnic composition, however, treat the two work units as equivalent. Therefore, ethnic status goes beyond previous research by assessing the *degree* of difference among ethnic groups.

Second, I take the study of work unit ethnic composition in new directions by considering the role of cooperation and competition in the work unit and community context. Based on sociological theories of intergroup competition (e.g., Campbell, 1965; Nagel, 1995; Quillian, 1996), I theorize that the negative impact of work unit ethnic status diversity will be ameliorated in cooperative environments but exacerbated in

competitive environments. Limited research has investigated the impact of cooperative and competitive work unit contexts on ethnic composition effects (e.g., Chatman, Polzer, Barsade, & Neale, 1998). But, researchers have turned a blind eye to the broader community contexts in which work units function (see Martins et al., 2003 and Sacco & Schmitt, 2005 for notable exceptions). Thus, I present a model of contextual moderators that includes elements of both the work unit and community environment. At the work unit level, I predict that learning and performance climate, and the associated norms for cooperation and competition, moderate the relationship between work unit ethnic composition and work unit outcomes. At the community level, similarly I theorize that ethnic composition, economics, and political climate provide contextual cues regarding cooperation and competition, and therefore have implications for outcomes of work unit ethnic composition.

In building a contextualized model of work unit ethnic composition, I first review existing theory and research on the effect of ethnic composition on unit-level outcomes (Chapter 2). I focus on work unit *ethnic* composition, and therefore include research on ethnicity, race, racio-ethnicity, and nationality in my review. Although other dimensions of work unit composition (e.g., gender, age, tenure, functional background, personality, values, etc.) affect unit-level outcomes, they are not of theoretical interest in this dissertation. Next, I introduce the construct of ethnic status and make predictions concerning the effects of work unit ethnic status composition on unit-level outcomes (Chapter 3). After building a baseline model, I hypothesize that work unit and community factors will moderate work unit ethnic composition effects (Chapter 4). I test my predictions in a series of two studies. In Study 1 I develop and validate a measure of

ethnic status across samples comprised of both students and working adults (Chapter 5). In Study 2 I test a contextualized model of work unit ethnic status composition in a sample of 703 working adults, nested within 121 branches of a large bank (Chapter 6). Finally, I discuss the theoretical and practical implications of my findings as well as avenues for future research (Chapter 7).



## Chapter 2: Past Theory and Research on Work Unit Ethnic Composition Effects

To date, two major paradigms have been used to study work unit ethnic composition effects. The paradigms differ in both theoretical rationale and the pattern of ethnic composition predicted to have the strongest negative effect on outcomes. The first paradigm, which I refer to as the *variety paradigm*, is grounded in social categorization theory. Within the variety paradigm, work unit composition effects are predicted to be worst when all work unit members belong to different ethnic categories (e.g., one Asian, one Black, one Hispanic,<sup>1</sup> one White). The second paradigm, which I refer to as the *subgroups paradigm*, is grounded in faultlines theory and predicts that negative outcomes will be most severe in work units consisting of numerically equivalent ethnic subgroups (e.g., equal numbers of Asians and Whites).

Below I review past theory and research relevant to the variety and subgroups paradigms. For each paradigm, I discuss the theoretical rationale, method for measuring work unit ethnic composition, and empirical support. I also discuss evidence of contextual moderators within each paradigm because context effects are central to the predictions presented in Chapter 4. Although both paradigms have added to our understanding of work unit ethnic composition effects, their contributions are qualified by several limitations. Thus, my review of the variety and subgroups literature provides the groundwork for understanding how integrating the role of status and cooperation into work unit ethnic composition research will begin to move the literature in new directions.

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<sup>1</sup> For the sake of parsimony, I use the term “Hispanic” to refer to individuals of Hispanic and/or Latino origin throughout this dissertation.

### *The Variety Paradigm*

Research conducted within the variety paradigm predicts that the effects of work unit ethnic composition will be most negative when the number of pairwise differences in ethnicity among members of a work unit is maximized. Consistent with terminology coined by Harrison & Klein (2007), I refer to this condition as maximal *variety*. Figure 1 depicts seven work units composed of different combinations of individuals from ethnic groups A through L. Work units 1-3 are characterized by minimal ethnic variety because there are no differences in ethnic group membership within the work units. Work units 4-6 are characterized by moderate ethnic variety. Each work unit member shares the same ethnicity with five other work unit members but has a different ethnicity than the remaining six work unit members. Finally, work unit 7 is characterized by maximal variety because each work unit member belongs to a different ethnic group.

#### *Theoretical Rationale*

Within the variety paradigm, two different theoretical perspectives have been used to describe the effect of work unit ethnic composition on work unit processes and performance. Self-categorization theory implies a negative effect of work unit diversity on unit-level processes and performance, whereas cognitive resources theory implies a positive effect of work unit diversity on unit-level performance (Williams & O'Reilly, 1998).

Self-categorization theory (Turner, 1987), a broader version of social identity theory (Tajfel & Turner, 1986), posits that individuals strive to maintain self-esteem through social comparison processes. Individuals first label the self with a social identity, such as membership in a particular ethnic group. The need for uniqueness, belonging, and

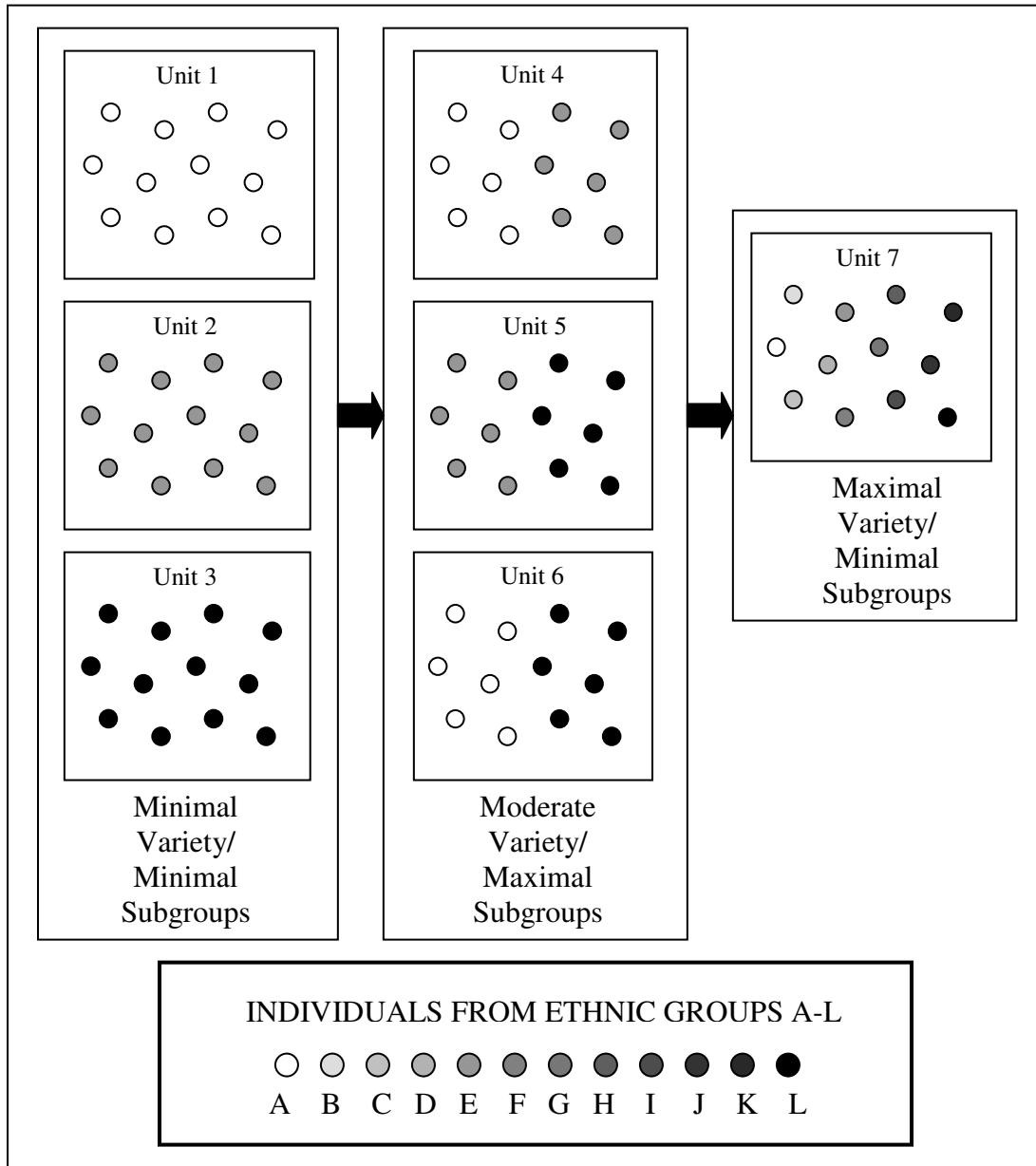


Figure 1. Patterns of work unit ethnic composition: Ethnic variety and ethnic subgroups.

self-esteem leads individuals to favor members of the same ethnic group and derogate members of other ethnic groups. Within diverse work units, negative attitudes toward members of different ethnic groups are theorized to hurt work unit performance by negatively impacting the work unit's ability to effectively function. Within the variety paradigm, researchers have also used similarity-attraction principles to justify similar predictions (Byrne, 1971). The similarity-attraction perspective posits that individuals are attracted to those who possess similar characteristics. Thus, similarity-attraction principles also lead to the prediction that work unit variety will negatively impact work unit processes and performance.

While self-categorization and similarity-attraction theories lead to the prediction that work unit ethnic variety will decrease both work unit process and work unit performance (e.g., Harrison, Price, Gavin, & Florey, 2002; Kirkman et al., 2004), research grounded within the cognitive resource perspective predicts that work unit ethnic variety will have a positive impact on work unit performance (e.g., Watson, Johnson, & Merritt, 1998; Watson et al., 1993). The cognitive resources perspective suggests that diverse work units benefit from having a greater variety of knowledge and experiences than homogeneous work units have. Although a surface-level characteristic, ethnicity is assumed to be a marker for deep-level differences in knowledge and experience (e.g., Cox, Lobel, & McLeod, 1991; Watson et al., 1998; Watson et al., 1993; Williams & O'Reilly, 1998). Thus, ethnically diverse work units are hypothesized to outperform homogeneous work units due to access to greater cognitive resources (Williams & O'Reilly, 1998).

### *Measurement*

Although not always explicitly stated, the assumption that the effects of work unit diversity will be maximized when all work unit members belong to a different ethnic group is implicit in research within the variety paradigm. Specifically, research within this paradigm uses variety indices, such as Blau's (1977) index or Teachman's (1980) index, which are minimized when all group members belong to the same ethnic group and maximized when each group member belongs to a different ethnic group (Harrison & Klein, 2007). Thus, when using an index of variety work unit composition is conceptualized as the average number of differences in ethnic group membership within the work unit.

### *Research Evidence*

In spite of predictions that work unit ethnic variety will have a negative impact on work unit processes, research grounded in self-categorization theory has produced equivocal results. For example, ethnic variety has been shown to have a negative effect on work unit processes by increasing emotional conflict (e.g., Pelled, Eisenhardt, & Xin, 1999) and decreasing empowerment (e.g., Kirkman et al., 2004). Alternatively, researchers have found that work unit ethnic variety has no effect on work unit processes, including task conflict (e.g., Pelled et al., 1999), social integration (e.g., Harrison et al., 2002), and cohesion (e.g., Harrison et al., 1998). Thus, work unit ethnic variety has been found to have either a negative or a null impact on work unit processes.<sup>2</sup>

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<sup>2</sup> Some evidence suggests that the effect of work unit composition on unit-level processes is time-dependent. For example, Pelled and colleagues (1999) found that the positive relationship between work unit ethnic variety and emotional conflict decreased in strength over time. Harrison and colleagues (1998), however, did not find a significant time by work unit ethnic variety effect.

Research concerning the effect of work unit ethnic variety on unit-level performance has also produced inconsistent results. Researchers have found that ethnic variety is either unrelated to work unit performance (e.g., Harrison et al., 2002; Pelled et al., 1999) or negatively related to work unit performance (e.g., Jehn & Bezrukova, 2004; Kirkman et al., 2004; Pelled, Cummings, & Kizilos, 2000; Sacco & Schmitt, 2005). A few studies have found a positive effect of work unit variety on unit-level performance, but results are inconsistent. Some evidence suggests that over time ethnically diverse work units outperform ethnically homogeneous work units on certain performance metrics (Watson et al., 1993), whereas other evidence suggests that ethnically diverse work units outperform homogeneous work units initially, but the performance difference reverses over time (Watson et al., 1998).

#### *Contextual Moderators*

Research within the variety paradigm has investigated work unit task structure as a moderator of work unit composition effects. For example, the relationship between work unit ethnic variety and relationship conflict is stronger when units perform non-routine tasks as compared to routine tasks (Pelled et al., 1999). Similarly, evidence suggests that work unit interdependence increases the strength of the relationship between work unit variety and unit-level outcomes (e.g., Harrison et al., 2002; Milliken, Bartel, & Kutzberg, 2003; Williams & O'Reilly, 1998). Work unit interdependence, however, has not been found to moderate work unit *ethnic* variety effects. Nevertheless, research on work unit task structure suggests that the relationship between work unit variety and outcomes is stronger when tasks require greater interaction among work unit members.

Evidence also suggests that elements of the social context moderate work unit ethnic variety effects. Using a student sample, researchers found a positive relationship between work unit ethnic variety and outcomes, including conflict and stress, in an ethnically homogeneous university but not in an ethnically diverse university (Martins et al., 2003). Given that the sample included only two universities and therefore the researchers could not control for other ways in which the universities differed, these results should be interpreted with caution. For example, because one university was private and prestigious whereas the other was public and less prestigious the two universities may have differed in their political orientation.

Another study investigated the effect of individualistic versus collectivistic work unit cultures on the relationship between ethnic variety and outcomes, although both diversity and outcomes were assessed at the individual level (Chatman et al., 1998). They found that being different from other work unit members in terms of race, nationality, and gender increased communication and perceptions of conflict as beneficial in collectivist work unit cultures, but not in individualistic work unit cultures. Although they provide some support for the role of work unit social context, these results should also be interpreted with caution because outcomes were assessed at the individual level.

In sum, research conducted within in the variety paradigm has produced inconsistent findings, with work unit ethnic variety having either a negative or a null impact on unit-level process and performance outcomes. Furthermore, only limited research has been conducted on contextual moderators of work unit ethnic variety effects.

### *The Subgroups Paradigm*

Recently, a second paradigm for studying work unit ethnic composition effects has emerged. In contrast to the variety paradigm, the subgroups paradigm predicts that work unit composition effects will be maximized when work units are composed of ethnic subgroups that are homogeneous within subgroups but vary between subgroups. Again consider work units 1-7 depicted in Figure 1. Work units 1-3, which are characterized by minimal variety, are also characterized by minimal subgroups. Because all work unit members belong to the same ethnic group, subgroups cannot form on the basis of ethnicity. Work units 4-6 are characterized by moderate variety, but maximal subgroups. Work units 4-6 each contain equal numbers of two different ethnic groups, which allows for the formation of subgroups. Finally, work unit 7 is characterized by maximal variety, but minimal subgroups. Because each work unit member belongs to a different ethnic group, subgroups cannot form.

#### *Theoretical Rationale*

The subgroups paradigm is grounded in faultlines theory (Lau & Murnighan, 1998). Faultlines occur when the characteristics of work unit members align such that subgroups can be formed with little variance within the subgroups but maximal variance between the subgroups. When stable subgroups exist, identification with a subgroup instead of the work unit as a whole prevents the work unit from functioning cohesively (e.g., Earley & Mosakowski, 2000; Lau & Murnighan, 2005; Thatcher, Jehn & Zanutto, 2003). Like the variety paradigm, research within the subgroups paradigm is grounded in self-categorization processes. Specifically, the faultlines perspective posits that ingroup favoritism and outgroup derogation will lead to conflict between subgroups. The



subgroups paradigm differs from the variety paradigm, however, in that outcomes of work unit composition are expected to be maximized when ethnic subgroups exist, instead of when each work unit member belongs to a different ethnic group. If there is a strong numerical majority within a work unit (e.g., five Black work unit members and one White work unit member) the numerical majority will be able to control work unit interactions. While work unit members in the numerical minority may experience especially negative individual outcomes, they will lack the power to impact unit-level outcomes.

### *Measurement*

Research conducted within the subgroups paradigm, like the variety paradigm, uses variety indices to assess work unit composition. When using indices of variety, however, the subgroups paradigm looks for curvilinear (i.e., U-shaped) rather than linear effects of on unit-level outcomes because moderate degrees of variety imply the existence of subgroups (e.g., Earley & Mosakowski, 2000). Therefore, research conducted within the subgroups paradigm predicts that work unit outcomes will be worse under conditions of maximal subgroups (i.e., moderate variety) than under conditions of minimal subgroups (i.e., minimal or maximal variety).

Research conducted within the subgroups paradigm also frequently combines multiple dimensions of diversity (e.g., age, tenure, ethnicity, gender) into a single index when calculating work unit composition. Therefore, in addition to assessing subgroups as curvilinear variety effects, researchers sometimes assess faultlines as the degree of alignment across multiple attributes (e.g., Gibson & Vermuelen, 2003; Lau & Murnighan, 2005; Thatcher et al., 2003). Due to the limited number of studies conducted within the

subgroups paradigm, I review research that assesses work unit subgroups by combining multiple diversity dimensions, including ethnicity, into a single index (i.e., Gibson & Vermuelen, 2003; Lau & Murnighan, 2005; Thatcher et al., 2003) as well as research that assesses work unit subgroups based on ethnicity alone (i.e., Earley & Mosakowski, 2000).

### *Research Evidence*

As with research conducted within the variety paradigm, research conducted within the subgroups paradigm has produced inconsistent results. Some research suggests that subgroups negatively impact unit-level outcomes by decreasing learning (e.g., Gibson & Vermuelen, 2003), decreasing planning and communication (Earley & Mosakowski, 2000), increasing process conflict (Thatcher et al., 2003), decreasing satisfaction and morale (Thatcher et al., 2003), and decreasing performance (Earley & Mosakowski, 2000). Researchers, however, have also found a null effect of work unit faultlines on unit-level outcomes including relationship conflict (Lau & Murnighan, 2005), task conflict (Thatcher et al., 2003), learning (Lau & Murnighan, 2005), satisfaction (Earley & Mosakowski, 2000), and expected performance (Lau & Murnighan, 2005). Finally, contrary to predictions, Lau and Murnighan (2005) found that strong subgroups positively impacted unit-level outcomes by decreasing relationship conflict, increasing psychological safety, and increasing satisfaction.

### *Contextual Moderators*

Although research on moderators is even more limited in the subgroups paradigm than in the variety paradigm, one study investigated the impact of context factors on work unit subgroup effects. Gibson and Vermuelen (2003) found that the curvilinear effect of

subgroup strength on work unit learning was moderated by leaders' performance management behavior, work unit empowerment, and the presence of knowledge management systems. They found, for example, that the effect of leader management on work unit learning was stronger for work units with either weak or strong subgroups than for work units with moderate subgroups.

Like the variety paradigm, the subgroups paradigm has produced inconsistent findings, with subgroups having a negative (e.g., Gibson & Vermuelen, 2003), null (e.g., Thatcher et al., 2003), or even positive (e.g., Lau & Murnighan, 2005) effect on unit-level outcomes. Furthermore, within the subgroups paradigm contextual moderators of ethnic subgroup effects remain even more unexplored than within the variety paradigm.

Evidence gathered within the subgroups paradigm, however, should be interpreted with caution given that researchers frequently combine multiple dimensions of diversity into a single index of work unit composition. In their original treatise on faultlines theory Lau and Murnighan acknowledged that combining diversity dimensions with different measurement properties into a single diversity index (e.g., a continuous measure of age and a categorical measure of ethnicity) is problematic (Harrison & Klein, 2007; Shaw, 2004). Furthermore, even combining multiple diversity dimensions with the same measurement properties is problematic in the absence of a clear theoretical rationale for the aggregate effect (Harrison & Klein, 2007).

Although measurement problems have likely affected research results within the subgroups paradigm, the subgroups approach has some benefits over the variety paradigm. Specifically, subgroups explain variance in work unit outcomes above the

effects of variety (Gibson & Vermuelen, 2003; Lau & Murnighan, 2005). Thus, the effect of ethnic subgroups on work unit outcomes is clearly an area in need of further research.

In summary, both the variety and subgroups paradigms have advanced the literature by providing theoretically-rich foundations for studying work unit ethnic composition. Unfortunately, within both paradigms empirical research has produced inconsistent findings. I argue that two key limitations of past research have contributed to inconsistencies in the literature. First, both the variety and subgroups paradigms assess ethnicity as a categorical variable and therefore treat all differences as equal. In the following chapter, I begin to move the work unit ethnic composition literature beyond categorical measures of ethnicity by introducing a status-based approach for understanding the dynamics ethnic diversity in work units. Second, although inconsistent findings across research studies suggest the presence of moderators (Johns, 2006), consideration of the social context as a moderator of work unit ethnic composition effects has been limited. Thus, in Chapter 3 I present a typology of work unit (i.e., learning climate, performance climate) and community (i.e., ethnic composition, economics, political climate) context factors that I predict will moderate the relationship between work unit ethnic composition and unit-level outcomes (Chapter 4).

## Chapter 3: A Status-Based Approach to Work Unit Ethnic Composition

In his theory of intergroup contact, Allport (1954) identified equal status as a key condition for reducing the negative outcomes of contact among members of different social groups. Past research on work unit ethnic composition, however, uses categorical measures of ethnicity and therefore treats all differences as equal. In other words, the degree of difference between any two individuals who belong to distinct ethnic groups is equally weighted, regardless of the specific groups to which the individuals belong. I theorize that status is a key dimension along which ethnic groups differ and introduce a status-based approach for understanding the dynamics of diverse work units. Specifically, I predict that outcomes will be worst in work units composed of two numerically equal ethnic subgroups with drastically different ethnic status.

### *Categorical Ethnicity versus Ethnic Status*

Figure 1 illustrates the limitations of using categorical measures of ethnicity. Work units 4-6 all consist of two numerically equivalent ethnic subgroups. Work unit 4 contains individuals from ethnic groups A and F, work unit 5 contains individuals from ethnic groups F and L, and work unit 6 contains individuals from ethnic groups A and L. Research conducted within the variety or subgroups paradigm would assign the same work unit ethnic composition score to all three work units. Yet, the history of interactions among ethnic groups A, F, and L, and subsequent degree of status ascribed to each group, may lead to drastically different dynamics within each work unit depicted. In more concrete terms, past research on work unit ethnic composition does not distinguish

between work units composed of numerical equivalent subgroups of Blacks and Whites and those composed of Asians and Whites or Blacks and Hispanics, for example.

I theorize that the degree of status ascribed to different ethnic groups within a given society, or *ethnic status*, is a key dimension on which ethnic groups vary. I define status as an individual's relative standing within a given social entity (e.g., work unit, community, society), which is determined by the degree of prestige and respect afforded to that individual (cf. Anderson, John, Keltner, & Kring, 2001; Berger, Cohen, & Zelditch, 1972; Lucas, 2003). Status hierarchies may emerge on the basis of any number of individual characteristics, both ascribed (e.g., gender) and achieved (e.g., job position). Studying ethnicity as marker of societal status is not new in organizational psychology. For example, past research has found that individual-level outcomes of work unit diversity (e.g., satisfaction, commitment) differ for members of high status (i.e., Whites) and low status (i.e., all ethnic minorities) ethnic groups (e.g., Chattopadhyay, 1999; Riordan & Shore, 1997; Tsui et al., 1992). The construct of ethnic status, however, departs from previous research by conceptualizing ethnicity-based status as a continuum instead of a dichotomy (i.e., Whites = 1; Asians, Blacks, Latinos = 0).

I predict that assessing work unit composition in terms of ethnic status will have greater explanatory power than assessing work unit composition in terms of categorical ethnicity (i.e., variety and subgroups). Consistent with the subgroups perspective, I theorize that numerically equal subgroups of individuals from different ethnic groups will maximize the negative effects of work unit ethnic composition on work unit outcomes. In departure from the subgroups perspective, I theorize that outcomes will be most negative when a work unit consists of numerically equal ethnic subgroups that are maximally

different in terms of ethnic status. I use the terminology coined by Harrison and Klein (2007), and refer to the specific pattern of work unit ethnic composition predicted to have the strongest effect on work unit outcomes as *ethnic status separation* (see Figure 2).

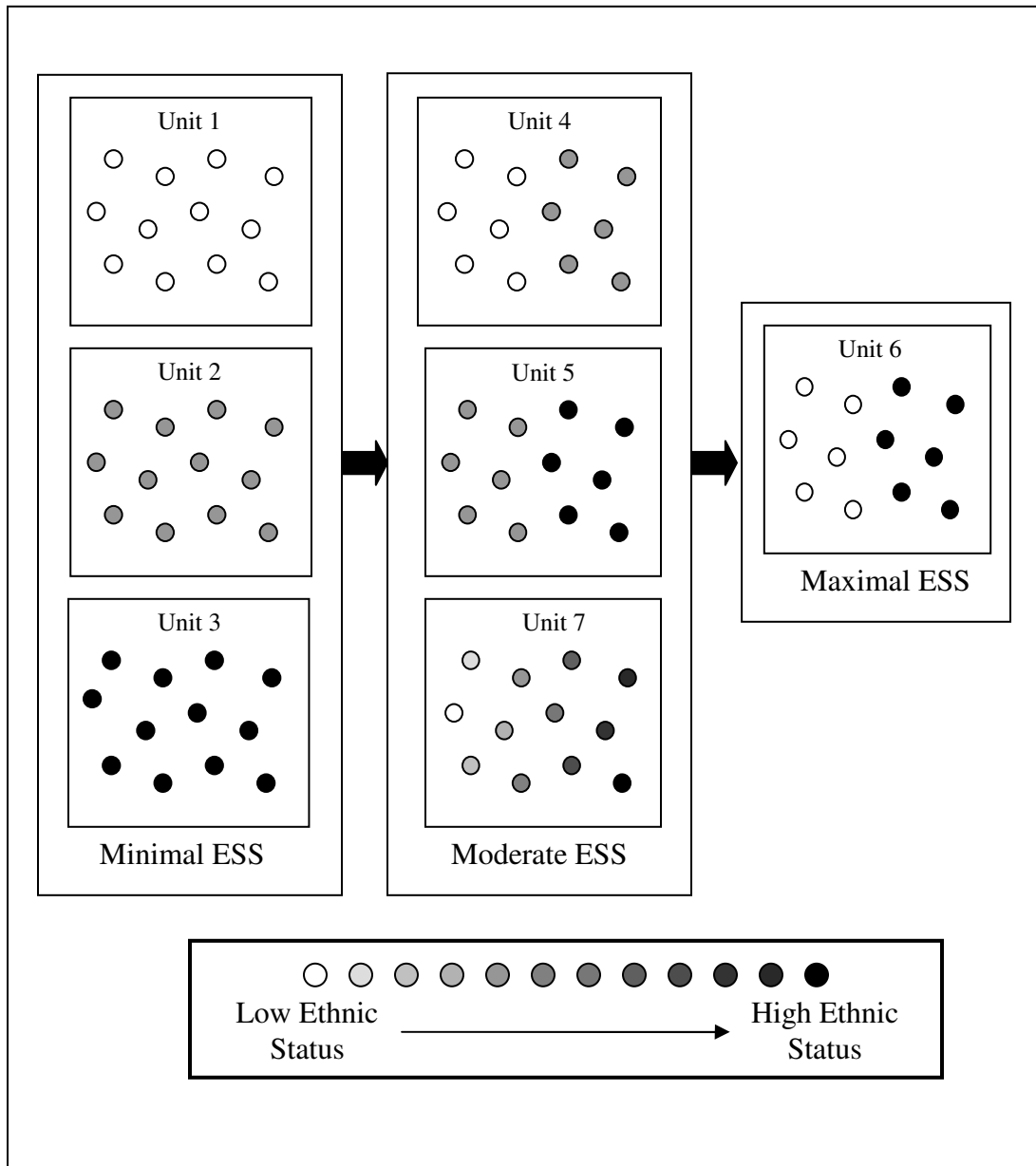


Figure 2. Patterns of work unit ethnic composition: Ethnic status separation (ESS).

A comparison of Figures 1 and 2 illustrates the difference between conceptualizing work unit composition as ethnic subgroups and ethnic status separation

(ESS). In Figure 1, work units 4-6 are all characterized by maximal ethnic subgroups, even though the two ethnic groups present varies across the three work units. Figure 2, however, indicates that work unit 6 is characterized by maximal ESS whereas work units 4 and 5 are characterized by only moderate ESS. Work unit 6 has maximal ESS because the work unit contains numerically equal subgroups of members of the highest and lowest status ethnic groups. ESS is only moderate in work units 4 and 5 because work unit 4 is composed of ethnic groups that are low and moderate in status, and work unit 5 is composed of ethnic groups that are moderate and high in status. Thus, a work unit composed of subgroups that differ drastically in ethnic status is characterized by maximal subgroups and maximal ESS. Alternatively, a work unit composed of subgroups that differ only moderately in ethnic status is characterized by maximal subgroups but moderate ESS.

As compared to ethnic variety or ethnic subgroups, I predict that work unit ESS will better reflect the dynamics of diverse work units. In building an argument for the effects of ESS, I review research on intergroup bias that substantiates the role of status in intergroup contact. As described below, social psychological research finds that intergroup contact is most likely to result in intergroup bias (i.e., favoritism toward the ingroup and derogation of the outgroup) when the two groups in contact have unequal status. By extension, I predict that work unit ethnic diversity will have the strongest negative impact on unit-level outcomes in units characterized by ESS.

#### *Status and Intergroup Contact*

Status is a key determinant of the degree of intergroup bias, including both ingroup favoritism and outgroup derogation, produced as the result of contact among



members of different social groups (Allport, 1954; Hewstone et al., 2002; Pettigrew, 1998; Tajfel, 1982; Tajfel & Turner, 1986; Triandis, Kurowski, & Gelfand, 1994). In the case of ethnicity, theoretical and empirical evidence suggests that intergroup bias is greater when interacting groups have drastically different status than when the groups have equal status (e.g., Bettencourt, Charlton, Dorr, & Hume, 2001). By extension, I theorize that the severe intergroup bias produced in work units composed of ethnic subgroups with different status (i.e., ESS) will negatively affect unit-level process and performance outcomes.

Social identity (e.g., Tajfel & Turner, 1986) provides a theoretical framework for understanding why ethnic status differences produce intergroup bias. Social identity theory posits that individuals strive to view the social groups to which they belong in a positive light to maintain self-esteem. To the extent that a social group holds a high status position, membership in that social group is viewed as a source of positive self-regard. Thus, members of high status groups are motivated to favor the high status ingroup and derogate lower status outgroups to preserve the status hierarchy and enhance self-esteem (e.g., Tajfel & Turner, 1986). Consistent with social identity theory, contact between members of high and low status social groups results in substantial intergroup bias among high status group members (Bettencourt et al., 2001; Hewstone, et al., 2002; Mullen, Brown, & Smith, 1992; Tajfel, 1982).

Contact with a high status group also produces intergroup bias among members of low status groups, although for slightly different reasons. Because low status group membership is inconsistent with self-esteem goals, members of low status groups reject the social hierarchy and take steps to improve the standing of their group (Bettencourt et

al., 2001; Ellemers, Wilke, & van Knippenberg, 1993; Hewstone et al., 2002; Turner & Brown, 1978). Thus, low status ethnic groups are motivated to favor the ingroup and derogate high status outgroups as an avenue for social change. Empirical evidence supports this prediction and shows that low status group members engage in substantial intergroup bias when in contact with members of a high status outgroup (e.g., Caddick, 1980; Reichl, 1997; Tajfel, 1982). The described pattern of intergroup bias applies when status differences are illegitimate (i.e., not based on a fair assessment of performance), unstable (i.e., ethnic status changes over time) and impermeable (i.e., ethnic status changes over time), as is the case with ethnicity. When these conditions are not met, however, low status group members favor the outgroup and derogate the ingroup (see Bettencourt et al., 2001 for a meta-analysis).

In summary, research on status and intergroup contact suggests that contact among members of different ethnic groups produces the most intergroup bias, among both low and high status group members, when the specific ethnic groups in contact have drastically different status (i.e., ESS). In turn, I theorize that the increased intergroup bias in work units characterized by ESS will impede units from functioning as a collective whole, and therefore negatively affect unit-level outcomes. The social psychological literature on intergroup bias substantiates the importance of status in intergroup contact, yet the proposed effect of work unit ESS on unit-level outcomes departs from past work in three ways. First, the social psychological literature is based on contact between one high status group and one low status group, whereas ethnic status is a continuous construct. Second, social psychological research focuses on the effect of status differences on individual (e.g., attitudes) rather collective (e.g., work unit performance)

outcomes. Finally, most social psychological research has not been conducted in organizational contexts. Thus, I build upon past work by predicting that work unit ESS will have a detrimental effect on work unit outcomes. Below I detail the specific unit-level process and performance outcomes I expect to be affected by work unit ESS.

#### *Work Unit Ethnic Status Separation and Unit-Level Outcomes*

I predict that work unit ESS will have a negative linear relationship with unit-level process and performance outcomes. In other words, I theorize that outcomes of ethnic composition will be most negative in work units composed of two numerically equal subgroups that differ maximally in ethnic status (i.e., maximal ESS, unit 6 in Figure 2), and most positive in ethnically homogeneous work units. The prediction that homogeneous work units (units 1-3 in Figure 2) will have better process and performance outcomes than diverse work units (units 4-7 in Figure 2) is common in the ethnic composition literature (e.g., Earley & Mosakowski, 2000; Harrison et al., 1998; Pelled et al., 1999). Diversity researchers, however, disagree about the *pattern* of work unit ethnic diversity predicted to have the strongest negative impact on unit-level processes and performance. Specifically, some researchers predict outcomes will be worst in the case of ethnic variety (unit 7 in Figure 2; e.g., Harrison et al., 2002), while others predict outcomes will be worst in the case of ethnic subgroups (unit 4-6 in Figure 2; e.g., Earley & Mosakowski, 2000). Therefore, I provide further justification for why I expect unit-level outcomes to be most negative in the case of maximal ESS.

The prediction that work unit ESS will negatively impact unit-level outcomes builds upon the subgroups paradigm of work unit diversity, which is grounded in faultlines theory. Faultline theorists posit that the existence of subgroups within a work

unit, and the associated tendencies toward ingroup favoritism and outgroup derogation, prevents the work unit from functioning as a cohesive whole and therefore negatively impacts unit-level outcomes (e.g., Earley & Mosakowski, 2000; Lau & Murnighan, 2005; Thatcher, Jehn & Zanutto, 2003). The predicted negative relationship between work unit ESS and unit-level outcomes, however, goes beyond upon faultlines theory by accounting for status differences among ethnic subgroups. Social psychological research finds that intergroup bias is most severe in the case of unequal status (e.g., Bettencourt et al., 2001), which supports the prediction that outcomes of work unit diversity will be worse when ethnic subgroups within a work unit have drastically different status (unit 6 in Figure 2) than when ethnic subgroups have similar status (units 4 and 5 in Figure 2).

The predicted negative relationship between work unit ESS and unit-level process and performance outcomes also implies that outcomes of work unit diversity will be worse in the case of maximal ESS (unit 6 in Figure 2) than in the case of ethnic status variety, that is, a work unit in which each member belongs to a different ethnic group and therefore has a different degree of ethnic status (unit 7 in Figure 2). In work units characterized by ethnic status variety, unlike work units characterized by ESS, subgroups cannot form on the basis of ethnic status. As a result, diverse work unit members identify with the work unit as a whole, rather than an ethnic subgroup within the work unit, which in turn minimizes tendencies toward inter-ethnic group bias (cf. Earley & Mosakowski, 2000; Lau & Murnighan, 1998; 2005). Thus, work units characterized by ethnic status variety are more likely to function as a cohesive unit, and therefore will experience better process and performance outcomes, than work units characterized by maximal ethnic status separation.

In summary, I predict a linear negative relationship between work unit ESS and unit level process and performance outcomes. The specific unit-level process outcomes I theorize will suffer as the result of the tendencies toward ingroup favoritism and outgroup derogation that characterize maximal ESS include work unit conflict, cohesion, and trust. Consistent with input-process-outcome models of work unit dynamics (e.g., Guzzo & Shea, 1992; Hackman & Morris, 1975), I theorize that the high levels of conflict and low levels of cohesion and trust that characterize maximal ESS work units will negatively impact unit-level performance, including financial performance, manager-rated performance, and manager-rated organizational citizenship behaviors.

#### *Work Unit Relationship Conflict*

I predict that the intergroup bias present in work units characterized by ESS will lead to conflict between members of different ethnic subgroups. Conflict consists of three separate components: relationship conflict, task conflict, and process conflict (Jehn, 1997; Jehn & Chatman, 2000; Jehn, Northcraft, & Neale, 1999). Relationship conflict refers to conflicts over personal and social issues that are unrelated to the tasks assigned to the work unit. Alternatively, task conflict refers to disagreements concerning the work required of the unit. Finally, process conflict refers to disagreements about how to accomplish the work assigned to the unit, including issues such as the delegation of responsibilities and resources. Given that ethnicity is a reflection of societal status, not job knowledge, skills or abilities, it is not surprising that work unit ethnic composition has a more consistent effect on relationship conflict than on task conflict (e.g., Jehn, Chadwick, & Thatcher, 1997; Pelled et al., 1999). Thus, I predict that work unit ESS will

increase relationship conflict. Although not formally hypothesized, I will also explore the effect of work unit ESS on task and process conflict.

*Hypothesis 1a:* As work unit ESS increases, unit-level relationship conflict will increase.

#### *Work Unit Cohesion*

Similarly, I propose that ESS will affect work unit cohesion. Work unit cohesion, an element of work unit social integration (e.g., Harrison et al., 1998), reflects the extent to which members of a work unit view themselves as an integrated whole. Intergroup bias within a unit, due to ESS, will prevent work unit members from viewing the work unit as a cohesive entity. Therefore, I predict a negative effect of work unit ESS on work unit cohesion.

*Hypothesis 1b:* As work unit ESS increases, unit-level cohesion will decrease.

#### *Work Unit Trust*

Finally, I predict that work unit ESS will affect work unit trust. Trust is defined as “the willingness of a party to be vulnerable to the actions of another party” (Mayer, Davis, & Schoorman, 1995, p. 712). Work unit ESS, and the resulting tendencies toward ingroup favoritism and outgroup derogation, decreases willingness to be vulnerable to members of other ethnic subgroups. Therefore, I predict a negative relationship between work unit ESS and work unit trust.

*Hypothesis 1c:* As work unit ESS increases, unit-level trust will decrease.

#### *Work Unit Performance Outcomes*

In addition to unit-level processes, I theorize that work unit ESS will affect unit-level performance. Consistent with past research (e.g., Harrison et al., 2002; Kirkman et

al., 2004; Pelled et al., 1999; Williams & O'Reilly, 1998), I predict that the effect of work unit ethnic composition on work unit performance will be mediated by work unit processes. In support of a mediated relationship, increased conflict (e.g., Jehn, 1997; Jehn, et al., 1999), decreased cohesion (e.g., Beal, Cohen, Burke, & McLendon, 2003; Guzzo & Shea, 1992) and decreased trust (e.g., Dirks, 2000; Klimoski & Karol, 1976; McAllister, 1995) all negatively impact work unit performance. Thus, through the predicted effects on unit-level processes, I predict that work unit ESS will negatively affect performance metrics, including both financial performance and manager-rated performance. I also predict that work unit ESS will have a negative effect on contextual performance, specifically organizational citizenship behaviors (OCBs). Although originally conceptualized at the individual level (e.g., Bateman & Organ, 1983), OCBs have also been validated as an indicator of unit-level performance (e.g., Ehrhart, 2004; Organ & Ryan, 1995).

*Hypothesis 2:* As work unit ESS increases, unit-level (a) financial performance, (b) manager-rated performance, and (c) manager-rated OCBs will decrease.

*Hypothesis 3:* The negative effect of work unit ESS on unit-level performance (i.e., financial performance, manager-rated performance, manager-rated OCBs) will be mediated by unit-level (a) relationship conflict, (b) cohesion, and (c) trust.

#### *Ethnic Status versus Ethnic Group Membership*

Hypotheses 1-3 specify a baseline model for the effect of work unit ESS on unit-level process and performance outcomes. Assessing work unit ethnic composition in terms of ESS departs from previous research by conceptualizing ethnicity as a continuum, instead of as a categorical construct. Specifically, research conducted within

the variety paradigm operationalizes work unit ethnic composition as the linear effect of work unit variety, and research conducted within the subgroups paradigm operationalizes work unit ethnic composition as the curvilinear effect of work unit variety. Because indices of variety are based on categorical ethnic group membership, both the variety and subgroups paradigms treat all differences as equal. Alternatively, operationalizing work unit ethnic composition as ESS accounts for the *degree* of difference among ethnic groups. Therefore, I predict that work unit ESS will explain more variance in unit-level outcomes than either the linear (i.e., ethnic variety) or curvilinear (i.e., ethnic subgroups) effect of work unit variety.

*Hypothesis 4:* Work unit ESS will be a stronger predictor of unit-level (a) processes (i.e., relationship conflict, cohesion, trust) and (b) performance (i.e., financial performance, manager-rated performance, manager-rated OCBs) than either work unit ethnic variety or work unit ethnic subgroups.

In the proposed baseline model, work unit ESS is predicted to negatively impact work unit performance by increasing relationship conflict, decreasing cohesion, and decreasing trust. I also predict that work unit ESS will explain more variance in unit-level outcomes than either ethnic variety or ethnic subgroups. Integrating status into a model of work unit ethnic composition, however, only addresses one of two key limitations of past research. In the following chapter, I further theorize that the degree of cooperation or competition in the social context will moderate the relationship between work unit ESS and unit-level outcomes.



## Chapter 4: Cooperative and Competitive Contexts

In addition to equal status, intergroup cooperation was also identified by Allport (1954) as a key condition for reducing intergroup bias. Similarly, psychological and sociological theories of intergroup threat and competition (e.g., Campbell, 1965; Nagel, 1995; Quillian, 1996) suggest that the degree of competition, either real or perceived, among social groups is a key antecedent of intergroup prejudice and discrimination. Specifically, intergroup competition theories posit that individuals perceive a gain for one social group as a loss for other social groups, leading to competition for scarce resources. The perception that the interests of one social group are in direct competition with the interests of other social groups leads to threat, ingroup bias, outgroup derogation, and discrimination among interacting members of different social groups. It follows that highly competitive contexts will exacerbate intergroup biases whereas cooperative contexts will ameliorate intergroup biases. Consistent with this proposition, research has found that fostering cooperation reduces tendencies toward ingroup favoritism and outgroup derogation (e.g., Bettencourt, Brewer, Croak, & Miller, 1992; Sherif, 1958).

In spite of support for the role of cooperation and competition in intergroup contact, research on work unit ethnic composition has largely ignored the potential moderating effect of cooperative and competitive contexts (see Chatman et al., 1998 for a notable exception). Extending Allport's (1954) theory to organizational settings, I predict that cooperative contexts will ameliorate, but competitive contexts will exacerbate, the negative effects of work unit ESS on unit-level outcomes. To this end, I present a typology of work unit and community context factors predicted to facilitate either cooperative or competitive environments. Although a wide range of factors may facilitate

cooperation or competition, I explore only a limited number of contextual moderators. As illustrated in Figure 3, at the work unit level I include one marker of cooperation (i.e., learning climate) and one marker of competition (i.e., performance climate). At the community level, I include three markers of competition, including demography (i.e., community ESS), economics (i.e., community economic hardship), and political climate (i.e., community conservative political climate).

#### *Work Unit Context*

An abundance of research in the organizational sciences suggests that work unit context, and specifically work unit climate, impacts both social experiences (e.g., interpersonal violence, discrimination) and performance outcomes (e.g., productivity, innovation) within organizations (e.g., Byrne, Stoner, Thompson, & Hochwater, 2005; Dietz, Robinson, Folger, Baron, & Schultz, 2003; Patterson Warr & West, 2004; Patterson et al., 2005; Ziergert & Hanges, 2005). I similarly theorize that work unit climate will be a key determinant of process and performance outcomes in work units characterized by ESS. I focus on the specific constructs of learning and performance climate (Dragoni, 2004; 2005), and predict that learning climate will ameliorate, but performance climate will exacerbate, the negative effects of work unit ESS on unit-level outcomes.

The constructs of unit-level learning and performance climate stem from the literature on individual-level goal orientation. Goal orientation is a multidimensional motivational construct that refers to the frame with which individuals approach a task (Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Vandewalle, 1997; Zweig & Webster, 2004). Individuals with a learning orientation are motivated to develop their

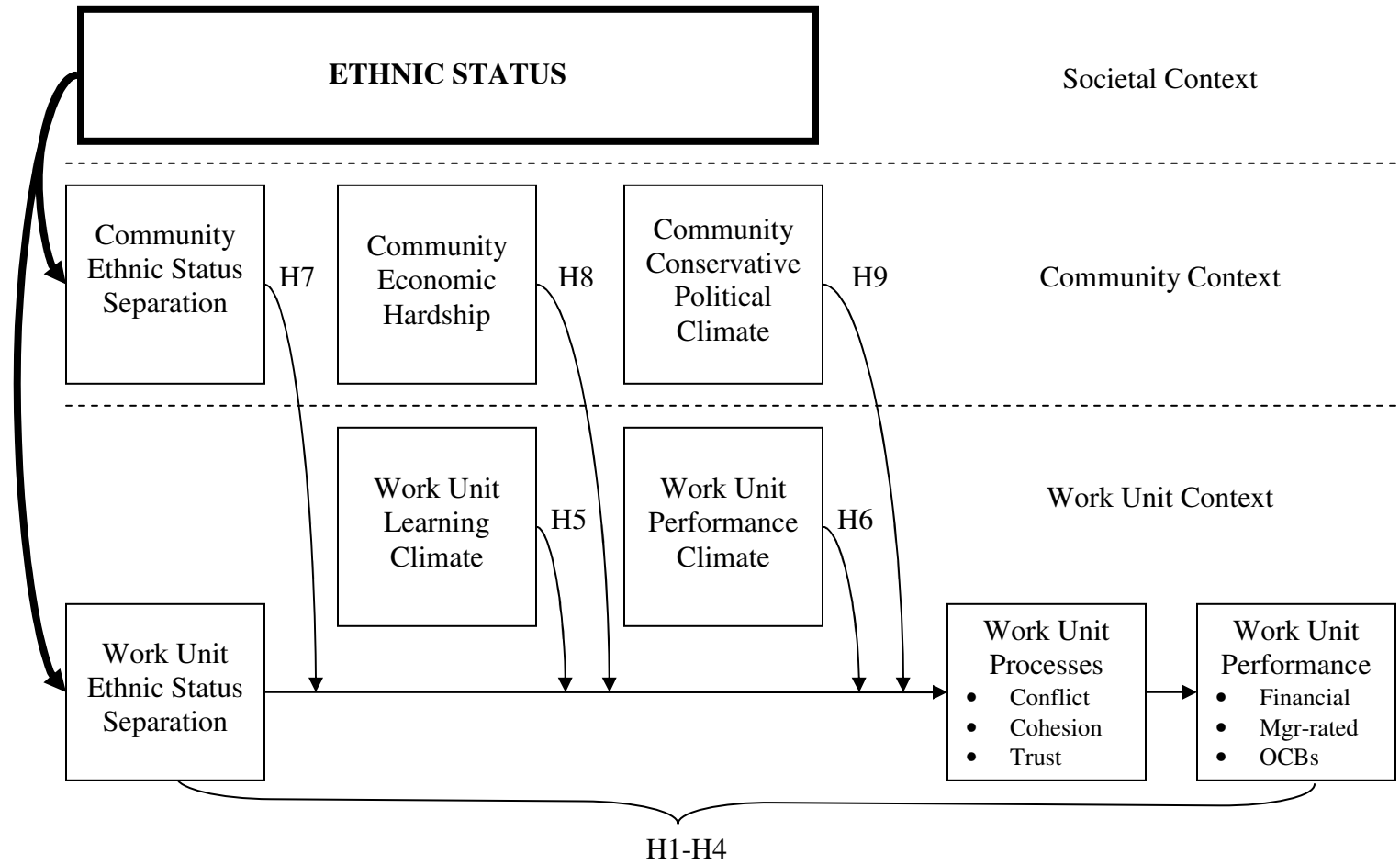


Figure 3. A contextualized model of work unit ethnic composition effects.

abilities and therefore seek opportunities to gain new skills (VandeWalle, 1997), whereas individuals with a performance orientation are motivated to demonstrate their abilities and therefore seek opportunities to make favorable impressions on others (VandeWalle, 1997). Although originally validated as individual difference traits, researchers have since found empirical support for learning and performance orientation as unit-level constructs (Ames, 1992; Bunderson & Sutcliffe, 2003; Nicholls, 1984). Based on evidence that contexts can produce a shared understanding of the extent to which learning or performance goals are valued, Dragoni (2004; 2005) introduced the constructs of unit-level learning and performance climates.

### *Learning Climate*

Learning climates create low threat, cooperative contexts. Learning climate is defined as shared perceptions of the extent to which development goals are emphasized within a work unit (Dragoni, 2004; 2005). In learning climates, work unit members are rewarded for developing new skills and abilities. One work unit member's progress toward development goals does not prevent other unit members from pursuing the same goals. In turn, the lack of zero-sum reward allocations prevents coworkers from competing with one another for scarce resources. Furthermore, coworkers are encouraged to provide one another with constructive feedback and are therefore are viewed as a source of support and encouragement. Finally, unit members are encouraged to explore new ways of accomplishing their work. They are not punished for failures and are encouraged to view setbacks as learning opportunities. In summary, the focus on development goals, instead of individual performance, creates a low threat environment that allows coworkers to collaborate with one another without fearing that their personal

rewards will suffer. Thus, I predict that the cooperative norms engendered in strong learning climates will ameliorate the negative effects of work unit ESS.

*Hypothesis 5:* Work unit learning climate will ameliorate the negative relationship between work unit ESS and unit-level (a) processes (H1a-c) and (b) performance (H2a-c) such that the strength of the relationship will decrease as learning climate increases.

In other words, I predict that diverse work units (i.e., maximal ESS) will experience more favorable outcomes in high learning climates than in low learning climates.

### *Performance Climate*

In contrast to learning climates, performance climates create high threat, competitive contexts. Performance climate reflects shared perceptions of the extent to which unit members strive to demonstrate their competence (Dragoni, 2004; 2005). Performance climates are characterized by an emphasis on continual evaluation of work unit members as a means of determining external rewards. Unit member performance is evaluated in direct comparison to coworker performance, resulting in competition among unit members for resources. Thus, members of performance oriented work units view coworkers as threats to personal achievement and pursue individual accomplishment instead of collaboration. I predict that the high degree of intra-work unit competition engendered in strong performance climates will exacerbate the negative effects of work unit ESS on unit-level outcomes.

*Hypothesis 6:* Work unit performance climate will exacerbate the negative relationship between work unit ESS and unit-level (a) processes (H1a-c) and (b) performance (H2a-c) such that the strength of the relationship will increase as performance climate increases.

Stated differently, I predict that diverse work units (i.e., maximal ESS) will experience worse outcomes in high performance climates than in low performance climates.

### *Community Contexts*

In addition to considering the effects of the immediate work unit context, I add to the small but growing body of research on the role that the broader community context plays in shaping organizational life (Brief, Butz, & Deitch, 2005; Brief et al., 2005b; Dietz, et al., 2003; Sacco & Schmitt, 2005). Organizational theorists have long noted that organizations are open systems and therefore subject to external influences (e.g., Katz & Kahn, 1978; Scott, 1998). Yet, organizational research seldom extends beyond organizational boundaries to explore how work unit dynamics are affected by the contexts in which they are embedded. In integrating the role of community contexts into work unit ethnic composition research, I theorize that through interaction with the broader environment work units develop an ambient climate that is a microcosm of community-level dynamics. Moreover, I predict that the ambient social climate provides cues regarding cooperation and competition, which affect outcomes of work unit ESS. I first describe the processes through which community characteristics are theorized to spillover into work units. I then make specific predictions regarding the moderating effect of community-level factors (i.e., ethnic composition, economics, political climate) on the relationship between work unit ESS and unit-level outcomes.

In service-oriented organizations (e.g., banks, restaurants, retail stores), customer interaction provides one mechanism through which elements of the community, including ethnic composition, economics, and political climate, are integrated into work unit

contexts. Through such interactions, geographically-dispersed work units, which are part of the same overarching organization, may develop different atmospheres.

As an illustration, consider two branches of the same bank, one located in rural West Virginia and one located in downtown Washington, District of Columbia. Imagine walking into the West Virginia Branch on a weekday morning in early 2005. Four or five customers, all White, are waiting in line to speak to the teller, who is also White. Recently, many customers have been having trouble meeting their financial obligations to the bank, and branch revenue has suffered as a result. Just outside of the branch, a woman is passing out “Support Our Troops” bumper stickers. As customers pass in and out of the branch they stop to chat with her about the valiant efforts of the American troops fighting terrorism in Iraq and Afghanistan.

On the same morning, the atmosphere in the Washington branch is quite different. The branch is crowded with 25 or more customers, half Black and half White. Two tellers, one Black and one White, are working. The branch has been doing an especially large volume of business recently, and revenues are soaring. The morning news is playing on a television set in the corner of the branch, and a newscaster is giving a recap of President Bush’s recent inaugural address. The coverage prompts several customers to grumble about their frustrations with the current administration and express disbelief that Bush was reelected in light of the ongoing fiasco in the Middle East.

The branches described above are part of the same organization, yet differences in the community-level context have produced different atmospheres. I theorize that community-level influences on the work unit environment, in turn, provide cues that shape employee interactions. As described by Salancik and Pfeffer (1978) in their work

on social information processing, “individuals, as adaptive organisms, adapt attitudes, behavior and beliefs to their social context” (p. 226). Thus, to the extent that community dynamics are salient in a given work unit, community-level characteristics play a role in how work unit members interpret events, and therefore shape interpersonal interactions among unit members.

Although a wide range of community characteristics are likely to affect work unit dynamics, I focus on elements of the community context that have implications for the degree of perceived competition in the environment. Specifically, I explore the effect of community-level ethnic composition, economics, and political climate on the relationship between work unit diversity and unit-level outcomes.

#### *Community Ethnic Composition*

The job description of bank branch employees includes extensive customer interaction. Frequent encounters with and observation of branch customers make the ethnic composition and intergroup dynamics of the broader community salient to branch employees. As evidenced by a large body of sociological research (e.g., Nagel, 1995; Quillian, 1996), community-level ethnic composition has implications for the degree of competition among different ethnic groups. Thus, I theorize that community-level ethnic composition will affect outcomes of work unit ESS. Specifically, I predict that the negative effects of work unit ESS on unit-level outcomes will be stronger in communities characterized by both maximal ESS (i.e., diverse communities) and minimal ESS (i.e., homogeneous communities), than in communities characterized by moderate ESS.

Sociological theory and research support the prediction that high community ESS will exacerbate the negative relationship between work unit ESS and unit-level outcomes.



Theories of intergroup competition posit that the percentage of low status groups living in a community positively affects threat and competition among ethnic groups and, in turn, intergroup bias and discrimination (e.g., Nagel, 1995; Quillian, 1996). Consistent with theory, research supports a curvilinear relationship between the percentage of Blacks living in a community and anti-Black prejudice and discrimination among Whites, such that prejudice and discrimination are most likely to occur in communities that are 50% Black and 50% White (Blalock, 1956; Giles, & Evans, 1986; Taylor, 1998). Assuming that Blacks possess low ethnic status and Whites possess high ethnic status, a curvilinear relationship suggests that intergroup bias is greatest under conditions of maximal ESS (i.e., 50% Black, 50% White). Although I recognize that sociological research has primarily focused on the effects of community demography on the attitudes of Whites, I predict that maximal ESS in the community, and the associated tendencies toward intergroup competition, will exacerbate the negative effects of work unit ESS.

Theory and research also suggest that outcomes of work unit ESS may be especially severe in minimal ESS, or homogeneous, communities. In homogeneous communities, ethnic differences within the workplace are highly salient and therefore likely to produce intergroup bias and discrimination. Consistent with this notion, researchers found that work unit ethnic variety increased work unit conflict and stress in a homogeneous university, but not in a university characterized by ethnic variety (Martins et al., 2003). Thus, I predict that the negative effects of work unit ESS will be exacerbated in communities characterized by both maximal and minimal ESS, but not in communities characterized by high ethnic variety. Because ethnicity variety is equivalent to moderate ESS (see work unit 7 in Figures 1 and 2), I predict that work unit ESS will

have negative outcomes in communities characterized by maximal or minimal ESS, but not in communities characterized by moderate ESS.

*Hypothesis 7:* Community ESS will moderate the negative relationship between work unit ESS and unit-level (a) processes (H1a-c) and (b) performance (H2a-c) such that the relationship will be stronger in communities with maximal or minimal ESS than in communities with moderate ESS.

Put differently, I predict that diverse work units (i.e., maximal ESS) will have worse outcomes when embedded in either highly diverse (i.e., maximal ESS) or highly homogeneous (i.e., minimal ESS) communities, than when embedded in moderately diverse communities (i.e., variety).

#### *Community Economics*

Like community ethnic composition, community economics are also likely to be salient to work unit (i.e., bank branch) members. The primary function of bank branches is to handle customer finances. Thus, involvement with the transactions made by branch customers, such deposits, withdrawals, and loans, provides strong cues regarding the economic well-being of the community. Community economics, like community demography, also have implications for the degree of community-level intergroup bias. As described below, I predict that the tensions present in communities characterized by economic hardship will exacerbate the negative relationship between work unit ESS and unit-level outcomes.

Theories of intergroup competition posit that because individuals perceive resources as a fixed pie, the advancement of one group implies a setback for other groups. Under conditions of economic hardship, resources become scarcer and more

valuable. Thus, poor economic conditions increase the intensity of competition over resources, which in turn increases intergroup bias. Consistent with this argument Quillian (1996) found that as the degree of economic hardship in a community increases, so does anti-Black prejudice among Whites. Although this study assessed the effects of economic hardship on attitudes among Whites only, I theorize that scarce resources will have a similar negative effect on anti-White attitudes among members of low status ethnic groups (e.g., Blacks), and therefore increase the degree of intergroup bias in the community as a whole. Thus, I predict that community-level economic hardship, and the associated tendencies toward intergroup bias and competition, will exacerbate the negative effects of work unit ESS on unit-level outcomes.

*Hypothesis 8:* Community economic hardship will exacerbate the negative relationship between work unit ESS and unit-level (a) processes (H1a-c) and (b) performance (H2a-c) such that the strength of the relationships will increase as economic hardship increases.

In other words, I predict that diverse work units (i.e., maximal ESS) will have worse outcomes when embedded in poor communities than when embedded in affluent communities.

#### *Community Political Climate*

As with community ethnic composition and economics, there are numerous mechanisms through which the political leanings of the community are likely to become salient to branch employees. For examples, casual conversations among customers may convey the dominant political orientation of the community. Similarly, preceding major elections branch customers may advertise their political orientation by wearing buttons or

clothing in support of a particular candidate. Furthermore, employees may observe signs supporting republican or democratic candidates in the neighborhoods surrounding the branch that provide insight into the politics of the community. Because the increasing polarization of American political attitudes has made political orientation a highly contentious issue, I theorize that these cues will be salient to branch members and therefore affect branch interactions. Specifically, drawing from research on social dominance orientation, I predict that strong community-level political conservatism will exacerbate the negative effect of work unit ESS on work-unit outcomes.

Social dominance orientation reflects, “antiegitarianism, a view of human existence as zero-sum and relentless competition between groups, the desire for generalized, hierarchical relationships between groups, and in-group dominance over out-groups” (Sidanius, Pratto, & Bobo, 1994, p. 999). Although a distinct construct, conservative political ideology is positively correlated with social dominance orientation (Sidanius et al., 1994; Pratto, Sidanius, Stallworth, & Malle, 1994), suggesting that individuals who endorse a conservative ideology are also more likely to believe in inherent competitiveness among groups and demonstrate intergroup bias. Consistent with this prediction, political conservatism is positively correlated with tendencies toward ingroup favoritism and outgroup derogation (e.g., Bierbrauer & Klinger, 2002; Christopher & Mull, 2006; Pratto et al., 1994). Although conducted at the individual level of analysis, the link between conservative political ideology and social dominance orientation lends some support to the prediction that the perceived competitiveness among social groups, and resulting intergroup bias, will be greater in conservative

communities than in liberal communities. Therefore, I predict that conservative political climates will exacerbate work unit ethnic composition effects.

*Hypothesis 9:* Conservative community political climate will exacerbate the negative relationship between work unit ESS and both (a) work unit processes (H1a-c) and (b) work unit performance (H2a-c) such that the strength of relationship will increase as conservative political climate increases.

Put differently, I predict that diverse work units (i.e., maximal ESS) will have worse outcomes when embedded in conservative climates than when embedded in liberal climates.

#### *Summary of Proposed Model*

I begin to address limitations of past research by incorporating the role of both status dynamics and the degree of cooperation and competition in the social context into work unit ethnic composition research (see Figure 3). I introduce the construct of ethnic status, which reflects the degree of status ascribed to individuals based on ethnic group membership, and predict that ESS will negatively impact work unit processes and performance (Hypotheses 1-3). Furthermore, I predict that ESS will explain more variance in unit-level outcomes than categorical measures of ethnic composition will (Hypothesis 4). Finally, I predict that elements of the work unit and community context will moderate work unit ethnic composition effects (Hypotheses 5-9). Specifically, I predict that contexts that facilitate cooperation will ameliorate, but contexts that facilitate competition will exacerbate, the negative effects of work unit ESS on unit-level outcomes. I test the model depicted in Figure 3 in a series of two studies. In Study 1 I develop a measure of ethnic status; in Study 2 I test Hypotheses 1-9.

## Chapter 5: Developing a Measure of Ethnic Status (Study 1)

The purpose of Study 1 was to develop and validate a measure of ethnic status.

Ethnic status is continuum which reflects the degree of societal status ascribed to individuals based on ethnic group membership. Before developing the measure, I make predictions concerning the expected status hierarchy of the four largest ethnic groups within the United States (Asians, Blacks, Hispanics, Whites; see Table 1). I draw on three sources of evidence: the allocation of economic resources among ethnic groups, racial similarity, and the history of relationships among ethnic groups, in predicting where each ethnic will fall on the status hierarchy.

Table 1

### *Economic Outcomes by Ethnic Group*

Ethnic Group	% of U.S. Population	Per Capita Income	% Above Poverty	% with Bachelor's	% Employed
Asians	4%	\$27,201	89%	49%	94%
Blacks	12%	\$16,676	74%	17%	87%
Hispanics	15%	\$14,461	78%	12%	91%
Whites	67%	\$29,025	91%	30%	95%

*Notes.* Data presented in this table came from the American Community Survey for the year 2005 (U.S. Census Bureau, 2005). Percent employed was calculated as a percentage of the total civilian labor force. Hispanics were defined as all individuals who reported ethnicity as Hispanic/Latino, regardless of race. The remaining categories were defined as all individuals who reported race as Asian, Black or White, and reported ethnicity as not Hispanic.

### *Ethnicity-Based Status in the United States*

Within a given society, status is a partial determinant of the allocation of favorable outcomes, including power, influence, and economic resources (e.g., Gould, 2002; Keltner, Gruenfeld, & Anderson, 2003; Noel, 1968). Given that ethnic group membership is a source of status (e.g., Noel, 1968), the status hierarchy of ethnic groups

within a society should covary with the degree of economic resources achieved by each ethnic group. Thus, in making predictions regarding the expected status hierarchy, I draw on a number of indicators of the stratification of economic resources across ethnic groups, including income, poverty status, educational attainment, and employment rates (cf. Dietz et al., 2003; Sacco & Schmitt, 2005).

Table 1 reports the per capita income, percent above poverty, percent with bachelor's degree, and percent employed for the four most populous ethnic groups within the United States. Across indicators, Whites have the most favorable economic outcomes. (Educational attainment, however, is highest among Asians.) Evidence that Whites have the highest status in the United States is consistent with both their position as the dominant group as well as past research which dichotomizes ethnic group membership into high (i.e., Whites) and low (i.e., all other ethnic groups) status groups (e.g., Baron & Newman, 1990; Bunderson, 2003). Among the three remaining ethnic groups, Asians have the most favorable economic outcomes across all indicators. Evidence that Asians have higher societal status than Hispanics and Blacks is consistent with demarcation of Asians as the "model minority" (e.g., Cheryan & Bodenhausen, 2000; Kawai, 2005). The model minority label suggests that Asians occupy a higher position within the United States than Hispanics or Blacks, although Asians do still experience more discrimination than Whites (e.g., Bell, Harrison, & McLaughlin, 1997). Thus, metrics of economic attainment support that Whites have higher status than Asians, and that Asians have higher status than either Blacks or Hispanics. Economic arguments, however, do not provide a clear picture regarding the relative positions of Blacks and Hispanics. As compared to Hispanics, Blacks have higher per capita income and educational attainment,

but also a smaller percentage above poverty and lower employment rates. Thus, I turn to evidence based on racial similarity and the history of intergroup relationships in the United States to determine the relative standing of Blacks and Hispanics.

The racial similarity hypothesis suggests that the status of minority groups within a society is a function of the extent of difference in skin color between the majority group and each minority group (Noel, 1968; Tienda & Lii, 1987). Using racial similarity to Whites as a justification for status rankings leads to the prediction that Hispanics are afforded higher status than Blacks, given that the degree of difference in skin color is greater between Whites and Blacks than between Whites and Hispanics. A status hierarchy based purely on racial similarity, however, would also suggest that Hispanics have higher status than Asians. Because Asians have markedly better economic outcomes than Hispanics, however, I predict that Asians have higher societal status than Hispanics.

In addition to the racial similarity hypothesis, the history of relationships between Blacks and Whites within the United States provides further evidence that Hispanics occupy a higher social position than Blacks. Through the institution of slavery, White Americans have imposed a greater degree of discrimination and subordination on Blacks than on any other ethnic group. The intensity of Black-White conflict, in combination with the predicted societal position of Whites at the top of the ethnic status hierarchy, suggests that Blacks are more firmly entrenched at the bottom of the status hierarchy than Hispanics. Consistent with these arguments, research suggests that Hispanics face fewer barriers to advancement than Blacks within the United States (Frisbie & Neidert, 1977; Tienda & Lii, 1987).



### *Study 1 Predictions*

In summary, I predict that ethnic group membership serves as a marker of societal status in the United States such that Whites have the highest status, followed by Asians, Hispanics, and then Blacks. As described below, I test this prediction by developing a measure of ethnic status. To test of the measure's validity, I also predict that the ethnic status scale will be related to a number of variables that correlate with perceptions of status. For example, high status individuals are viewed as more competent, intelligent, and assertive than low status individuals (e.g., Berger, Ridgeway, & Zelditch, 2002; Blau & Scott, 1962; Conway, Pizzamiglio, & Mount, 1996; Fiske, Xu, Cuddy, & Glick, 1999; Glick & Fiske, 1999; Tiedens, Ellsworth, & Mesquita, 2000; Twenge, 2001). Similarly, high status individuals are less frequent targets of discrimination, prejudice, and general negative attitudes than their low status counterparts (e.g., Major, Quinton, & McCoy, 2002; Operario & Fiske, 2001). Thus, I predict that the ethnic status scale will positively correlate with the perceived competence, intelligence, and assertiveness of each ethnic group; and negatively correlate with the degree of discrimination, prejudice, and negative attitudes experienced by each ethnic group.

As discussed above, status is also a partial determinant of the allocation of favorable outcomes, including economic resources, such that high status groups receive better outcomes than low status groups (e.g., Gould, 2002; Keltner et al., 2003; Noel, 1968). Thus, I predict that the ethnic status scale will positively correlate with the objective socio-economic outcomes, including income, percentage above poverty, educational attainment, and employment rates, obtained by each ethnic group.

Finally, past research on ethnicity-based status dichotomizes groups into high status (i.e., Whites) and low status (i.e., Asians, Blacks, Latinos) categories (e.g., Chattopadhyay, 1999; Riordan & Shore, 1997) whereas the proposed ethnic status scale makes distinctions regarding the degree of status held by Asians, Blacks and Hispanics. Therefore, as compared to a dichotomous measure of ethnicity-based status, I predict that the ethnic status scale will have a stronger relationship with both status correlates (e.g., competence, discrimination) and objective economic outcomes (e.g., income, poverty).

### *Method*

#### *Overview*

I used Thurstone (1927) scaling to create a measure of ethnic status, and used a combination of Thurstone scaling and Census data to validate the measure. I asked participants to compare Asians, Blacks, Hispanics and Whites on three status traits (i.e., status, prestige, respect). I created a Thurstone scale for each status trait and averaged the scales to form a composite status scale. To validate the composite scale, I asked participants compare the same four ethnic groups on six correlates of status (i.e., competence, intelligence, assertiveness, discrimination, prejudice, negative attitudes) and gathered data on objective indicators of economic resources (income, poverty rates, educational attainment, employment rates) for each ethnic group. I interpreted strong correlations between the composite status scale and the validation data (i.e., status correlates and Census data) as support for the validity of the scale. To provide evidence that perceptions of ethnic status were shared across participant demography (e.g., gender, ethnicity), I conducted a series of  $\chi^2$  tests. I developed and validated the ethnic status

scale in both a sample of undergraduate students and a sample of working adults to provide evidence for the generalizability of the scale scores.

### *Samples*

The student sample was comprised of 1123 individuals enrolled in introductory psychology at the University of Maryland. Approximately two-thirds of the data were collected during the fall 2006 semester ( $N = 756$ ) and the remaining one third was collected during the spring 2007 semester ( $N = 367$ ). Those participants who left large portions of the questionnaire blank were excluded, reducing the sample to 1081.

The adult sample was comprised of 613 working adults, who participated in the study by completing an online questionnaire in April of 2007. All participants were American citizens who had lived in the United States for at least fifteen years. Those participants who left large portions of the questionnaire blank were excluded, reducing the sample to 520. Demographic information for both samples is presented in Table 2.

### *Procedure*

At the beginning of the semester, the student participants completed a paper-and-pencil version of two questionnaires (described below), that were included as part of a larger packet of surveys. The students were given course extra credit for their participation.

The adult sample completed a web-based version of the same two questionnaires. The adult sample was recruited using the Zoomerang Sample service provided by Market Tools, a market research company. The adult participants were all Zoomerang panel members who agreed to occasionally receive invitations to participate in web-based surveys. Zoomerang sent the web-based version of the two questionnaires to a sample of

panelists. Panel members who chose to complete the questionnaire were awarded incentive points, which could be redeemed for gift certificates or donations to charity.

Table 2

*Participant Demographics*

	Student Sample (N = 1081)		Adult Sample (N = 520)	
	N	%	N	%
<b>Gender</b>				
Male	432	40%	248	48%
Female	535	50%	266	51%
<b>Ethnicity</b>				
Asian	138	13%	102	20%
Black	152	14%	85	16%
Hispanic	60	6%	90	17%
White	529	49%	180	35%
Other	86	8%	51	10%
<b>SES</b>				
Lower	47	4%	88	17%
Middle	808	75%	377	73%
Upper	194	18%	46	9%
<b>Region</b>				
Midwest	16	2%	101	19%
Northeast	252	23%	96	19%
South	756 *	70% *	164	32%
West	14	1%	152	29%
<b>Work experience</b>				
Yes	540	50%	520	100%
No	541	50%	0	0%
<b>Age</b>				
18 - 24	938	87%	79	15%
25 - 34	14	1%	125	24%
35 - 44	1	0%	144	28%
45 - 54	0	0%	90	17%
55 or older	0	0%	69	13%

*Notes.* The *Ns* listed for each demographic variable do not always sum to the overall sample *N* because some participants failed to answer all demographic questions. \* A total of 696 student participants (64%) were from the state of Maryland. The remaining 60 students (6%) were from Southern states other than Maryland.

*Ethnic status questionnaire.* All participants were asked to compare four ethnic groups (Asians, Blacks, Hispanics, Whites) on a series of three status-related traits (status, prestige, respect; see Appendix A for items). Prestige and respect were included as status traits because they appear in common definitions of status. For example, status has been defined as the, “observable power and prestige order” (Berger et al., 1972), and a high status individual has been defined in terms of, “the respect he and his opinions command among his fellows” (Blau & Scott, 1962, p. 96). I did not include power as a status trait to avoid confounding the related but distinct constructs of status and power. Power reflects the ability to control the rewards and punishments of others, whereas status reflects relative standing based on prestige and respect. Although related, “it is possible to have power without status (e.g., the corrupt politician) and status without power (e.g., a readily identifiable religious leader in line at the Department of Motor Vehicles)” (Keltner et al., 2003, p. 266). Thus, I did not include power as one of the status traits.

For each of the three status traits, participants were asked to make all two-way comparisons among the four ethnic groups of interest, resulting in a total of 18 items. The order of presentation of the response options (i.e., ethnic groups) was counterbalanced across eight versions of the questionnaire (Ross, 1934; Wherry, 1938; see Appendix A).

*Validation questionnaire.* Participants were also asked to compare each of the four ethnic groups on a series of six status correlates (i.e., competence, intelligence, assertiveness, discrimination, prejudice, negative attitudes; see Appendix A). Participants were again asked to make all two-way comparisons among the four groups, resulting in 36 items. As in the ethnic status questionnaire, the order of presentation of the response

options (i.e., ethnic groups) was counterbalanced across eight versions of the questionnaire (Ross, 1934; Wherry, 1938; see Appendix A). The validation questionnaire also contained a number of demographic questions, including gender, ethnicity, SES, geographic region, work experience, and age (see Table 2).

*Census data.* Data on objective indicators of socio-economic outcomes by ethnic group were gathered from the American Community Survey (U.S. Census Bureau, 2005). The American Community Survey, which is conducted by the United States Census, provides yearly estimates of national demographics. The most recent year for which data were available was 2005. The Census does not treat race (e.g., Asian, Black, White) and the Hispanic ethnicity as mutually exclusive categories. Therefore, in gathering economic indicators by ethnic group I defined the Hispanic category as all individuals who self-reported ethnicity as Hispanic, regardless of race. I defined the remaining ethnic groups as all individuals who self-reported race as White, Black, or Asian, and self-reported ethnicity as not Hispanic.

### *Analyses*

I used Thurstone scaling, and specifically the method of paired comparisons, to create and validate the ethnic status scale (Thurstone, 1927; Nunnally & Bertstein, 1994). Thurstone scaling is useful for scaling discriminial processes, that is, processes in which discrete attributes (e.g., ethnic groups) differ in strength along an underlying continuum (e.g., status). I created a separate Thurstone scale for each of the three status traits (status, prestige, respect) and each of the six status correlates (competence, intelligence, assertive, discrimination, prejudice, negative attitudes).

Thurstone scaling involves three steps. In Step 1, I created a four-by-four matrix of the proportion of participants who selected the group listed at the top of each column as opposed to the group listed to the left of each row, on the dimension of interest. Consistent with Thurstone scaling procedures, I used values of .50 along the diagonal of the matrix. If all participants agreed on a given paired comparison (e.g., all participants rated Whites as higher status than Hispanics), values of .98 and .02 were used instead of 1.00 and .00 to avoid extreme scale scores (Dunn-Rankin, Knezek, Wallace, & Zhang, 2004; Edwards, 1957). In Step 2, I transformed the proportions to normal deviates (i.e. z-scores) and took the average of the normal deviates for each ethnic group. In step 3, I subtracted the lowest value from the column averages to anchor the scale at zero (Edwards, 1957; Nunnally & Bernstein, 1994; Thurstone, 1927; Torgerson, 1958).

### *Results*

I analyzed data from the student and adult samples separately. I ran the same set of analyses and found highly consistent results across the two samples. Thus, I present the results for the student and adult samples simultaneously.

#### *Ethnic Status Scale*

The Thurstone scale for each status trait and status correlate appears in Table 3 (both samples), and the correlations among all Thurstone scales and Census data appear in Table 4 (student sample) and Table 5 (adult sample). The three status trait scales were significantly correlated with one another (both samples:  $.99 \leq r(2) \leq 1.00$ ,  $.00 \leq p \leq .01$ ). Thus, I averaged the status, prestige, and respect scales to form a composite status scale (both samples:  $\alpha = 1.00$ ). I did not conduct factor analyses to verify the factor structure of the composite scale due to the prohibitively small sample size ( $N = 4$  ethnic groups). The

composite status scale suggests that Whites have the highest status, followed by Asians, Blacks, and then Latinos.

Table 3

*Thurstone Scale Scores*

	Student Sample				Adult Sample			
	Hispanics	Blacks	Asians	Whites	Hispanics	Blacks	Asians	Whites
<b>Status Traits</b>								
Status	.00	.81	1.24	2.65	.00	.24	.63	1.85
Prestige	.00	.82	1.30	2.20	.00	.23	.61	1.70
Respect	.00	.68	1.25	2.42	.00	.20	.76	1.75
Composite Scale	.00	.77	1.26	2.42	.00	.22	.67	1.77
<b>Status Correlates</b>								
Competence	.00	.52	1.46	1.94	.00	.12	.98	1.44
Intelligence	.00	.59	2.36	2.12	.00	.16	1.36	1.41
Assertiveness	.24	.99	.00	1.05	.27	.69	.00	.88
Discrimination	2.23	2.15	1.33	.00	1.28	1.50	.69	.00
Prejudice	1.74	1.79	.88	.00	1.27	1.54	.65	.00
Negative Attitudes	2.22	2.03	.69	.00	1.60	1.75	.51	.00

*Notes.* The composite scale was formed by taking the mean of the status, prestige, and respect scales.

*Ethnic Status Scale Validation*

All correlations between the composite status scales and the validation data (i.e., status correlates and Census data) were in the expected direction (see column 4 in Tables 4 and 5). Status was significantly negatively correlated with discrimination in both samples (student:  $r(2) = -.96, p = .04$ ; adult:  $r(2) = -.95, p < .05$ ). Status was also significantly positively correlated with competence in the student sample ( $r(2) = .96, p = .04$ ), and had a large but non-significant correlation with competence in the adult sample ( $r(2) = .94, p = .06$ ). In both samples, the correlations between the composite status scale and the remaining validation data, including intelligence (student:  $r(2) = .83, p = .17$ ; adult:  $r(2) = .83, p = .17$ ), assertiveness (student:  $r(2) = .48, p = .52$ ; adult:  $r(2) = .52, p =$



Table 4

*Correlations among Status Traits, Status Correlates, and Census Data (Student Sample)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Status Traits														
1. Status														
2. Prestige	<b>.99</b>													
3. Respect	<b>1.00</b>	<b>.99</b>												
Composite Scales														
4. Status Composite	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>											
5. Dichotomous Status	.89	.81	.87	.86										
Status Correlates														
6. Competence	.94	<b>.97</b>	<b>.97</b>	<b>.96</b>	.73									
7. Intelligence	.80	.86	.84	.83	.49	<b>.95</b>								
8. Assertiveness	.52	.45	.45	.48	.61	.23	-.04							
9. Discrimination	<b>-.96</b>	-.94	<b>-.97</b>	<b>-.96</b>	-.92	-.93	-.79	-.36						
10. Prejudice	-.94	-.92	<b>-.95</b>	-.94	-.87	-.94	-.84	-.25	<b>.99</b>					
11. Negative Attitudes	-.93	-.94	<b>-.95</b>	-.94	-.77	<b>-.99</b>	-.93	-.16	<b>.96</b>	<b>.98</b>				
Census Data														
12. Per capita income	.88	.92	.91	.90	.63	<b>.99</b>	<b>.99</b>	.06	-.88	-.92	<b>-.98</b>			
13. % Above Poverty	.80	.81	.84	.82	.67	.91	.91	-.09	-.89	-.94	<b>-.96</b>	.95		
14. % with Bachelor's	.49	.59	.55	.54	.12	.75	.92	-.40	-.50	-.58	-.72	.84	.78	
15. % Employed	.55	.54	.59	.56	.52	.69	.72	-.35	-.73	-.80	-.79	.75	.92	.66

Notes. Correlations significant at  $p < .05$  are in bold

Table 5

## Correlations among Status Traits, Status Correlates, and Census Data (Adult Sample)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Status Traits														
1. Status														
2. Prestige	<b>1.00</b>													
3. Respect	<b>.99</b>	<b>1.00</b>												
Composite Scales														
4. Status Composite	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>											
5. Dichotomous Status	.95	.94	.91	.94										
Status Correlates														
6. Competence	.93	.93	<b>.96</b>	.94	.78									
7. Intelligence	.81	.82	.87	.83	.60	<b>.97</b>								
8. Assertiveness	.55	.54	.46	.52	.70	.22	.00							
9. Discrimination	-.94	-.95	<b>-.97</b>	<b>-.95</b>	-.86	<b>-.97</b>	-.89	-.27						
10. Prejudice	-.93	-.93	<b>-.95</b>	-.94	-.84	<b>-.97</b>	-.90	-.23	<b>1.00</b>					
11. Negative Attitudes	-.90	-.91	-.94	-.92	-.76	<b>-.99</b>	<b>-.96</b>	-.13	<b>.98</b>	<b>.98</b>				
Census Data														
12. Per capita income	.84	.85	.89	.86	.63	<b>.98</b>	<b>.99</b>	.08	-.89	-.90	<b>-.96</b>			
13. % Above Poverty	.83	.83	.88	.85	.67	<b>.96</b>	<b>.97</b>	-.02	<b>-.95</b>	<b>-.96</b>	<b>-.99</b>	.95		
14. % with Bachelor's	.41	.43	.51	.45	.12	.72	.87	-.42	-.57	-.59	-.72	.84	.78	
15. % Employed	.63	.64	.69	.65	.52	.79	.81	-.24	-.85	-.87	-.87	.75	.92	.66

Notes. Correlations significant at  $p < .05$  are in bold.

.48), prejudice (student:  $r(2) = -.94, p = .06$ ; adult:  $r(2) = -.94, p = .06$ ), negative attitudes (student:  $r(2) = -.94, p = .06$ ; adult:  $r(2) = -.92, p = .08$ ), income (student:  $r(2) = .90, p = .10$ ; adult:  $r(2) = .86, p = .14$ ), percent above poverty (student:  $r(2) = .82, p = .18$ ; adult:  $r(2) = .85, p < .15$ ), percent with bachelor's degrees (student:  $r(2) = .54, p = .46$ ; adult:  $r(2) = .45, p = .55$ ), and percent employed (student:  $r(2) = .56, p = .44$ ; adult:  $r(2) = .65, p = .35$ ), were not significant but were large in an absolute sense (Cohen, 1988; 1992).

The observed correlations provide evidence for the convergent and divergent validity of the status scale. In both samples, the correlations between the status scale and validation measures were large and in the expected direction (student sample:  $.48 \leq r(2) \leq .96, .04 \leq p \leq .52$ ; adult sample:  $.45 \leq r(2) \leq .95, .05 \leq p \leq .55$ ). Moreover, the correlations among the three status traits used to form the composite status scale (both samples:  $.99 \leq r(2) \leq 1.00, .00 \leq p \leq .01$ ) were larger than all correlations between the composite status scale and the validation measures.

To compare the validity of the composite status scale with the validity of past methods for studying ethnicity-based status (e.g., Chattopadhyay, 1999; Riordan & Shore, 1997; Tsui et al., 1992), I created a dichotomous measure in which Whites were assigned a "1" and all other minorities were assigned a "0." As shown in Tables 4 and 5 (columns 4 and 5), the composite status scale had a stronger correlation with each validation measure than the dichotomous status scale did, with the exception of assertiveness (student:  $r(2)_{\text{status}} = .48, p = .52$ ;  $r(2)_{\text{dichotomous}} = .61, p = .39$ ; adult:  $r(2)_{\text{status}} = .52, p = .48$ ;  $r(2)_{\text{dichotomous}} = .70, p = .30$ ). Moreover, across all validation measures the average correlation with the composite status scale (student:  $r(2)_{\text{mean}} = .86$ ; adult  $r(2)_{\text{mean}} = .85$ ) was larger than the average correlation with the dichotomous status scale (both

samples:  $r(2)_{\text{mean}} = .68$ ). The composite and dichotomous scales differ in that the composite status scale differentiates among the three ethnic minority groups (i.e., Asians, Blacks, Whites), whereas the dichotomous status scale does not. Thus, the observed pattern of correlations provides evidence that the composite ethnic status scale makes meaningful distinctions regarding the degree of status held by each ethnic minority.

### *Subgroup Comparisons*

I used  $\chi^2$  difference tests to assess agreement in perceptions of ethnic status across a number of sample characteristics (e.g., time period, gender, ethnicity, region, student-adult). To conduct the  $\chi^2$  difference tests I created a separate proportion matrix (i.e., step 1 in Thurstone scaling) for each subgroup of interest, and then calculated  $\chi^2$  values to test the similarity among proportion matrices (Edwards, 1957; Moesteller, 1951; Torgerson, 1958). Rather than conducting separate  $\chi^2$  difference tests for each of the three status traits used in the composite status scale, I averaged the proportion matrices for the three traits within each subgroup, and then conducted  $\chi^2$  tests across the averaged matrices. This method provides a direct test of whether or not the composite status scale differed across subgroups. Furthermore, the results are almost identical when the composite status scale is calculated by creating three separate Thurstone scales (status, prestige, respect) and then averaging them (see composite scales in Table 3), as compared to averaging the three proportion matrices and then calculating a single Thurstone scale (see full sample scale scores in Tables 6 and 7).

*Time period (student sample only).* I used a  $\chi^2$  difference test to determine if ratings of ethnic status in the student sample varied across time (see Table 6). The composite status scale did not differ across the two time periods (fall 2006 and spring

Table 6

*Composite Status Scale across Subgroups (Student Sample)*

		N	Scale Scores				$\chi^2$ Difference Tests		
			Hispanic	Black	Asian	White	A	B	C
Time Period									
A	Fall 2006	729	.00	.79	1.29	2.37	--	--	--
B	Spring 2007	352	.00	.74	1.25	2.43	2.40	--	--
Full Sample		1081	.00	.78	1.28	2.39	--	--	--
Gender									
A	Male	432	.00	.75	1.32	2.37	--	--	--
B	Female	535	.00	.80	1.25	2.42	2.17	--	--
Ethnicity									
A	Asian	138	.00	.78	1.59	2.35	--	--	--
B	Black	152	.00	.91	.99	2.23	34.02 *	--	--
C	Hispanic	60	.00	.16	.65	2.01	31.94 *	4.13	--
D	White	529	.00	.82	1.51	2.57	14.09 *	13.85 *	18.59 *
SES									
A	Lower	47	.00	.77	1.00	2.33	--	--	--
B	Middle	808	.00	.80	1.07	2.37	3.49	--	--
C	Upper	194	.00	.67	1.36	2.44	5.26	1.43	--
Region: Grew up in Maryland									
A	Yes	696	.00	.81	1.29	2.37	--	--	--
B	No	342	.00	.72	1.24	2.45	5.99	--	--
Work Experience									
A	Yes	541	.00	.81	1.32	2.42	--	--	--
B	No	540	.00	.74	1.23	2.34	1.52	--	--

Notes. All  $\chi^2$  difference tests have three degrees of freedom. \* p < .05

Table 7

*Composite Status Scale across Subgroups (Adult Sample)*

		<i>N</i>	Scale Scores				$\chi^2$ Difference Tests			
			Hispanic	Black	Asian	White	A	B	C	D
Full Sample		520	.00	.22	.67	1.76				
Gender										
A	Male	248	.00	.13	.57	1.66	--	--	--	--
B	Female	266	.00	.31	.75	1.86	5.82	--	--	--
Ethnicity										
A	Asian	102	.00	.21	1.12	1.83				
B	Black	85	.00	.55	.58	1.83	27.99 *	--	--	--
C	Hispanic	90	.33	.00	.57	1.81	46.78 *	9.32 *	--	--
D	White	180	.00	.41	.92	2.04	22.23 *	2.17	19.85 *	--
SES										
A	Lower	88	.00	.36	.60	1.66				
B	Middle	377	.00	.17	.65	1.82	1.00	--	--	--
C	Upper	46	.00	.28	.70	1.59	7.10	6.51	--	--
Region										
A	Midwest	101	.00	.35	.71	1.90				
B	Northeast	96	.00	.27	.69	1.76	1.02	--	--	--
C	South	164	.00	.22	.65	1.68	1.66	.16	--	--
D	West	152	.00	.09	.65	1.75	1.24	.29	.17	--
Age										
A	18 - 24	79	.00	.43	.66	1.83				
B	25 - 34	125	.00	.17	.70	1.75	1.87	--	--	--
C	35 - 44	144	.00	.17	.65	1.66	1.60	.37	--	--
D	45 - 54	90	.00	.20	.64	1.84	.58	2.93	2.72	--
E	55 or older	69	.00	.17	.69	1.89	.82	1.97	2.16	.16

Notes. All  $\chi^2$  difference test have three degrees of freedom. \*  $p < .05$

2007) in which the student data were collected ( $\chi^2(3) = 2.40, p = .49$ ). Although the fall 2006 and spring 2007 data were collected from different individuals, all participants were drawn from the same population (i.e., undergraduates enrolled in introductory psychology at the University of Maryland). Therefore, the consistency of the status scale across the two time periods provides support for the temporal stability of ethnic status across a five month period. I also correlated the fall 2006 status scale with the spring 2007 status correlates and vice versa, to explore the plausibility of single source bias as an alternative explanation for the strong correlations between the status scales and the status correlates. As shown in Table 8, the correlations between the status scale and status correlates are remarkable similar within and across time periods.

Table 8

*Status Scale-Status Correlate Relationship across Time (Student Sample)*

	Composite Status Scale	
	Fall 2006	Spring 2007
Student Sample: Fall 2006		
Competence	.96 *	.95 *
Intelligence	.83	.82
Assertiveness	.46	.46
Discrimination	-.95 *	-.96 *
Prejudice	-.94	-.94
Negative Attitudes	-.94	-.94
Student Sample: Spring 2007		
Competence	.97 *	.97 *
Intelligence	.85	.84
Assertiveness	.52	.52
Discrimination	-.96 *	-.97 *
Prejudice	-.94	-.95
Negative Attitudes	-.94	-.94

*Notes.* Column values reflect the correlation between the composite status scale and the Thurstone scale for each status correlate. \*  $p < .05$

*Participant demography.* I also conducted  $\chi^2$  difference tests across a number of participant demographics, including gender, ethnicity, SES, geographic region, work experience, and age. In the student sample, I tested for region effects by comparing participants from Maryland (64%) to participants from states other than Maryland (32%). In the adult sample, I tested for region effects using the four regions defined by the United States Census (i.e., Midwest, Northeast, South, West) due to greater variation in participant geography. I did not test for differences by work experience in the adult sample because all adult participants were employed. Similarly, I did not test for age differences in the student sample due to low variance in participant age (i.e., 87% were between 18 and 24). I used the same categories in the student and adult samples to test all other demographic characteristics.

The results of the demographic comparisons are reported in Table 6 (student sample) and Table 7 (adult sample). The composite status scale did not differ by gender (student:  $\chi^2(3) = 2.17, p = .19$ ; adult:  $\chi^2(3) = 5.82, p = .12$ ), SES (student:  $1.43 \leq \chi^2(3) \leq 5.26, .15 \leq p \leq .70$ ; adult:  $1.00 \leq \chi^2(3) \leq 7.10, .07 \leq p \leq .80$ ), region (student:  $\chi^2(3) = 5.99, p = .11$ ; adult:  $.16 \leq \chi^2(3) \leq 1.66, .65 \leq p \leq .98$ ), full time work experience (student only:  $\chi^2(3) = 1.52, p = .68$ ), or age (adult only:  $.16 \leq \chi^2(3) \leq 2.93, .40 \leq p \leq .98$ ). The non-significant  $\chi^2$  values suggest that ethnic status is a shared construct and is not systematically influenced by gender, SES, geographic region, work experience, or age.

The composite status scale, however, did differ by ethnicity. In both samples, ethnic status differed between Asians and Blacks (student:  $\chi^2(3) = 34.02, p = .00$ ; adult:  $\chi^2(3) = 27.99, p = .00$ ), Asians and Hispanics (student:  $\chi^2(3) = 31.94, p = .00$ ; adult:  $\chi^2(3) = 46.78, p = .00$ ), Asians and Whites (student:  $\chi^2(3) = 14.09, p = .00$ ; adult:  $\chi^2(3) =$



22.23,  $p = .00$ ), and Hispanics and Whites (student:  $\chi^2(3) = 18.59$ ,  $p = .00$ ; adult:  $\chi^2(3) = 19.85$ ,  $p = .00$ ). Blacks and Hispanics differed in their ratings of ethnic status in the adult sample ( $\chi^2(3) = 9.32$ ,  $p = .02$ ), but not in the student sample ( $\chi^2(3) = 4.13$ ,  $p = .25$ ); and Blacks and Whites differed in their ratings of ethnic status in the student sample ( $\chi^2(3) = 13.85$ ,  $p = .00$ ), but not in the adult sample ( $\chi^2(3) = 2.17$ ,  $p = .54$ ).

Although ethnic status differed significantly by participant ethnicity, the rank order of ethnic groups in the status hierarchy was stable. Specifically, participants agreed that Whites have the highest status, followed by Asians, Blacks and then Hispanics. The one exception was Hispanics in the adult sample, who rated the ingroup as higher status than Blacks. Furthermore, the pattern of status scale differences across ethnic groups reflected an ingroup bias effect, such that each group minimized status differences with higher status groups and maximized status differences with lower status groups. For example, the status difference between Hispanics (i.e., the lowest status group) and Blacks (i.e., the second lowest status group) was smaller when rated by Hispanics (student:  $D_{Black-Hispanic} = .16$ ; adult:  $D_{Black-Hispanic} = -.33$ ), than when rated by Blacks (student:  $D_{Black-Hispanic} = .91$ ; adult:  $D_{Black-Hispanic} = .55$ ). Similarly, the status difference between Blacks and Asians was smaller when rated by Blacks (student:  $D_{Asian-Black} = .08$ ; adult:  $D_{Asian-Black} = .03$ ) than when rated by Asians (student:  $D_{Asian-Black} = .81$ ; adult:  $D_{Asian-Black} = .91$ ). Finally, the status difference between Asians and Whites was smaller when rated by Asians (student:  $D_{White-Asian} = .76$ ; adult:  $D_{White-Asian} = .71$ ) than when rated by Whites (student:  $D_{White-Asian} = 1.06$ ; adult:  $D_{White-Asian} = 1.12$ ).

*Student-adult.* Finally, I used a  $\chi^2$  difference test to compare the status scales developed in the student and adult samples. The two composite ethnic status scales were

highly correlated ( $r(2) = .98, p = .03$ ), but were also statistically significantly different ( $\chi^2(3) = 93.90, p = .00$ ). Comparison of the two scales indicates that there was greater distance between ethnic groups in the student sample (e.g.,  $D_{White-Hispanic} = 2.42$ ) than in the adult sample (e.g.,  $D_{White-Hispanic} = 1.77$ ). Furthermore, the Black-Hispanic difference was greater than the Asian-Black difference in the student sample, but smaller than the Asian-Black difference in the adult sample. Nevertheless, the rank order of ethnic groups in status hierarchy was constant across the two samples.

### *Discussion*

The purpose of Study 1 was to construct and validate a continuous measure of ethnic status, that is, the degree of societal status ascribed to individuals based on their ethnicity. Across student and adult samples, Whites emerged at the top of the status hierarchy, followed by Asians, Blacks and then Hispanics. The status scale was highly reliable and had strong relationships with the predicted status outcomes, including both perceived status correlates (e.g., discrimination), and objective indicators of economic resources (e.g., per capita income). Moreover, the composite scale was a more accurate representation of ethnic status than dichotomous operationalizations of ethnicity-based status (i.e., Whites = 1; ethnic minorities = 0). Thus, I advance current understanding of ethnicity as a source of status by providing evidence that Asians, Blacks and Hispanics are afforded varying degrees of status within the United States. Finally, perceptions of ethnic status were similar across a number of demographic categories (e.g., gender, age, SES, region), suggesting that ethnic status is a shared construct that operates at the societal level of analysis.

Scores on the composite status scale did deviate to some extent from the predicted status hierarchy. Based on racial similarity as well as the severe negative treatment of Blacks in the United States, I theorized that Blacks would fall at the bottom of the status hierarchy. Yet Hispanics, not Blacks, emerged as the lowest status group. A number of recent trends may explain the relative position of Blacks and Hispanics. First, Blacks have long been a sizeable yet steady minority group in the United States. Alternatively, the number of Hispanics in the United States has rapidly increased in recent years. For example, from 1990 to 2005 the Black population remained at 12% while the Hispanic population increased from 9% to 15% (U.S. Census Bureau, 1990; 2000a). Increases in the number of Hispanics within the United States may have escalated the degree of threat this group presents through competition for scarce resources, such as jobs. Furthermore, recent political debates concerning illegal workers in the United States, many of whom are Hispanic, may have heightened the intensity of negative attitudes toward this group. Regardless of the rationale, the relative placement of Blacks and Hispanics on the status hierarchy was highly consistent across different demographic groups; only Hispanics in the adult sample placed Blacks below Hispanics on the status hierarchy.

The composite status scale had strong relationships with the predicted status correlates, even when status traits and status correlates were collected from different individuals at different points in time. Thus, common method variance is an unlikely alternative explanation for the large correlations between perceptions of ethnic status and other characteristics perceived as descriptive of each ethnic group (i.e., competence, intelligence, assertiveness, prejudice, discrimination, negative attitudes). Because all participants reported on both status traits and status correlates, the possibility remains that

reporting on the status of each ethnic group primed participants and therefore affected their perceptions of other ethnic group characteristics and inflated the relationship between the status scale and status correlates. The status scale, however, was strongly correlated not only with perceived status correlates but also with objective socio-economic outcomes (e.g., income, poverty, education, employment) collected from the United States Census. Because priming effects cannot explain the correlation between the ethnic status scale and objective outcomes, Study 1 provides strong evidence for the validity of the ethnic status scale.

Although the status scale had large correlations with all predicted status correlates ( $.45 \leq r \leq .96$ ), some relationships were stronger than others. Across samples, correlations with the composite status scale were stronger for competence, discrimination, prejudice, and negative attitudes than for intelligence and assertiveness. The primary difference between the status hierarchy and the intelligence and assertiveness hierarchies was the placement of Asians. Specifically, Asians were rated as the second highest group on the status scale, but as the highest group on the intelligence scale and as the lowest group on the assertiveness scale. The possibility that the Thurstone scales for intelligence and assertiveness reflected common stereotypes of Asians as intelligent but passive, in addition to ethnicity-based status, provides a potential explanation for this discrepancy.

Although shared across a number of demographics, the ethnic status scores did differ by respondent ethnicity in both the student and adult samples. The nature of the differences, however, followed a pattern of ingroup bias. Specifically, each group increased the distance between the ingroup and lower status groups, but decreased the distance between the ingroup and higher status groups. Although statistically

significantly different, status perceptions by ethnic group were practically similar. The rank order of the groups was consistent across raters (with the exception of Hispanics in the adult sample), and the correlations among the ethnic status scales calculated separately in each ethnic group were large (see Tables 6 and 7). Specifically, the correlations ranged from .92 to 1.00 ( $.01 \leq p \leq .08$ ) in the student sample, and from .89 to .98 ( $.02 \leq p \leq .11$ ) in the adult sample.

The composite ethnic status scales developed in the student and adult samples were also statistically significantly different. Yet, the rank order of ethnic groups was consistent across samples and the status scales based on the student and adult samples were highly correlated ( $r(2) = .98, p = .03$ ). Rationales exist for using either the student- or adult-based ethnic status scale scores to calculate work unit ethnic composition in Study 2. The student sample and the Study 2 sample were both drawn from the mid-Atlantic United States, while the adult sample and the Study 2 sample were both comprised of working adults. Because the ethnic status scales did not differ by geographic region, I used the adult sample status scores to calculate work unit ethnic composition in Study 2. However, I also report how the Study 2 findings differ when using the student-based ethnic status scores.

## Chapter 6: A Contextualized Model of Work Unit Ethnic Composition (Study 2)

The purpose of Study 2 was to test the contextualized model of work unit ethnic composition presented in Figure 3. I used the status scores developed in Study 1 to calculate work unit ethnic status separation (i.e., ESS). I then tested the interaction of ESS with elements of the work unit (i.e., learning and performance climate) and community (i.e., ethnic composition, economics, political climate) context, as a predictor of unit-level process (i.e., conflict, cohesion, trust) and performance (i.e., financial, manager-rated, OCBs) outcomes. I tested the proposed model in a sample of 121 geographically dispersed branches of a large bank. I used a survey methodology to collect data from both branch employees (ethnic composition, work unit processes, work unit context) and branch managers (branch performance). I conducted confirmatory factor analyses to assess the structure of the survey data and calculated  $r_{wg(j)}$ , ICC(1), and ICC(2) values to determine if aggregating employee data to the branch level was justified. I supplemented the survey methodology with data from the bank's archival records (financial performance) and data gathered from the United States Census (community context). I used hierarchical ordinary least squares regression to test all predictions.

### *Method*

#### *Sample*

The Study 2 data were collected from branches of a large bank, located in the mid-Atlantic United States. All branches were located in Maryland, Virginia, West

Virginia, or the District of Columbia. One questionnaire was administered to branch employees and a second questionnaire was administered to branch managers.

*Employee sample.* I gathered data from 862 employees in 158 branches. Within each branch, an average of 5.41 employees completed the questionnaire ( $SD = 2.86$ ). The overall response rate was 59%, and the average response rate within branches was 62% ( $SD = .26$ ). I eliminated suspicious responses (e.g., many unanswered questions, using the same response for an entire scale), and limited the sample to branches in which at least three employees provided data on all study measures. The resulting sample included 703 employees nested within 121 branches. In the reduced sample, the average number of respondents per branch was 5.81 ( $SD = 2.46$ ) and the within branch response rate was 68% ( $SD = .23$ ). Demographics for the employee sample are reported in Table 9.

*Manager sample.* I sent questionnaires to 158 branch managers, one manager per bank branch. Of the 158 managers sampled, 108 completed the questionnaire (68%). I eliminated surveys with suspicious response patterns and limited the manager sample to branches for which I also had employee data. The resulting sample contained data from 85 managers. Demographics for the manager sample are reported in Table 9.

### *Procedure*

The employee and manager questionnaires were mailed to the bank branches in February of 2005. The questionnaires were accompanied by two letters, one from a regional manager of the bank and one from the principal investigator (see Appendix B). Respondents completed the questionnaires during work hours and used pre-paid envelopes to return the questionnaires to the principal investigator. Before mailing, each questionnaire was marked with a branch code to link employees and managers to

Table 9

*Participant Demographics*

	Employee Sample ( <i>N</i> = 703)		Manager Sample ( <i>N</i> = 85)	
	<i>N</i>	%	<i>N</i>	%
<b>Ethnicity</b>				
Asian	107	15%	3	4%
Black	70	10%	11	13%
Hispanic	47	7%	6	7%
White	371	53%	6	7%
Other	78	11%		
<b>Gender</b>				
Male	135	19%	28	33%
Female	558	79%	57	67%
<b>SES</b>				
Lower	49	7%	2	2%
Middle	579	82%	72	85%
Upper	43	6%	7	8%
<b>Age</b>				
18 - 22	122	17%	2	2%
23 - 29	173	25%	25	29%
30 - 39	132	19%	24	28%
40 or older	251	36%	33	39%
<b>Education (highest)</b>				
High School	210	30%	19	22%
College	434	62%	63	74%
Graduate School	51	7%	3	4%
<b>Work Status</b>				
Full Time	524	75%	85	100%
Part Time	175	25%	0	0%
<b>Position</b>				
Teller	431	61%	0	0%
Relationship Banker	176	25%	0	0%
Manager	0	0%	85	100%
Other	83	12%	0	0%
<b>Tenure</b>				
Less than 6 months	160	23%	20	24%
6 - 11 months	104	15%	17	20%
12 - 23 months	147	21%	18	21%
2 years or more	262	37%	29	34%

*Notes.* The *Ns* listed for each demographic variable do not always sum to the overall sample *N* because some participants failed to answer all demographic questions.



branches. All participants were entered in a lottery with a chance of winning \$60. As described below, I supplemented the employee and manager questionnaires with data collected from the bank's archival records and the United States Census.

### *Employee Survey*

I used the employee questionnaire to assess work unit ethnic composition, work unit processes, work unit context, and several unit-level control variables.

*Work unit ethnic composition.* Employees were asked to describe their ethnicity as Asian, Black, White, Hispanic, Native American, Biracial, International, or Other. I used individual ethnicity to calculate three measures of work unit ethnic composition, including ethnic status separation, ethnic variety, and ethnic subgroups.

I used the ethnic status scores developed in the adult sample in Study 1 (i.e., Asians = .67; Blacks = .22; Hispanics = .00; Whites = 1.77) to calculate work unit *ethnic status separation* (ESS). I replaced each categorical ethnicity code with the appropriate ethnic status score. For example, individuals who self-reported their ethnicity as Asian were assigned an ethnic status score of .67. I treated the ethnic status scores for individuals who reported ethnicities other than Asian, Black, White, or Hispanic as missing data ( $N = 78$ ; 11% of sample). I aggregated individual ethnic status scores to the unit level by calculating the population standard deviation in ethnic status for each work unit (Separation =  $\sqrt{[\sum(A_i - A_{\text{mean}})^2/n]}$ , where  $A$  = ethnic status). The standard deviation is appropriate because it is maximized in the case of two numerically equal subgroups that are on opposite ends of the status continuum (e.g., three Whites and three Hispanics), and is minimized when all work unit members have the same status score (e.g., six Asians; Harrison & Klein, 2007). Work unit ESS ranged from .00 to .87 ( $M = .37$ ;  $SD = .30$ ). I

also calculated the ethnic status mean (ESM) for each bank branch to include as a control variable ( $M = 1.16$ ,  $SD = .53$ ). Controlling for the ESM was important because the mean and standard deviation of bounded variables are often negatively correlated (Harrison & Klein, 2007). The correlation between the mean and standard deviation for ethnic status in the bank branch sample was  $r(119) = -.30$  ( $p = .00$ ).

I used the ethnic status scale based on the entire Study 1 adult sample to calculate work unit ethnic composition Study 2. In Study 1, however, participant ethnicity affected perceptions of ethnic status, which suggests that members of diverse work units may have slightly different views of both their own status and the status of their coworkers. In spite of these differences, several rationales exist for using the ethnic status scale based on the entire adult sample, instead of accounting for differences by participant ethnicity. First, as noted in Study 1, perceptions of ethnic status among the ethnic groups were highly correlated. Second, the difference between perceptions of ethnic status in the entire sample as compared to perceptions of ethnic status in a specific ethnic group was the greatest in the case of Hispanics. Hispanics rated the ingroup as higher status than Blacks while all other groups rated Hispanics as lower status than Blacks. Yet Hispanics make up only 7% of the Study 2 sample. Therefore, differences in perceptions of ethnic status among Hispanics, as compared to all other groups, should have a minimal impact on the work unit ethnic composition scores calculated in Study 2. Finally, differences in perceptions of ethnic status across ethnic groups are unlikely to have a systematic effect on work unit ethnic composition scores. Each ethnic group inflated the status score of the ingroup and deflated the status score of outgroups. In ethnically diverse work units,

differences in ethnic status perceptions are more likely to cancel each other out than to bias ethnic composition scores in a single direction.

I calculated two additional work unit ethnic composition indices, ethnic variety and ethnic subgroups, both of which are based on categorical ethnicity instead of ethnic status. Consistent with past research (e.g., Earley & Mosakowski, 2000; Gibson & Vermuelen, 2003; Harrison et al., 1998; Harrison et al., 2002; Martins et al., 2003), I calculated work unit *ethnic variety* using Blau's (1977) index ( $Variety = 1 - \sum p_k^2$ , where  $p_k$  = percentage of work unit in each ethnic category) and work unit *ethnic subgroups* as the curvilinear effect of ethnic variety ( $Subgroups = [1 - \sum p_k^2]^2$ ). Work unit ethnic variety scores ranged from .00 to .72 ( $M = .32$ ;  $SD = .27$ ) and work unit ethnic subgroups scores ranged from .00 to .52 ( $M = .18$ ;  $SD = .17$ ).

When calculating work unit ethnic composition, I included ethnicity data from all sample participants who reported ethnicity, even if they failed to complete large portions of the employee questionnaire ( $N = 46$ ). I removed respondents who left large portions of the survey blank before calculating the work unit process and work unit context scales because it is unlikely that these individuals were engaged in the survey. Reporting on work unit processes and context requires reflection upon workplace experiences, but reporting on demographic group membership does not. Moreover, in field settings the ability of researchers to detect work unit ethnic composition effects is frequently reduced by the failure to obtain ethnicity data from all unit members (Allen, Stanley, Williams, & Ross, 2007). Thus, I used data from all survey respondents to calculate work unit ethnic composition to minimize the effects of missing ethnicity data.

*Work unit processes.* The employee survey contained three work unit process measures, including conflict, cohesion, and trust. The bank branch was used as the referent for all work unit process scales. In other words, the items were worded to reflect the degree of conflict/cohesion/trust in the branch in general, not the degree of conflict/cohesion/trust experienced by individual branch members (see Appendix B for items). I used confirmatory factor analysis (CFA) to assess the factor structure of each measure because all three work unit process measures have been validated in previous research. Because the process variables were theorized to operate at the work unit level, I aggregated each item before conducting factor analyses.

The *conflict* measure (Jehn et al., 1999; Jehn & Mannix, 2001) contained three factors: relationship conflict, task conflict, and process conflict. Each conflict factor was measured with three items and a response scale that ranged from “1 = Not at all” to “5 = Very much.” A CFA model with three correlated factors fit the data well ( $CFI = .96$ ;  $RMSEA = .12$ ;  $SRMR = .04$ ,  $\chi^2(24) = 67.65$ ). Furthermore, the three-factor model fit the data significantly better ( $\Delta\chi^2(3) = 60.44$ ,  $p = .00$ ) than a one-factor model ( $CFI = .90$ ,  $RMSEA = .17$ ,  $SRMR = .05$ ,  $\chi^2(27) = 128.09$ ). Thus, I averaged the unit-level items to create the three conflict scales (relationship:  $\alpha = .90$ ,  $M = 2.17$ ,  $SD = .50$ ; task:  $\alpha = .85$ ,  $M = 2.00$ ,  $SD = .40$ ; process:  $\alpha = .93$ ,  $M = 2.02$ ,  $SD = .51$ ).

The *cohesion* scale (adapted from Dobbins & Zaccaro, 1986) contained eight items and a response scale that ranged from “1 = Strongly disagree” to “7 = Strongly agree.” A one-factor CFA model fit the data well ( $CFI = .94$ ;  $RMSEA = .13$ ;  $SRMR = .04$ ,  $\chi^2(20) = 795.78$ ), so I averaged the eight items to form the cohesion scale ( $\alpha = .92$ ,  $M = 5.43$ ,  $SD = .72$ ).

I assessed work unit *trust* (adapted from Jehn & Mannix, 2001) using a three-item measure and a response scale that ranged from “1 = Not at all” to “5 = Very much.” The single-factor CFA model was just-identified because the trust scale only contained three items. Because just-identified CFA models always have perfect fit, I instead conducted exploratory factor analysis (EFA) with principal axis factoring. The analysis supported extraction of a single factor (86% variance explained; initial  $\lambda_1 = 2.71$ ,  $\lambda_2 = .17$ ,  $\lambda_3 = .11$ ) and all items had high loadings ( $.90 \leq$  item loadings  $\leq .96$ ). Thus, I averaged the three unit-level items to form the trust scale ( $\alpha = .95$ ,  $M = 3.90$ ,  $SD = .49$ ).

I conducted a final CFA to provide discriminant validity among the work unit process measures. I included task conflict, relationship conflict, process conflict, cohesion, and trust as separate but correlated factors. The five-factor CFA model fit the data well ( $CFI = .93$ ,  $RMSEA = .09$ ,  $SRMR = .06$ ,  $\chi^2(160) = 333.62$ ). Furthermore, the five-factor model fit the data significantly better ( $\Delta\chi^2(10) = 467.25$ ,  $p = .00$ ) than a single-factor CFA model ( $CFI = .75$ ;  $RMSEA = .17$ ;  $SRMR = .09$ ,  $\chi^2(170) = 800.87$ ).

I also calculated aggregation statistics ( $r_{wg(j)}$ , ICC(1) and ICC(2)) for all work unit process scales to assess the appropriateness of aggregating work unit processes to the unit level (see Table 10; Klein et al., 2000). In all cases, the average  $r_{wg(j)}$  value across branches was at least .75 (Cohen, Doveh, & Eick, 2001), and the ICC(1) value was statistically significant. Yet, in each case the ICC(2) failed to reach the accepted .70 cutoff (e.g., Klein et al., 2000). Given that ICC(2) is a function of group size (Bliese, 2000; Glick, 1985), low ICC(2) values are not uncommon when work unit size is small. Furthermore, low ICC(2) values reflect a lack of reliability of the group mean (Bartko,

1976; Bliese, 2000; James, 1982), and therefore will introduce a conservative bias into the test of my hypotheses.

Table 10

*Aggregation Statistics*

	Mean	$r_{wg(j)}$ Median	SD	ICC(1)	ICC(2)
Relationship Conflict	.75	.85	.26	.15 *	.51
Task Conflict	.78	.87	.24	.07 *	.31
Process Conflict	.76	.85	.27	.16 *	.53
Cohesion	.75	.89	.31	.20 *	.58
Trust	.80	.88	.22	.16 *	.53
Performance Climate	.79	.84	.20	.13 *	.46
Learning Climate	.85	.90	.18	.09 *	.36
Interdependence	.75	.93	.23	.02	.12

Notes. \*  $p < .05$ .

*Work unit context.* The employee questionnaire also included measures of unit-level *learning climate* and *performance climate* (Dragoni, 2004). The items were worded to reflect the extent to which managers focus on learning and performance goals within the branch (see Appendix B for items). Both the learning and performance climate scales were assessed with four items and a response scale that ranged from “1 = Strongly disagree” to “5 = Strongly agree.” As with the work unit process measures, I aggregated items to the unit-level and used CFA to assess the factor structure of the measure. A CFA model with two correlated factors fit the data well ( $CFI = .95$ ,  $RMSEA = .10$ ,  $SRMR = .09$ ,  $\chi^2(19) = 46.05$ ). Furthermore, the two factor solution fit the data significantly better ( $\Delta\chi^2(1) = 138.19$ ,  $p = .00$ ) than a one-factor solution ( $CFI = .67$ ,  $RMSEA = .25$ ,  $SRMR = .19$ ,  $\chi^2(20) = 184.24$ ). Thus, I averaged the unit-level items to create the learning climate ( $\alpha = .88$ ,  $M = 3.78$ ,  $SD = .38$ ) and performance climate ( $\alpha = .78$ ,  $M = 3.05$ ,  $SD = .41$ ) scales.

I also calculated aggregation statistics ( $r_{wg(j)}$ , ICC(1) and ICC(2) ) to assess the adequacy of aggregating learning and performance climate to the unit-level (see Table 10). For both scales, the average  $r_{wg(j)}$  value across branches was at least .75 and the ICC(1) value was significant. Yet, in each case the ICC(2) failed to reach .70. Although the low ICC(2) values were not ideal, I concluded that aggregation was justified for both measures.

*Control variables.* The employee questionnaire also contained several unit-level control variables, including interdependence, tenure, and work status (full or part-time). I assessed interdependence with a three-item measure of task interdependence (Campion, Medsker, & Higgs, 1993) that ranged from “1 = Strongly disagree” to “5 = Strongly agree,” and a one-item measure of work interdependence (Klein, Conn, Smith, & Sorra, 2001) that ranged from “1 = Never or very rarely” to “5 = Always of very often” (see Appendix B for items). I used the bank branch as the referent for all interdependence items. I conducted an EFA with principal axis factoring on the unit-level items to see if the task and work interdependence scales assessed a single construct. The EFA supported extraction of a single factor (40% variance explained; initial  $\lambda_1 = 2.17$ ,  $\lambda_{2-4} < 1.00$ ) and all items had high loadings ( $.50 \leq \text{item loadings} \leq .71$ ). Thus, I averaged the four items to form the interdependence scale ( $\alpha = .71$ ,  $M = 3.07$ ,  $SD = .35$ ). I calculated aggregation statistics for the interdependence scale (see Table 10). The mean  $r_{wg(j)}$  value was acceptable ( $M = .75$ ,  $SD = .23$ ), but the ICC(1) value was non-significant, and the ICC(2) value was only .12.

To assess work unit tenure, I asked employees to report how many months they had worked at their current bank branch. Work unit tenure was calculated as the average

tenure across branch members ( $M = 36.39$ ,  $SD = 31.57$ ). I also asked participants whether they worked full- or part-time at the bank. I calculated unit-level work status as the percent of unit members who worked part-time ( $M = .25$ ,  $SD = .19$ ). As with ethnic composition, the work unit tenure and work status variables were based on all individuals who completed the demographics section of the questionnaire, even if they left large portions of the survey blank.

### *Manager Survey*

The manager survey contained two measures of manager-rated branch performance, including overall performance and organizational citizenship behaviors (OCBs). Because both measures have been validated in previous research, I used CFA to assess the factor structure of the two performance scales.

*Overall performance.* Overall performance (adapted from Sparrowe, Liden, Wayne, & Kraimer, 2001) was assessed with eight items and a response scale that ranged from “1 = Very poor” to “6 = Outstanding” (see Appendix B for items). A one factor CFA model fit the data well ( $CFI = .92$ ,  $RMSEA = .14$ ,  $SRMR = .06$ ,  $\chi^2(20) = 59.38$ ). Thus, I averaged the eight items to form the manager-rated performance scale ( $\alpha = .90$ ,  $M = 4.19$ ,  $SD = .68$ ).

*OCBs.* The OCB scale contained two factors: helping and conscientiousness (Erhart, 2004; adapted from Podsakoff, Mackenzie, Moorman, & Fetter, 1990; see Appendix B for items). Each dimension was assessed using five items and a response scale that ranged from “1 = To a small extent” to “5 = To a great extent.” A CFA model with two correlated factors fit the data well ( $CFI = .93$ ,  $RMSEA = .09$ ,  $SRMR = .07$ ,  $\chi^2(34) = 61.02$ ), but the conscientiousness dimension had low reliability ( $\alpha = .66$ ).



Eliminating two items (“Work attendance of employees in my branch is better than it is in other branches in the organization” and “In my branch, employees do not take breaks”) improved the reliability to  $\alpha = .81$  and also improved the fit of the two-factor CFA model ( $CFI = .95$ ,  $RMSEA = .10$ ,  $SRMR = .06$ ,  $\chi^2(19) = 37.66$ ). The revised two-factor CFA model fit the data significantly better ( $\Delta\chi^2(1) = 60.51$ ,  $p = .00$ ) than a one-factor model ( $CFI = .79$ ,  $RMSEA = .19$ ,  $SRMR = .11$ ,  $\chi^2(20) = 98.17$ ). Thus, I averaged five items to form the OCB-helping scale ( $\alpha = .86$ ,  $M = 3.74$ ,  $SD = .65$ ) and averaged three items to form the OCB-conscientiousness scale ( $\alpha = .81$ ,  $M = 3.73$ ,  $SD = .70$ ).

#### *Archival Records*

I supplemented the employee and manager survey data with data gathered from the bank’s archival records. I operationalized work unit *financial performance* as return on equity (ROE), which is defined as net income divided by total equity. ROE is a measure of how efficiently a business unit uses assets to generate profits, and is a key indicator of financial performance. ROE was gathered from the bank’s records at the branch level for the quarter immediately following the quarter in which the employee and manager survey data were collected (i.e., April-June 2005). ROE was only available for 49 of the 121 bank branches in the sample ( $M = .46$ ,  $SD = .17$ ). Thus, the sample size was limited for analyses involving financial performance.

#### *Census Data*

Finally, I assessed the community-level variables (community ethnic composition, community economics, community political climate) by collecting data from the United States Census for the year 2000. Consistent with past research (e.g., Brief et al., 2005b; Dietz et al., 2003; Sacco & Schmitt, 2005), I linked bank branches to communities via the

zip code associated with the physical address of each bank branch. I did not use data from the 2005 American Community Survey, as in Study 1, because American Community Survey data are not available at the zip code level. I collected Census data for each of the 92 zip codes, in which the 121 work units were nested.

*Ethnic composition.* To assess community ethnic composition, I gathered Census data on the number of Asians, Blacks, Hispanics and Whites in each zip code of interest (U.S. Census Bureau, 2000a). As discussed in Study 1, race (e.g., Asian, Black, White) and Hispanic ethnicity are not considered mutually exclusive categories by the Census. Therefore, I included all individuals who self-reported ethnicity as Hispanic in the Hispanic category, regardless of race. The Asian, Black, and White categories included all individuals who self-reported race as Asian, Black, or White and also self-reported ethnicity as not Hispanic. I used data on the number of individuals belonging to each ethnic category by zip code to calculate community-level ESS ( $M = .57, SD = .18$ ), ESM ( $M = 1.41, SD = .27$ ), ethnic variety ( $M = .38, SD = .20$ ), and ethnic subgroups ( $M = .18, SD = .15$ ). I used the same procedure to calculate community ethnic composition that I used to calculate work unit ethnic composition.

Community-level ESS and ESM were highly negatively correlated ( $r(119) = -.85, p = .00$ ). As previously noted, a negative correlation between the mean and standard deviation for a bounded variable is not uncommon (e.g., Harrison & Klein, 2007). The extremity of the negative correlation in the case of community ethnic status is explained by the presence of many predominantly White communities in the sample. More than half of the communities sampled (54%) were more than 75% White. Thus, many communities in the sample had both a high ethnic status mean and low ethnic status separation.

Alternatively, the negative correlation between the mean and standard deviation for *work unit* ethnic status was less extreme ( $r(119) = -.30, p = .00$ ) because less than one third of the work units (32%) were more than 75% White.

*Economics.* I collected data on the same four measures of community economics used in Study 1 to assess economic hardship (U.S. Census Bureau, 2000b). Specifically, I gathered data on per capita income ( $M = \$29,604, SD = 12,070$ ), poverty status (% of the population above poverty;  $M = .91, SD = .10$ ), educational attainment (% of the population with a bachelor's degree or higher;  $M = .42, SD = .20$ ), and employment rates (% of civilian labor force currently employed;  $M = .95, SD = .08$ ) by ethnic group.

I conducted an EFA with principle axis factoring and varimax rotation to determine if the four indicators could be combined into a single index of community affluence. Before conducting the EFA, I took the natural log of per capita income to put it on a scale similar to that of the other three indicators ( $M = 10.21, SD = .42$ ). The EFA supported a two-factor solution (90% variance explained; initial  $\lambda_1 = 2.55, \lambda_2 = 1.25, \lambda_3 = .16, \lambda_4 = .05$ ). Poverty status and employment rate had high loadings on the first factor (.86 and .95, respectively) and low loadings on the second factor (.23 and .05, respectively). Similarly, per capita income and educational attainment had high loadings on the second factor (.86 and .97, respectively) and low loadings on the first factor (.49 and -.02, respectively). The first factor (poverty and employment;  $\alpha = .90$ .) was more reliable than the second factor (income and education;  $\alpha = .70$ ). Therefore, I averaged the poverty status and employment rate variables to create a measure of community economics. I reversed the direction of the indicators before averaging them so that higher scores reflected greater economic hardship ( $M = .07, SD = .09$ ).

*Political climate.* Unlike community ethnic composition and community economic hardship, data reflecting community political climate are not tracked by the Census. Therefore, I operationalized conservative political climate as the percent of total campaign contributions that were given to the republican candidate (i.e., George W. Bush) in the 2004 presidential election ( $M = .60$ ,  $SD = .17$ ). I gathered the campaign contribution data from a campaign finance website (Color of Money, 2004). I also collected data on total campaign contributions in each zip code from the same site to serve as a control variable in the political climate analyses ( $M = \$300,467$ ,  $SD = \$549,411$ ). I attempted to assess conservative political climate as both the percent of voters registered as republicans and the percent of voters who voted for George W. Bush in the 2004 presidential election. To the best of my knowledge, however, these data are not publicly available at the zip code level of analysis.

*Control variables.* I also collected data on two community-level control variables from the Census (U.S. Census Bureau, 2000a). Specifically, I assessed community size as the number of residents in each zip code ( $M = 25,155$ ,  $SD = 14,461$ ) and I assessed commuting time to work as the percentage of zip code residents with a work commute of 20 minutes or more ( $M = .61$ ,  $SD = .15$ ).

### *Results*

Correlations among all study variables are presented in Table 11. I used hierarchical ordinary least squares (OLS) regression to test all hypotheses. I controlled for work unit size (e.g., Harrison et al., 2002; Kirkman et al., 2004) and work unit interdependence (Harrison et al., 2002) in all analyses. I also controlled for work unit

Table 11

*Correlations among all Variables*

	<i>N</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Unit size	121	9.92	3.91	--											
2. Unit Interdependence	121	3.07	.35	-.17	.70										
3. Unit Tenure	121	36.39	31.57	.08	-.06	--									
4. Unit Work Status	121	.25	.19	.01	-.17	<b>-.24</b>	--								
5. Comm. Size	121	25,155	14,461	<b>.32</b>	-.12	-.07	.16	--							
6. Comm. Commuting Time	121	.61	.15	.00	<b>-.21</b>	<b>-.25</b>	.13	.19	--						
7. Unit Ethnic Status Mean	121	1.16	.53	.00	<b>.24</b>	<b>.35</b>	-.15	<b>-.20</b>	<b>-.44</b>	--					
8. Unit Ethnic Status Separation	121	.37	.30	.18	-.05	<b>-.32</b>	.13	<b>.24</b>	<b>.22</b>	<b>-.30</b>	--				
9. Unit Ethnic Variety	121	.32	.27	<b>.18</b>	-.12	<b>-.36</b>	.12	<b>.27</b>	<b>.39</b>	<b>-.58</b>	<b>.85</b>	--			
10. Unit Ethnic Subgroups	121	.18	.17	.13	-.09	<b>-.33</b>	.12	<b>.29</b>	<b>.40</b>	<b>-.57</b>	<b>.76</b>	<b>.96</b>	--		
11. Comm. Ethnic Status Mean	121	1.41	.27	-.16	<b>.28</b>	<b>.26</b>	-.06	<b>-.44</b>	<b>-.37</b>	<b>.64</b>	<b>-.29</b>	<b>-.42</b>	<b>-.42</b>	--	
12. Comm. Ethnic Status Separation	121	.57	.18	<b>.25</b>	<b>-.27</b>	<b>-.33</b>	.06	<b>.47</b>	<b>.34</b>	<b>-.61</b>	<b>.48</b>	<b>.60</b>	<b>.56</b>	<b>-.85</b>	--
13. Comm. Economic Hardship	121	.07	.09	-.08	.03	.13	-.08	<b>-.19</b>	<b>-.58</b>	.10	-.12	-.17	<b>-.20</b>	.08	-.12
14. Comm. Campaign Contrib.	118	300,467	549,411	-.07	-.03	-.01	<b>-.25</b>	-.07	.01	<b>-.32</b>	.12	.18	.17	-.07	.15
15. Comm. Conserv. Polit. Climate	118	.60	.17	.08	-.07	.12	-.09	-.14	.22	.12	.00	-.02	-.08	<b>.20</b>	-.08
16. Unit Learning Climate	121	3.78	.38	.01	.02	<b>-.22</b>	.09	.07	.00	-.17	.11	.06	.03	-.15	.10
17. Unit Performance Climate	121	3.05	.41	.18	-.17	<b>-.21</b>	-.04	.13	.24	<b>-.26</b>	<b>.30</b>	<b>.34</b>	<b>.31</b>	-.15	<b>.29</b>
18. Unit Relationship Conflict	121	2.17	.50	.12	.09	.03	-.06	-.11	-.02	<b>.18</b>	-.06	-.03	-.04	.12	-.13
19. Unit Task Conflict	121	2.00	.40	.04	.14	-.10	.09	-.14	.01	.17	.00	-.02	-.06	.14	<b>-.18</b>
20. Unit Process Conflict	121	2.02	.51	.07	.04	.05	-.02	-.13	.03	.17	.00	.00	-.02	.14	-.17
21. Unit Cohesion	121	5.43	.72	<b>-.20</b>	.14	.01	.00	.03	-.07	-.03	-.11	-.15	-.13	.03	-.07
22. Unit Trust	121	3.90	.49	-.03	.04	-.02	.10	.09	.06	<b>-.19</b>	.01	.01	.01	-.10	.14
23. Unit Financial Perf. (ROE)	49	.46	.17	.34	-.14	.08	<b>.30</b>	-.04	.03	-.11	.05	.05	-.01	-.01	.05
24. Unit Mgr-Rated Overall Perf.	85	4.19	.68	-.13	.10	.09	.00	-.10	.09	.16	-.17	-.15	-.11	.20	-.19
25. Unit OCBs (Helping)	85	3.74	.65	-.15	.01	.08	.11	.14	.07	.01	-.05	-.04	.01	-.02	-.05
26. Unit OCBs (Consc.)	85	3.73	.70	<b>-.26</b>	.11	<b>.25</b>	.11	-.17	-.02	.06	-.17	-.20	-.16	.18	-.18

*Notes.* Values below the diagonal are correlations. Values on the diagonal are reliabilities. Correlations significant at  $p < .05$  are in bold.

Table 11 (Continued)

	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1. Unit size														
2. Unit Interdependence														
3. Unit Tenure														
4. Unit Work Status														
5. Comm. Size														
6. Comm. Commuting Time														
7. Unit Ethnic Status Mean														
8. Unit Ethnic Status Separation														
9. Unit Ethnic Variety														
10. Unit Ethnic Subgroups														
11. Comm. Ethnic Status Mean														
12. Comm. Ethnic Status Separation														
13. Comm. Economic Hardship	--													
14. Comm. Campaign Contrib.	.10	--												
15. Comm. Conserv. Polit. Climate	<b>-.21</b>	-.04	--											
16. Unit Learning Climate	-.01	.14	-.12	.89										
17. Unit Performance Climate	<b>-.18</b>	<b>.18</b>	.04	<b>.22</b>	.80									
18. Unit Relationship Conflict	.09	-.17	-.10	-.11	<b>-.35</b>	.85								
19. Unit Task Conflict	.06	<b>-.21</b>	-.06	-.04	<b>-.32</b>	<b>.78</b>	.89							
20. Unit Process Conflict	.05	-.14	-.06	-.06	<b>-.37</b>	<b>.78</b>	<b>.81</b>	.92						
21. Unit Cohesion	.06	.14	.00	-.04	<b>.43</b>	<b>-.73</b>	<b>-.58</b>	<b>-.62</b>	.92					
22. Unit Trust	-.15	.17	.07	.06	<b>.37</b>	<b>-.79</b>	<b>-.60</b>	<b>-.64</b>	<b>.78</b>	.94				
23. Unit Financial Perf. (ROE)	-.20	-.05	<b>.34</b>	.08	.27	.01	.11	-.02	-.10	-.06	--			
24. Unit Mgr-Rated Overall Perf.	-.21	-.06	.21	.17	.11	<b>-.24</b>	<b>-.23</b>	<b>-.26</b>	<b>.27</b>	<b>.24</b>	-.19	.90		
25. Unit OCBs (Helping)	-.08	-.02	-.12	.11	.09	<b>-.33</b>	<b>-.25</b>	<b>-.24</b>	<b>.31</b>	<b>.22</b>	-.22	<b>.60</b>	.86	
26. Unit OCBs (Consc.)	-.03	.12	.12	.02	.03	-.20	<b>-.22</b>	-.21	<b>.27</b>	<b>.25</b>	.05	<b>.48</b>	<b>.41</b>	.81

Notes. Values below the diagonal are correlations. Values on the diagonal are reliabilities. Correlations significant at  $p < .05$  are in bold.

tenure and work status (i.e., percent part time workers) because unit-level effects are likely to be weaker in work units with a short tenure and/or a large percentage of part-time workers. In all analyses including community-level moderators, I controlled for community size as an analogue to work unit size. I also controlled for community-level commuting time to work because effects are likely to be stronger in communities where a large proportion of residents live and work in the same community. For all analyses including ethnic status separation (ESS) as a predictor, I controlled for the ethnic status mean (ESM). I also centered predictors without meaningful zero-points (i.e., learning climate, performance climate, interdependence) before entering them in the regression analyses (Cohen, Cohen, West, & Aiken, 2003).

The 121 bank branches in the sample were nested within 92 zip codes. When using OLS regression, nesting (or non-independence) biases the standard errors of the parameter estimates and therefore affects statistical conclusions (e.g., Bliese & Hanges, 2004). Most branches in the sample, however, were the only branch within the corresponding zip code ( $N = 69$ ; 57% of branches). Because the degree of nesting was minimal, I did not treat bank branches as nested within zip codes (cf. Sacco & Schmitt, 2005).

In testing all hypotheses, I entered control variables in step 1, main effects in step 2, and interactions in steps 3 and 4. I first tested the main effect of work unit ESS on unit-level outcomes (Hypotheses 1-4). I then tested the moderating effect of work unit (i.e., learning climate, performance climate) and community (i.e., ethnic composition, economics, political climate) contexts (Hypotheses 5-9).

### *Main Effects*

Hypothesis 1 predicts that work unit ESS will negatively impact work unit processes by (a) increasing conflict, (b) decreasing cohesion, and (c) decreasing trust. The results for Hypothesis 1 are presented in Table 12. In step 2, ESS was unrelated to all work unit processes. Thus, Hypothesis 1 was not supported. Work unit ESM, however, was positively related to task conflict ( $B = .16, t(114) = 2.09, p = .04$ ) and negatively related to trust ( $B = -.22, t(114) = -2.35, p = .02$ ). The significant effects of work unit ESM suggest that units comprised primarily of low ethnic status individuals (e.g., Blacks and Hispanics) experience more favorable interpersonal processes than work units composed primarily of high ethnic status individuals (e.g., Whites).

Hypothesis 2 predicts that work unit ESS will negatively impact unit-level performance, including (a) financial performance (ROE), (b) manager-rated overall performance, and (c) manager-rated OCBs (helping, conscientiousness). The results of Hypothesis 2 are presented in Table 13. In step 2 both ESS and ESM were unrelated to all four work unit performance outcomes. Thus, Hypothesis 2 was not supported.

Hypothesis 3 predicts that the effect of work unit ESS on work unit performance will be mediated by work unit processes. Because I did not find main effects of work unit ESS on work unit processes and performance, Hypotheses 3 was not supported.

Hypothesis 4 predicts that work unit ESS will be a better predictor of unit-level (a) processes and (b) performance than ethnic variety or ethnic subgroups. Hypothesis 4 was also not supported because I did not find any main effects of work unit ESS. The



Table 12

*Work Unit Processes Regressed on Work Unit Ethnic Composition*

	Relat. Conflict		Task Conflict		Pracs. Conflict		Cohesion		Trust	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Control Variables										
Step 1										
Unit size	.02	1.43	.01	.73	.01	.84	-.03	-2.07 *	.00	-.24
Unit Interdependence	.15	1.08	.19	1.79	.09	.62	.23	1.20	.08	.62
Unit Tenure	.00	.14	.00	-.72	.00	.47	.00	.44	.00	.17
Unit Work Status	-.10	-.41	.21	1.03	-.01	-.03	.13	.37	.29	1.15
$R^2_{\text{step1}}$	.03		.04		.01		.05		.01	
Hypothesis 1: Ethnic Status Separation										
Step 2										
Unit Ethnic Status Mean	.17	1.71	.16	2.09 *	.18	1.75	-.15	-1.04	-.22	-2.35 *
Unit Ethnic Status Separation	-.06	-.39	.00	-.03	.06	.36	-.21	-.89	-.06	-.37
$\Delta R^2_{\text{step1-2}}$	.03		.04		.03		.02		.05	
$R^2_{\text{model}}$	.06		.08		.04		.07		.06	
Hypothesis 4a: Ethnic Variety and Ethnic Subgroups										
Step 2										
Unit Ethnic Variety	-.07	-.37	-.09	-.61	.02	.11	-.31	-1.15	.02	.12
Step 3										
Unit Ethnic Subgroups	-.55	-.55	-1.30	-1.63	-.71	-.69	.26	.18	.19	.18
$\Delta R^2_{\text{step1-2}}$	.00		.04		.00		.02		.00	
$\Delta R^2_{\text{step2-3}}$	.00		.03		.00		.00		.00	
$R^2_{\text{model}}$	.03		.07		.01		.07		.01	

Notes.  $N = 121$ . \*  $p < .05$

Table 13

## Work Unit Performance Regressed on Work Unit Ethnic Composition

	ROE		Overall Perf.		Helping OCBs		Consc. OCBs	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>T</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Controls								
Step 1								
Unit size	.01	2.01 *	-.02	-.92	-.02	-1.27	-.04	-2.20 *
Unit Interdependence	.00	-.04	.20	.87	.05	.25	.26	1.23
Unit Tenure	.00	.85	.00	.90	.00	1.02	.01	2.80 *
Unit Work Status	.24	1.96	.19	.47	.53	1.36	.84	2.16 *
$R^2_{\text{step1}}$	.19 *		.03		.05		.17 *	
Hypothesis 2: Ethnic Status Separation								
Step 2								
Unit Ethnic Status Mean	.00	.03	.15	.94	-.02	-.12	-.09	-.58
Unit Ethnic Status Separation	.01	.08	-.24	-.90	.00	-.02	-.12	-.49
$\Delta R^2_{\text{step1-2}}$	.00		.03		.00		.01	
$R^2_{\text{model}}$	.19		.06		.05		.18 *	
Hypothesis 4b: Ethnic Variety and Ethnic Subgroups								
Step 2								
Unit Ethnic Variety	-.03	-.28	-.24	-.76	.07	.23	-.14	-.46
Step 3								
Unit Ethnic Subgroups	-.71	-1.47	1.63	.96	2.31	1.45	1.04	.65
$\Delta R^2_{\text{step1-2}}$	.00		.01		.00		.01	
$\Delta R^2_{\text{step2-3}}$	.04		.01		.02		.00	
$R^2_{\text{model}}$	.23		.05		.07		.18	

Notes.  $N = 49$  for ROE,  $N = 85$  for all other outcomes. \*  $p < .05$

possibility remains, however, that ethnic variety or ethnic subgroups is a more powerful predictor of work unit outcomes than ESS. Therefore, I tested the main effects of ethnic variety and ethnic subgroups on unit-level processes and performance. I entered control variables in step 1, work unit ethnic variety in step 2, and work unit ethnic subgroups in step 3. I controlled for variety when testing the effects of subgroups because subgroups were calculated as the squared variety term. As shown in Tables 12 and 13, there was no main effect of ethnic variety or ethnic subgroups on any unit-level outcome.

The lack of main effects for any form of work unit ethnic composition (ESS, variety, or subgroups) is not entirely surprising since past work suggests that the relationship between work unit ethnic composition and unit-level process and performance outcomes is inconsistent across studies. At the same time, the absence of direct effects prevented me from determining if ESS better reflects the dynamics of diverse work units than ethnic variety or ethnic subgroups (Hypothesis 4), which is a central proposition in this research.

The possibility remains, however, that the interaction of work unit ESS with elements of the work unit and community context is a stronger predictor of unit-level processes and performance than the interaction of the same context factors with work unit ethnic variety and subgroups. To test this possibility, I first test the moderating effect of work unit (i.e., learning climate, performance climate) and community (i.e., ethnic composition, economics, political climate) contexts on the relationship between work unit ESS and unit-level outcomes (Hypotheses 5-9). I then run the same analyses using ethnic variety and ethnic subgroups instead of ESS and report how the results are affected. Finally, I use sign tests (Hays, 1994) to determine if work unit ESS, in combination with

elements of the work unit and community context, is a more powerful predictor of unit level-outcomes than ethnic variety or ethnic subgroups. Specifically, the sign tests provide a statistical test of whether or not more work unit ethnic composition by context interactions emerge when operationalizing ethnic composition as ESS as compared to ethnic variety or ethnic subgroups. I use sign tests instead of testing for ESS by context interactions while controlling for ethnic variety/subgroup by context interactions due to the high correlation of work unit ESS with both ethnic variety ( $r(119) = .85, p = .00$ ) and ethnic subgroups ( $r(119) = .85, p = .00$ ) and subsequent low power to detect work unit ESS interactions over and above variety and subgroup interactions.

#### *Work Unit Context*

I theorized that norms for cooperation and competition in the immediate work unit context would affect the relationship between work unit ESS and work unit outcomes. Specifically, Hypotheses 5-6 predict that work unit learning and performance climates will moderate the effect of work unit ESS on unit-level processes and performance.

*Learning climate and process outcomes.* Hypothesis 5a predicts that work unit ESS will have a stronger negative effect on unit-level processes in work units with low learning climates than in work units with high learning climates. The results of Hypothesis 5a appear in Table 14. In step 2, work unit learning climate was related to all five unit-level processes (relationship conflict:  $B = -.46, t(113) = -4.01, p = .00$ ; task conflict:  $B = -.37, t(113) = -4.03, p = .00$ ; process conflict:  $B = -.48, t(113) = -4.13, p = .00$ ; cohesion:  $B = .86, t(113) = 5.50, p = .00$ ; trust:  $B = .46, t(113) = 4.06, p = .00$ ). The direction of the effects suggests that work units with high learning climates experience

Table 14

*Work Unit Processes Regressed on Work Unit Ethnic Status Separation (ESS) and Work Unit Climate*

	Relat. Conflict		Task Conflict		Pracs. Conflict		Cohesion		Trust	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Control Variables										
Step 1										
Unit Size	.02	1.43	.01	.73	.01	.84	-.03	-2.07 *	.00	-.24
Unit Interdependence	.15	1.08	.19	1.79	.09	.62	.23	1.20	.08	.62
Unit Tenure	.00	.14	.00	-.72	.00	.47	.00	.44	.00	.17
Unit Work Status	-.10	-.41	.21	1.03	-.01	-.03	.13	.37	.29	1.15
$R^2_{\text{step1}}$	.03		.04		.01		.05		.01	
Hypothesis 5a: Learning Climate										
Step 2										
Unit Ethnic Status Mean	.13	1.38	.13	1.78	.13	1.41	-.07	-.57	-.18	-2.06 *
Unit ESS	-.05	-.35	.00	.04	.07	.45	-.23	-1.09	-.07	-.46
Unit Learning Climate	-.46	-4.01 *	-.37	-4.03 *	-.48	-4.13 *	.86	5.50 *	.46	4.06 *
Step 3										
Unit ESS x Learn. Climate	-.32	-.82	-.69	-2.53 *	-.54	-1.51	.81	1.71	.13	.39
$\Delta R^2_{\text{step1-2}}$	.14 *		.15 *		.15 *		.21 *		.17 *	
$\Delta R^2_{\text{step2-3}}$	.01		.05 *		.02		.02		.00	
$R^2_{\text{model}}$	.18 *		.24 *		.18 *		.28 *		.18 *	

Table 14 (Continued)

	Relat. Conflict		Task Conflict		PrCs. Conflict		Cohesion		Trust		
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	
Hypothesis 6a: Performance Climate											
Step 2											
Unit Ethnic Status Mean	.16	1.58	.16	2.06 *	.17	1.67	-.14	-.99	-.22	-2.24 *	
Unit ESS	-.03	-.20	.00	-.02	.08	.44	-.23	-.94	-.08	-.49	
Unit Performance Climate	-.12	-.96	.00	-.03	-.06	-.44	.06	.32	.08	.68	
Step 3											
Unit ESS x Perf. Climate	-.07	-.20	-.20	-.71	.04	.11	.32	.60	-.08	-.23	
$\Delta R^2_{\text{step1-2}}$		.03		.04		.03		.02		.05	
$\Delta R^2_{\text{step2-3}}$		.00		.00		.00		.00		.00	
$R^2_{\text{model}}$		.06		.08		.04		.07		.06	

Notes. *N* = 121. \* *p* < .05

more positive interpersonal processes (i.e., decreased conflict, increased cohesion, increased trust) than work units with low learning climates.

In step 3, the work unit ESS by learning climate interaction significantly predicted task conflict ( $B = -.69$ ,  $t(112) = -2.53$ ,  $p = .01$ ), but was unrelated to all other process outcomes. I graphed the significant task conflict interaction at one standard deviation above and below the mean of work unit ESS and learning climate. As shown in Figure 4, work unit ESS was positively related to task conflict in low learning climates, but negatively related to task conflict in high learning climates. Stated another way, diverse work units (i.e., high ESS) experienced more task conflict than homogeneous work units (i.e., low ESS) in low learning climates, but less task conflict than homogeneous work units in high learning climates. Evidence that work unit ESS increases task conflict in low learning climates, but not in high learning climates, supports Hypothesis 5a.

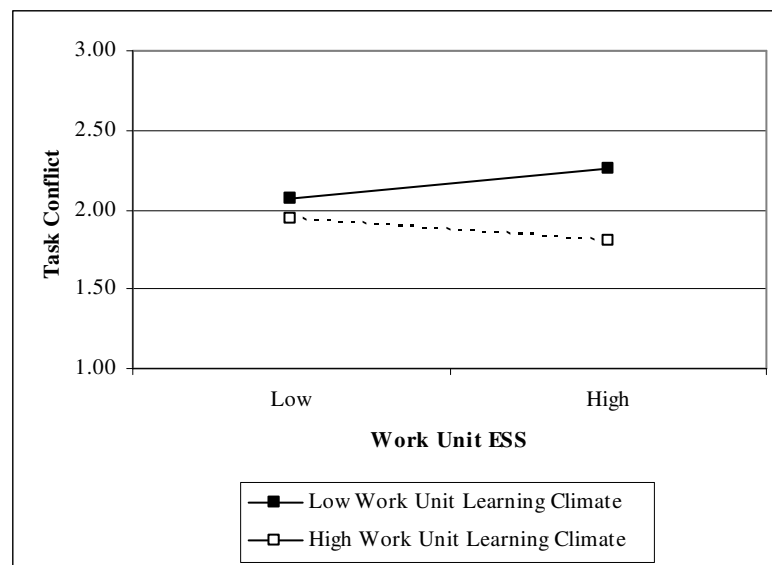
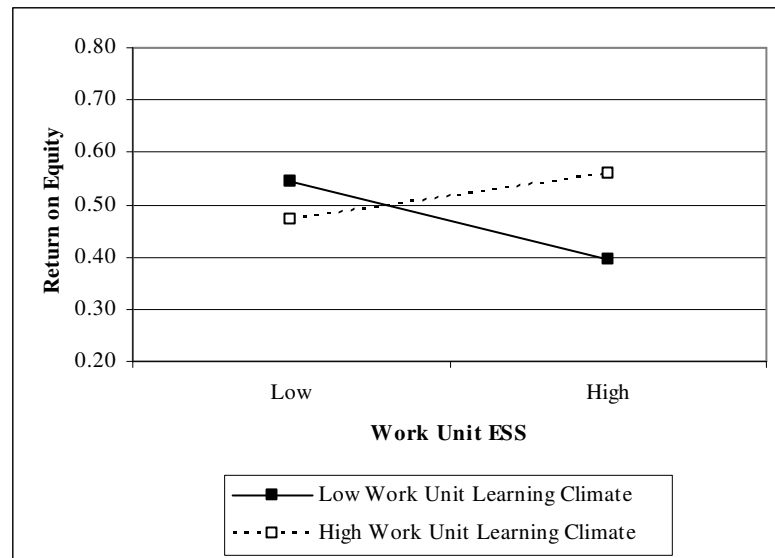


Figure 4. The effect of work unit ethnic status separation (ESS) and learning climate on unit-level task conflict.

*Learning climate and performance outcomes.* Hypothesis 5b predicts that work unit ESS will have a stronger negative effect on unit-level performance in work units

with low learning climates than in work units with high learning climates. The results of Hypothesis 5b appear in Table 15. In step 2, learning climate was positively related to ROE ( $B = .15, t(41) = 2.10, p = .04$ ), but was unrelated to all manager-rated performance outcomes. In step 3, the work unit ESS by learning climate interaction significantly predicted ROE ( $B = .69, t(40) = 2.18, p = .04$ ), but again was unrelated to all manager-rated performance outcomes. As shown in Figure 5, work unit ESS was negatively associated with ROE in low learning climates, but positively associated with ROE in high learning climates. In other words, homogeneous work units (i.e., low ESS) outperformed diverse work units (i.e., high ESS) in low learning climates, but diverse work units outperformed homogeneous work units in high learning climates. The finding that work unit ESS decreases financial performance in low learning climates, but not in high learning climates, supports Hypothesis 5b.



*Figure 5.* The effect of work unit ethnic status separation (ESS) and learning climate on unit-level financial performance.



Table 15

*Work Unit Performance Regressed on Work Unit Ethnic Status Separation (ESS) and Work Unit Climate*

	ROE		Overall Perf.		Helping OCBs		Consc. OCBs		
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	
Control Variables									
Step 1									
Unit Size	.01	2.01 *	-.02	-.92	-.02	-1.27	-.04	-2.20 *	
Unit Interdependence	.00	-.04	.20	.87	.05	.25	.26	1.23	
Unit Tenure	.00	.85	.00	.90	.00	1.02	.01	2.80 *	
Unit Work Status	.24	1.96	.19	.47	.53	1.36	.84	2.16 *	
$R^2_{\text{step1}}$	.19 *		.03		.05		.17 *		
Hypothesis 5b: Learning Climate									
Step 2									
Unit Ethnic Status Mean	.01	.10	.19	1.20	.01	.08	-.06	-.38	
Unit ESS	.03	.35	-.25	-.94	-.01	-.04	-.13	-.51	
Unit Learning Climate	.15	2.10 *	.36	1.62	.27	1.25	.24	1.12	
Step 3									
Unit ESS x Learn. Climate	.69	2.18 *	.39	.55	.32	.47	-.28	-.41	
$\Delta R^2_{\text{step1-2}}$	.08 *		.06		.02		.02		
$\Delta R^2_{\text{step2-3}}$	.06 *		.00		.00		.19		
$R^2_{\text{model}}$	.33 *		.09		.07		.19 *		

Table 15 (Continued)

	ROE		Overall Perf.		Helping OCBs		Consc. OCBs	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Hypothesis 6b: Performance Climate								
Step 2								
Unit Ethnic Status Mean	.00	.03	.18	1.18	.00	.00	-.07	-.45
Unit ESS	.01	.08	-.36	-1.38	-.08	-.30	-.20	-.79
Unit Performance Climate	.00	.05	.51	2.74 *	.31	1.70	.33	1.81
Step 3								
Unit ESS x Perf. Climate	-.20	-.92	.14	.25	.76	1.41	.28	.51
$\Delta R^2_{\text{step1-2}}$	.00		.11		.03		.04	
$\Delta R^2_{\text{step2-3}}$	.02		.00		.03		.01	
$R^2_{\text{model}}$	.21		.14		.11		.22 *	

Notes. *N* = 49 for ROE, *N* = 85 for all other outcomes. \* *p* < .05

*Performance climate and process outcomes.* Hypothesis 6a predicts that work unit ESS will have a stronger negative effect on unit-level processes in units with high performance climates than in units with low performance climates. The results of Hypothesis 6a appear in Table 14. In step 2, performance climate was unrelated to all work unit processes, and in step 3 the work unit ESS by performance climate interaction was non-significant for all process outcomes. Therefore Hypothesis 6a was not supported.

*Performance climate and performance outcomes.* Hypothesis 6b predicts that work unit ESS will have a stronger negative effect on unit-level performance in units with high performance climates than in units with low performance climates. The results for Hypothesis 6b appear in Table 15. In step 2, performance climate had a significant positive effect on manager-rated overall performance ( $B = .51, t(77) = 2.74, p = .01$ ), but was unrelated to ROE and both OCB dimensions. The direction of the main effect suggests that high performance climates are associated with improved work unit performance. In step 3, however, the work unit ESS by performance climate interaction did not predict any of the unit-level processes. Thus, Hypothesis 6b was not supported.

#### *Community Context*

In addition to work unit contexts, I also theorized that the relationship between work unit ESS and work unit outcomes would be affected by cooperation and competition in the broader community context. Specifically, Hypotheses 7-9 predict that community demography, economics, and political climate will interact with work unit ESS to predict work unit processes and performance.

*Ethnic composition and process outcomes.* Hypothesis 7a predicts that the negative relationship between work unit ESS and unit-level processes will be stronger in communities with maximal ESS (i.e., diverse communities) or minimal ESS (i.e., homogeneous communities) than in communities with moderate ESS. I used polynomial regression to test Hypothesis 7a. I entered control variables in step 1; work unit ESM, work unit ESS, community ESM, and community ESS in step 2; the work unit ESS by community ESS interaction in step 3; and squared community ESS and its interaction with work unit ESS in step 4.

The results for Hypothesis 7a are reported in Table 16. In step 2, neither community-level ESS nor community-level ESM had a significant effect on work unit processes. In step 3, the work unit ESS by community ESS interaction significantly predicted unit-level relationship conflict ( $B = 2.53$ ,  $t(109) = 2.34$ ,  $p = .02$ ), cohesion  $B = -3.49$ ,  $t(109) = -2.25$ ,  $p = .03$ ), and trust ( $B = -2.19$ ,  $t(109) = -2.04$ ,  $p = .04$ ), but was unrelated to task and process conflict. In step 4, the main effect of squared community ESS and its interaction with work unit ESS were both non-significant for all work unit processes.

I graphed the significant interactions at one standard deviation above and below the mean. As shown in Figure 6, work unit ESS was positively related to relationship conflict in high ESS communities, but negatively related to relationship conflict in low ESS communities. Similarly, work unit ESS was negatively related to cohesion and trust in high ESS communities, but positively related to cohesion and trust in low ESS communities (see Figures 7 and 8). Overall, work unit ESS was associated with negative interpersonal processes in high ESS communities, but not in low ESS communities. Put

Table 16

*Work Unit Processes Regressed on Work Unit Ethnic Status Separation (ESS) and Community Contexts*

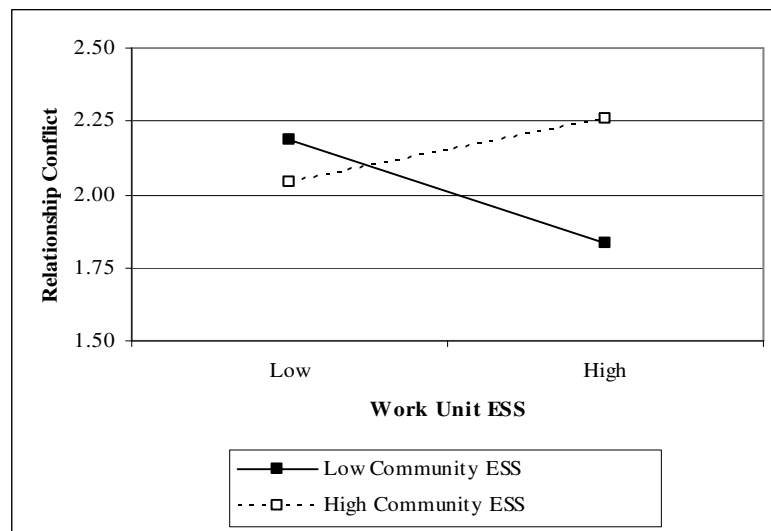
	Relat. Conflict		Task Conflict		PrCs. Conflict		Cohesion		Trust	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Control Variables										
Step 1										
Unit Size	.02	1.86	.01	1.33	.02	1.41	-.04	-2.39 *	-.01	-.53
Unit Interdependence	.14	1.04	.19	1.76	.10	.70	.21	1.09	.11	.77
Unit Tenure	.00	.11	.00	-.72	.00	.55	.00	.34	.00	.36
Unit Work Status	-.05	-.21	.26	1.27	.05	.19	.08	.21	.25	.99
Comm. Size	.00	-1.57	.00	-1.94	.00	-1.86	.00	1.33	.00	.96
Comm. Commuting Time	.11	.35	.13	.50	.29	.91	-.32	-.71	.15	.48
$R^2_{\text{step1}}$	.05		.07		.04		.07		.03	
Hypothesis 7a: Ethnic Status Separation										
Step 2										
Unit Ethnic Status Mean	.17	1.38	.15	1.56	.17	1.38	-.19	-1.05	-.21	-1.70
Unit ESS	-.01	-.05	.12	.82	.17	.90	-.21	-.81	-.15	-.85
Comm. Ethnic Status Mean	-.14	-.41	-.34	-1.29	-.26	-.78	.01	.03	.29	.87
Comm. ESS	-.30	-.56	-.76	-1.84	-.65	-1.22	-.16	-.21	.60	1.14
Step 3										
Unit ESS x Comm. ESS	2.53	2.34 *	.75	.88	1.14	1.03	-3.49	-2.25 *	-2.19	-2.04 *
Step 4										
Comm. ESS <sup>2</sup>	1.38	.64	.60	.35	-1.56	-.71	-2.05	-.67	-.20	-.09
Unit ESS x Comm. ESS <sup>2</sup>	5.30	.74	.75	.13	-1.88	-.25	.11	.01	-2.23	-.31
$\Delta R^2_{\text{step1-2}}$	.03		.07		.04		.02		.05	
$\Delta R^2_{\text{step2-3}}$	.04 *		.00		.01		.04 *		.03 *	
$\Delta R^2_{\text{step3-4}}$	.01		.00		.01		.00		.00	
$R^2_{\text{model}}$	.13		.14		.10		.13		.11	

Table 16 (Continued)

	Relat. Conflict		Task Conflict		Pracs. Conflict		Cohesion		Trust		
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	
Hypothesis 8a: Economic Hardship (EH)											
Step 2											
Unit Ethnic Status Mean	0.21	2.03 *	.20	2.42 *	.23	2.15 *	-.16	-1.06	-.26	-2.54 *	
Unit ESS	-.05	-.31	.01	.09	.08	.45	-.23	-.98	-.07	-.44	
Comm. EH	1.05	1.57	.84	1.60	.97	1.43	.03	.03	1.32	2.00 *	
Step 3											
Unit ESS x Comm. EH	-3.83	-2.04 *	-2.54	-1.71	-4.82	-2.55 *	3.75	1.37	4.34	2.37 *	
$\Delta R^2_{\text{step1-2}}$	.05		.06		.05		.02		.07		
$\Delta R^2_{\text{step2-3}}$	.03		.02		.05		.01		.04		
$R^2_{\text{model}}$	.13		.15 *		.14		.10		.14		
Hypothesis 9a: Conservative Political Climate (CPC)											
Step 2											
Unit Ethnic Status Mean	.16	1.44	.15	1.64	.20	1.73	-.13	-.79	-.20	-1.72	
Unit ESS	-.01	-.05	.04	.33	.10	.61	-.26	-1.10	-.11	-.66	
Comm. Campaign Contrib.	.00	-1.39	.00	-1.42	.00	-1.01	.00	1.52	.00	1.65	
Comm. CPC	-.57	-1.99 *	-.30	-1.32	-.53	-1.79	.45	1.08	.46	1.59	
Step 3											
Unit ESS x Comm. CPC	-.53	-.56	.24	.32	.66	.69	.85	.63	.59	.62	
$\Delta R^2_{\text{step1-2}}$	.07		.07		.07		.05		.08		
$\Delta R^2_{\text{step2-3}}$	.00		.00		.00		.00		.00		
$R^2_{\text{model}}$	.12		.14		.11		.12		.11		

Notes. For Hypotheses 7a and 8a,  $N = 121$ . For Hypothesis 9a,  $N = 118$ . \*  $p < .05$

differently, diverse work units (i.e., high ESS) reported worse interpersonal interactions than homogeneous work units (i.e., low ESS) in diverse communities, but reported better interpersonal interactions than homogeneous work units in homogeneous communities. The negative effect of work unit ESS on unit-level processes in high ESS communities was consistent with Hypothesis 7a. The predicted curvilinear moderating effect of community ESS, however, was not significant. Therefore, Hypothesis 7a received partial support.



*Figure 6.* The effect of work unit and community ethnic status separation (ESS) on unit-level relationship conflict

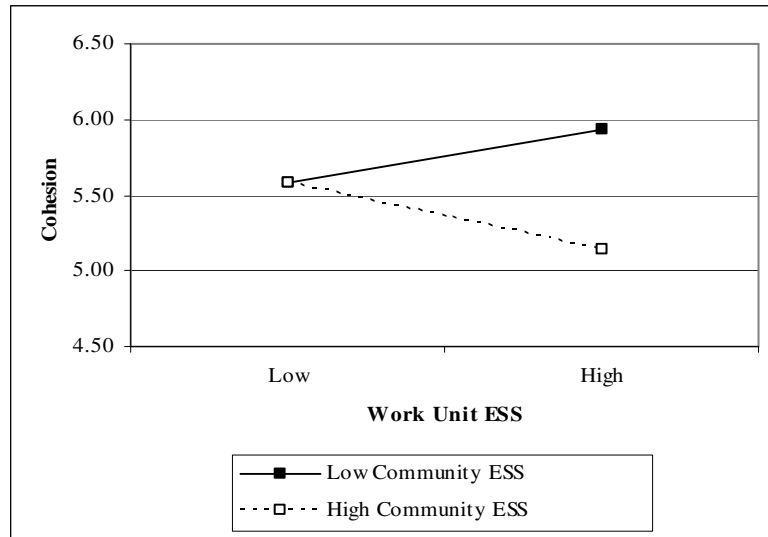


Figure 7. The effect of work unit and community ethnic status separation (ESS) on unit-level cohesion.

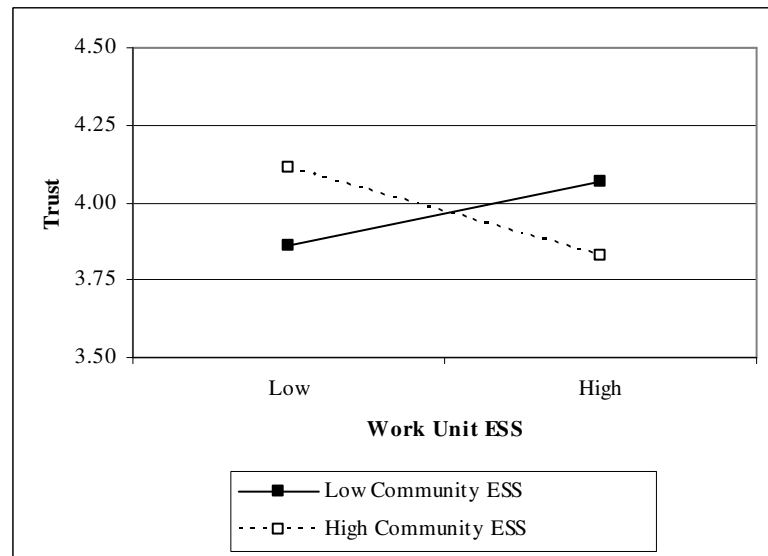


Figure 8. The effect of work unit and community ethnic status separation (ESS) on unit-level trust.



*Ethnic composition and performance outcomes.* Hypothesis 7b predicts that the negative relationship between work unit ESS and unit-level performance will be stronger in communities with maximal ESS (i.e., diverse communities) or minimal ESS (i.e., homogeneous communities) than in communities with moderate ESS. I used the same polynomial regression model to test Hypothesis 7b that I used to test Hypothesis 7a. Specifically, I entered control variables in step 1; work unit ESM, work unit ESS, community ESM, and community ESS in step 2; the work unit ESS by community ESS interaction in step 3; and squared community ESS and its interaction with work unit ESS in step 4.

The results for Hypothesis 7b appear in Table 17. In step 2, there was no main effect of ESS or ESM at the community level. In step 3, the work unit ESS by community ESS interaction predicted ROE ( $B = -2.02$ ,  $t(37) = -2.03$ ,  $p = .05$ ), but was unrelated to the manager-rated performance outcomes. A graph of the significant ROE interaction suggests that work unit ESS was negatively related to work unit financial performance in high ESS communities, but positively related to work unit financial performance in low ESS communities (see Figure 9). Stated differently, homogeneous work units (i.e., low ESS) outperformed diverse work units (i.e., high ESS) in diverse communities, but diverse work units outperformed homogeneous work units in homogeneous communities. The negative association between work unit ESS and financial performance in high ESS communities provides partial support for Hypothesis 7b.

Table 17

*Work Unit Performance Regressed on Work Unit Ethnic Status Separation (ESS) and Community Contexts*

	ROE		Overall Perf.		Helping OCBs		Consc. OCBs		ROE		
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>T</i>	<i>B</i>	<i>t</i>	
Control Variables											
Step 1											
Unit Size	.02	2.44 *	-.01	-.67	-.04	-2.06 *	-.03	-1.72	--	--	
Unit Interdependence	.02	.32	.30	1.27	.14	.64	.30	1.32	--	--	
Unit Tenure	.00	.88	.00	1.20	.00	1.25	.01	2.83 *	--	--	
Unit Work Status	.27	2.18 *	.15	.35	.42	1.08	.83	2.12 *	--	--	
Comm. Size	.00	-1.12	.00	-.40	.00	2.05 *	.00	-.57	--	--	
Comm. Commuting Time	-.31	-1.10	.82	1.51	.34	.68	.36	.69	--	--	
$R^2_{\text{step1}}$	.23		.06		.11		.18 *		--		
Hypothesis 7b: Ethnic Status Separation											
Step 2											
Unit Ethnic Status Mean	-.02	-.39	.15	.69	.05	.22	-.11	-.57	--	--	
Unit ESS	.03	.29	-.36	-1.27	-.04	-.15	-.22	-.80	--	--	
Comm. Ethnic Status Mean	.18	.60	.62	1.21	-.11	-.22	.54	1.09	--	--	
Comm. ESS	.33	.57	.66	.82	-.19	-.25	.73	.93	--	--	
Step 3											
Unit ESS x Comm. ESS	-2.02	-2.03 *	.66	.37	-1.38	-.82	-.73	.67	--	--	
Step 4											
Comm. ESS <sup>2</sup>	2.31	.90	-2.05	-.61	-2.17	-.65	.98	.31	--	--	
Unit ESS x Comm. ESS <sup>2</sup>	-10.05	-1.77	-22.99	-1.99 *	-2.72	-.24	30.28	2.28 *	--	--	
$\Delta R^2_{\text{step1-2}}$	.02		.06		.00		.02		--		
$\Delta R^2_{\text{step2-3}}$	.07 *		.00		.01		.00		--		
$\Delta R^2_{\text{step3-4}}$	.06		.07 *		.00		.07 *		--		
$R^2_{\text{model}}$	.38		.19		.12		.27 *		--		

Table 17 (Continued)

	ROE		Overall Perf.		Helping OCBs		Consc. OCBs		ROE	
	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>	<i>B</i>	<i>t</i>
Hypothesis 8b: Economic Hardship (EH)										
Step 2										
Unit Ethnic Status Mean	-.04	-.66	.13	.76	.03	.16	-.13	-.76	--	--
Unit ESS	.04	.38	-.33	-1.25	-.08	-.31	-.16	-.60	--	--
Comm. EH	-1.45	-1.01	-2.29	-1.66	-.40	-.30	-1.33	-.98	--	--
Step 3										
Unit ESS x Comm. EH	-17.62	-3.31 *	5.99	1.18	8.93	1.84	3.22	.64	--	--
$\Delta R^2_{\text{step1-2}}$	.03		.07		.00		.02		--	
$\Delta R^2_{\text{step2-3}}$	.17 *		.02		.04		.00		--	
$R^2_{\text{model}}$	.43 *		.15		.15		.20 †		--	
Hypothesis 9b: Conservative Political Climate (CPC)										
Step 2										
Unit Ethnic Status Mean	-.04	-.63	.22	1.10	.11	.56	.05	.28	-.04	-.70
Unit ESS	.05	.49	-.29	-1.07	-.06	-.25	-.17	-.65	.06	.57
Comm. Campaign Contrib.	.00	-.34	.00	.54	.00	.43	.00	1.68	.00	-.49
Comm. CPC	.42	2.51 *	.71	1.54	-.32	-.72	.49	1.07	.40	2.23 *
Comm. EH	--	--	--	--	--	--	--	--	-.83	-.56
Step 3										
Unit ESS x Comm. CPC	1.46	2.62 *	-1.30	-.83	-.01	.00	.84	.56	.89	1.49
Unit ESS x Comm. EH	--	--	--	--	--	--	--	--	-12.29	-2.13 *
$\Delta R^2_{\text{step1-2}}$	.12 *		.06		.01		.05		.13	
$\Delta R^2_{\text{step2-3}}$	.10 *		.01		.00		.01		.16 *	
$R^2_{\text{model}}$	.45 *		.13		.12		.24 *		.52 *	

Notes. For Hypotheses 7b and 8b,  $N = 49$  for ROE and 85 for other outcomes. For Hypothesis 9b,  $N = 49$  for ROE 83 for other outcomes. \*  $p < .05$

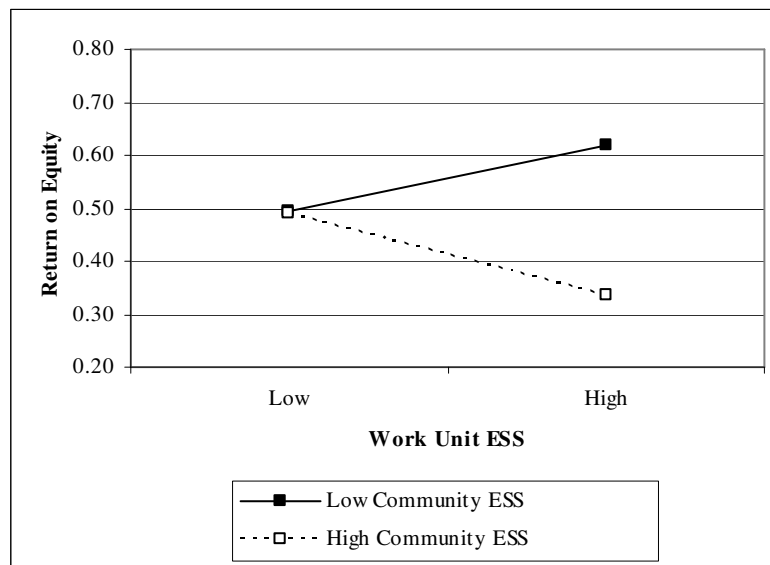


Figure 9. The effect of work unit and community ethnic status separation (ESS) on unit-level financial performance.

In step 4, the work unit ESS by squared community ESS interaction significantly predicted manager-rated performance ( $B = -22.99$ ,  $t(71) = -1.99$ ,  $p = .05$ ) and conscientiousness OCBs ( $B = -25.28$ ,  $t(71) = -2.26$ ,  $p = .03$ ), but was unrelated to ROE and helping OCBs. As shown in Figure 10, work unit ESS was negatively related to overall performance in both high and low ESS communities, but was unrelated to overall performance in moderate ESS communities. Similarly, work unit ESS was negatively related to conscientiousness OCBs in high ESS communities, slightly negatively related to conscientiousness OCBs in low ESS communities, and positively related to conscientiousness OCBs in moderate ESS communities (see Figure 11). Put differently, homogeneous work units (i.e., low ESS) outperformed diverse work units (i.e., high ESS) in both highly diverse and highly homogeneous communities, but not in moderately diverse communities. The negative relationship between work unit ESS and unit-level performance in both high and low ESS communities supports Hypothesis 7b.

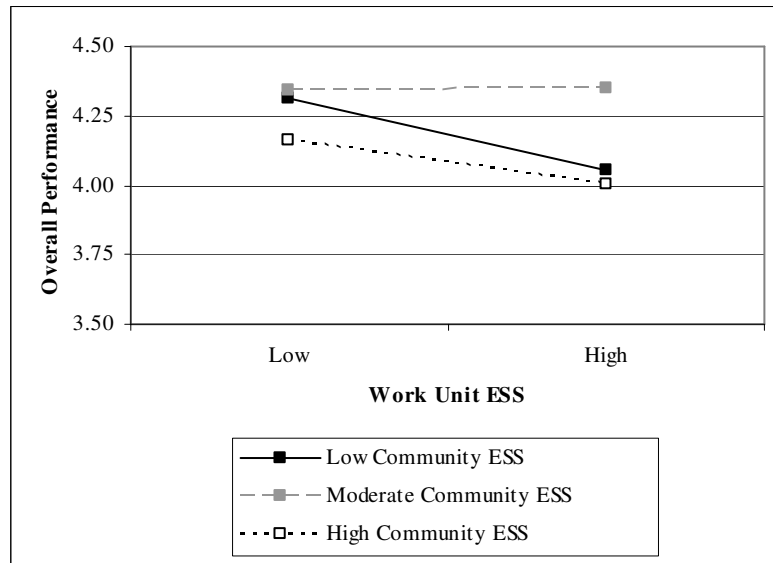


Figure 10. The effect of work unit ethnic status separation (ESS) and curvilinear community ESS on unit-level overall performance.

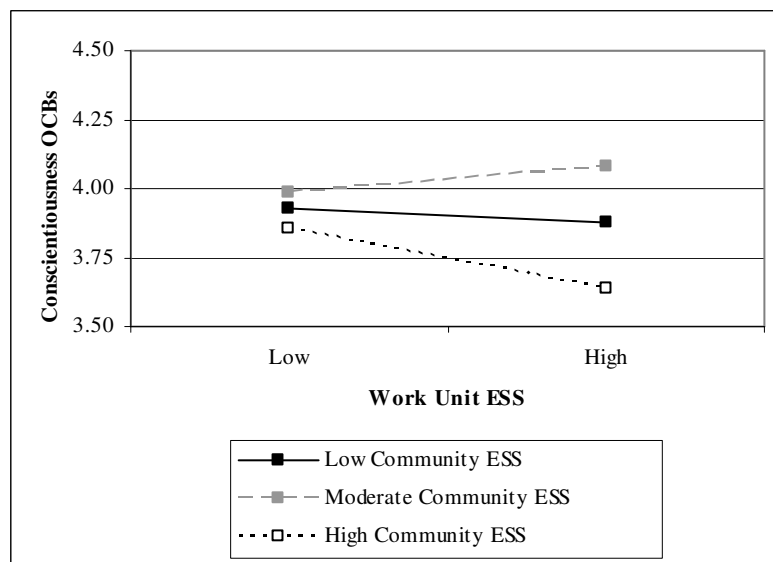


Figure 11. The effect of work unit ethnic status separation (ESS) and curvilinear community ESS on unit-level conscientiousness organizational citizenship behaviors (OCBs).

*Economics and process outcomes.* Hypothesis 8a predicts that work unit ESS will have a stronger negative impact on unit-level processes in poor communities than in wealthy communities. Table 16 presents the results for Hypothesis 8a. In step 2, there was a negative relationship between community economic hardship and work unit trust ( $B = -1.32, t(111) = -2.00, p < .05$ ), but community economic hardship was unrelated to all other work unit processes. In step 3, the work unit ESS by community economic hardship interaction significantly predicted relationship conflict ( $B = -3.83, t(110) = -2.04, p = .04$ ), process conflict ( $B = -4.82, t(110) = -2.55, p = .01$ ), and trust ( $B = 4.34, t(110) = 2.37, p = .02$ ), but was unrelated to task conflict and cohesion.

Surprisingly, for both relationship and process conflict, work unit ESS was negatively related to conflict in poor communities but positively related to conflict affluent communities (see Figures 12 and 13). Similarly, work unit ESS was positively related to trust in poor communities, but negatively related to trust in affluent communities (see Figure 14). Stated differently, diverse work units (i.e., high ESS) reported more positive unit-level interactions than homogeneous work units (i.e., low ESS) in poor communities, but reported more negative unit-level interactions than homogeneous work units in affluent communities. The observed interactions were in the opposite of the predicted direction. Therefore, Hypothesis 8a was not supported.

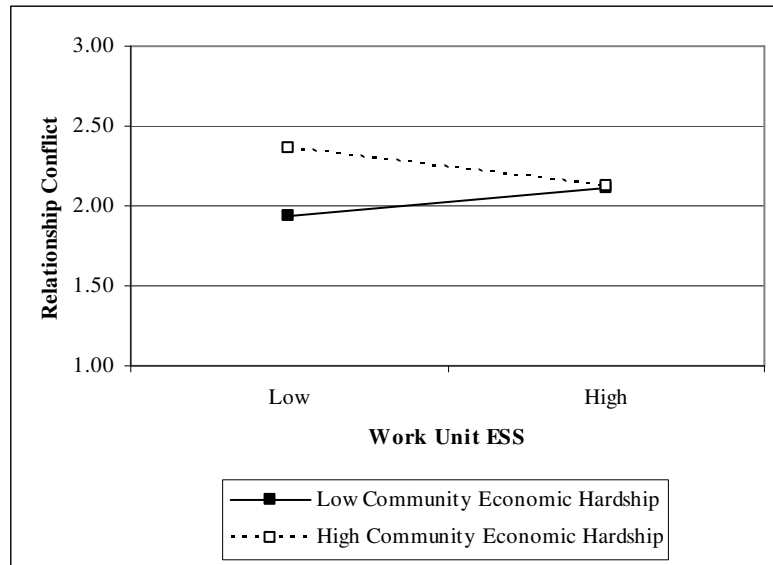


Figure 12. The effect of work unit ethnic status separation (ESS) and community economic hardship on unit-level relationship conflict.

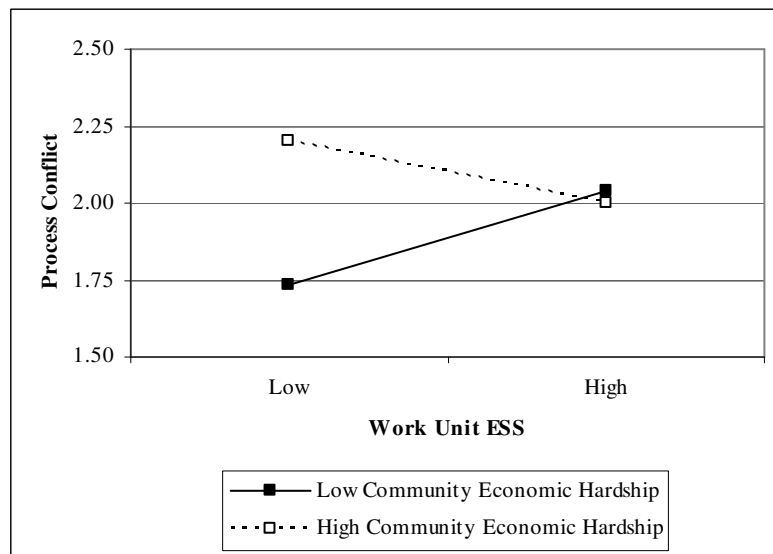


Figure 13. The effect of work unit ethnic status separation (ESS) and community economic hardship on unit-level process conflict.

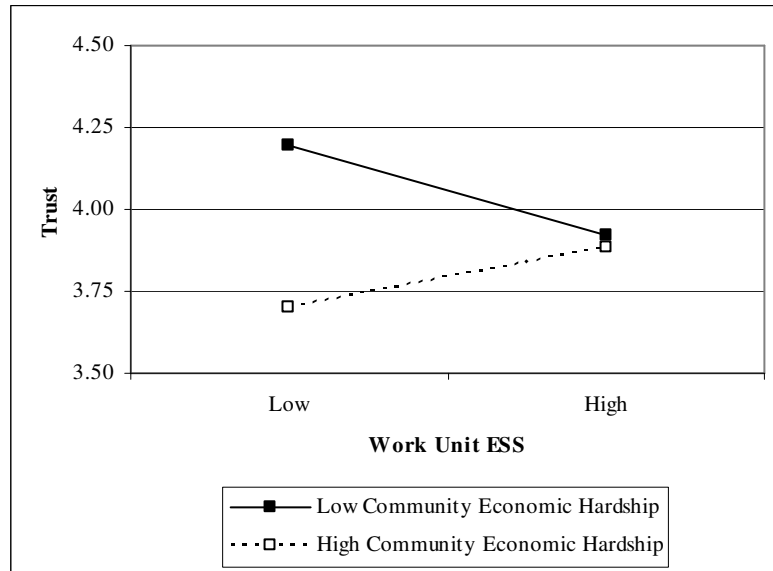


Figure 14. The effect of work unit ethnic status separation (ESS) and community economic hardship on unit-level trust.

*Economics and performance outcomes.* Hypothesis 8b predicts that work unit ESS will have a stronger negative impact on unit-level performance in poor communities than in wealthy communities. The results of Hypothesis 8b appear in Table 17. In step 2, there was no significant main effect of community economic hardship on any of the work unit performance measures. In step 3, the work unit ESS by community economic hardship interaction significantly predicted ROE ( $B = -17.62, t = -3.31, p = .00$ ), but was unrelated to all manager-rated performance outcomes. As shown in Figure 15, work unit ESS was negatively related to ROE in poor communities, but positively related to ROE in affluent communities. Put differently, homogeneous work units (i.e., low ESS) outperformed diverse work units (i.e., high ESS) in poor communities, but diverse work units outperform homogeneous work units in affluent communities. The finding that work unit ESS is associated with decreased financial performance in communities



characterized by economic hardship, but not in community characterized by economic affluence, supports Hypothesis 8b.

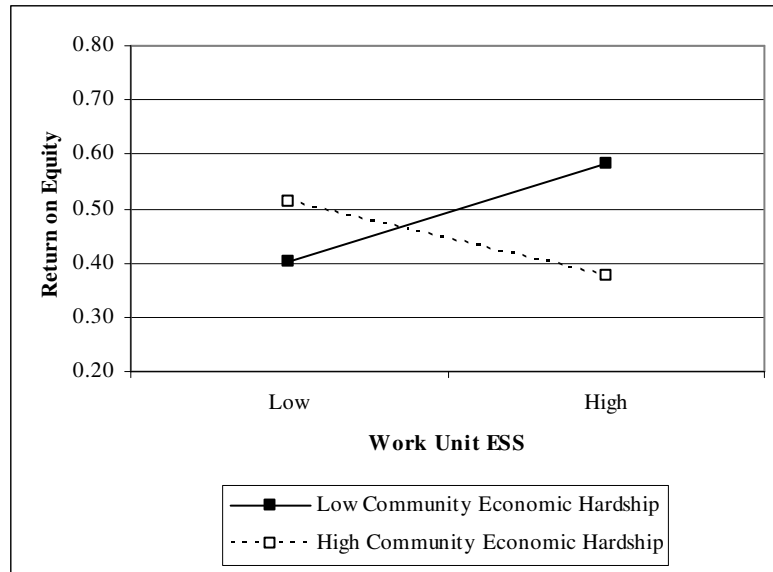


Figure 15. The effect of work unit ethnic status separation (ESS) and community economic hardship on unit-level financial performance.

*Political climate and process outcomes.* Hypothesis 9a predicts that work unit ESS will have a stronger negative impact on work unit processes in communities characterized by high political conservatism than in communities characterized by low political conservatism. The results of Hypothesis 9a appear in Table 16. In step 2, conservative political climate had a significant negative effect on relationship conflict ( $B = -.57, t(107) = -1.99, p = .05$ ), but was unrelated to all other work unit processes. In step 3, the work unit ESS by community conservative political climate interaction was unrelated to all unit-level processes. Thus, Hypothesis 9a was not supported.

*Political climate and performance outcomes.* Hypothesis 9b predicts that work unit ESS will have a stronger negative impact on work unit performance in communities characterized by high political conservatism than in communities characterized by low

political conservatism. The results of Hypothesis 9b appear in Table 17. In step 2, community conservative political climate had a positive effect on ROE ( $B = .42, t(38) = 2.51, p = .02$ ), but was unrelated to all manager-rated performance outcomes. In step 3, the work unit ESS by community conservative political climate interaction also significantly predicted ROE ( $B = 1.46, t(37) = 2.62, p = .01$ ), but again was unrelated to the manager-rated performance outcomes. A graph of the significant interaction for ROE suggests a positive relationship between work unit ESS and ROE in communities characterized by high conservatism, but a negative relationship between work unit ESS and ROE in communities characterized by low conservatism (see Figure 16). Stated differently, diverse work units (i.e., high ESS) outperformed homogeneous work units (i.e., low ESS) when political conservatism was high, but homogeneous work units outperformed diverse work units when political conservatism was low. Because this finding is in the opposite of the predicted direction, Hypothesis 9b was not supported.

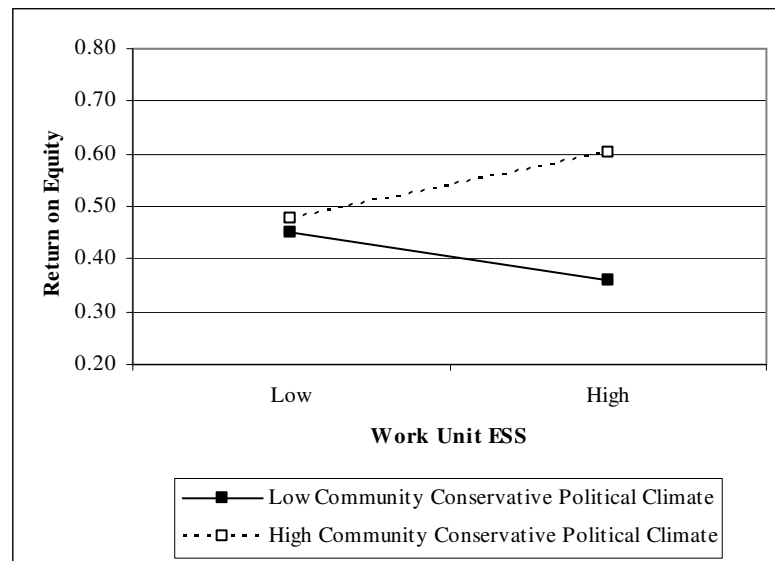


Figure 16. The effect of work unit ethnic status separation (ESS) and community conservative political climate on unit-level financial performance.

The operationalization of conservative political climate as the percent of campaign contributions that went to the republican candidate in the 2004 presidential election may have created a confound between conservative political climate and community affluence. In support of this possibility, community conservative political climate and community economic hardship were negatively correlated ( $r(116) = -.21, p = .02$ ). To determine if the conservative political climate variable captured a distinct construct from general economic affluence, I ran an additional analysis in which I simultaneously entered the interaction of work unit ESS with both community conservative political climate and community economic hardship. The economic hardship interaction remained significant ( $B = -12.29, t(35) = -2.13, p = .04$ ), but the conservative political climate interaction did not ( $B = .89, t(35) = 1.49, p = .14$ ; see Table 25). Thus, community conservative political climate did not interact with work unit ESS to predict unit-level financial performance, independent of the interaction of community economic hardship with work unit ESS.

#### *Work Unit Composition Based on Categorical Ethnicity*

I predicted that the main effect of work unit ESS would explain more variance in unit-level processes and performance than the main effect of ethnic variety or ethnic subgroups (Hypothesis 4). This prediction was not supported because I did find any main effects of work unit ESS on unit-level outcomes. In light of the significant interactions of work unit ESS with elements of the work unit and community context, I reran all interaction analyses operationalizing work unit ethnic composition as both ethnic variety and ethnic subgroups and used sign tests to determine if ESS, ethnic variety or ethnic

subgroups, in combination with elements of the work unit a community context, was the strongest predictor of unit-level process and performance outcomes.

Work unit ESS was strongly correlated with both ethnic variety ( $r(119) = .85, p = .00$ ) and ethnic subgroups ( $r(119) = .76, p = .00$ ), yet I found more effects when operationalizing work unit composition as ESS than when operationalizing work unit composition as ethnic variety or ethnic subgroups. As shown in Table 18, I found 13 significant interactions using work unit ESS. Using work unit ethnic variety only 6 of the 13 interactions were significant and no new interactions emerged. Using work unit ethnic subgroups, one interaction remained significant and one new significant interaction emerged. (Full results are available from the author.)

To test the statistical significance of the different results obtained using work unit ESS versus ethnic variety and ethnic subgroups, I conducted sign tests. To compare the results based on work unit ESS and ethnic variety, I defined each interaction that was significant for ESS but not ethnic variety as a positive event ( $N = 7$ ) and each interaction that was significant for ethnic variety but not ESS as a negative event ( $N = 0$ ). I defined interactions that were significant for both or neither operationalizations of work unit ethnic composition as ties, and therefore ignored them in the analysis. The sign test revealed that I detected effects more frequently when operationalizing work unit ethnic composition as ESS than as ethnic variety ( $p = .02$ ). I followed the same procedure for comparing the results based on work unit ESS and ethnic subgroups, and similarly found that I detected effects more frequently when operationalizing work unit composition as ESS than as ethnic subgroups ( $p = .00$ ). Thus, although not supported for main effects,

Table 18

*Results across Operationalizations of Work Unit Ethnic Composition*

	Relat. Conflict	Task Conflict	Pres. Conflict	Chsn.	Trust	ROE	Overall Perf.	Helping OCBs	Consc. OCBs
Ethnic Status Separation									
H1-2: Main Effects									
H5: Unit Learning Climate		X				X			
H6: Unit Performance Climate									
H7: Comm. Ethnic Status Separation	X			X	X	X	X		X
H8: Comm. Econ. Hardship	X		X		X	X			
H9: Comm. Conserv. Polit. Climate						X			
Ethnic Variety									
H1-2: Main Effects									
H5: Unit Learning Climate		X							
H6: Unit Performance Climate									
H7: Comm. Ethnic Status Separation	X			X	X				
H8: Comm. Econ. Hardship						X			
H9: Comm. Conserv. Polit. Climate						X			
Ethnic Subgroups									
H1-2: Main Effects									
H5: Unit Learning Climate									
H6: Unit Performance Climate									
H7: Comm. Ethnic Status Separation							X		
H8: Comm. Econ. Hardship									
H9: Comm. Conserv. Polit. Climate	X								

Notes. Each 'X' denotes a significant effect at  $p < .05$ .

Hypothesis 4 was supported for the interaction of work unit ethnic composition with elements of the context. Specifically, the interactions of work unit ESS with work unit and community context factors were more powerful predictors of work unit outcomes than the same interactions based on work unit ethnic variety and work unit ethnic subgroups.

#### *Student-Based Ethnic Status Scale*

In Study 1, I developed an ethnic status scale in both a sample of students and a sample of working adults. Although the two sets of scores differed significantly ( $\chi^2(3) = 93.90, p = .00$ ), the rank order of the ethnic groups was consistent and the two scales were highly correlated ( $r(2) = .98, p = .03$ ). I chose to use the adult-based ethnic status scores, because the Study 2 sample was also comprised of working adults.

To test the practical similarity of the two scales, I recalculated ESS and ESM using the student-based status scores and reran the Study 2 analyses. Not surprisingly, work unit ESS based on the student status scores was highly correlated with work unit ESS based on the adult status scores ( $r(119) = .97, p = .00$ ). Furthermore, results using the two sets of scores were highly similar. Of the 13 significant effects found using the adult-based ethnic status scores, 10 effects remained significant using the student-based ethnic status scores and no new effects emerged. Community demography, however, no longer moderated the effect of ESS on trust, manager-rated performance, and conscientiousness OCBs. (Full results are available from the author.) Furthermore, a sign test revealed that the number of significant results found when using the student and adult ethnic status scores did not differ significantly ( $p = .25$ ).

## Chapter 7: General Discussion and Conclusions

Increasing ethnic diversity in American society, and by extension in the American workforce, has been identified as a key challenge facing organizations today (e.g., Jackson & Ruderman, 1996; Triandis et al., 1994; Williams & O'Reilly, 1998). In spite of much research, work unit ethnic composition studies have produced highly inconsistent findings, and therefore provide few insights into how organizations can successfully manage increasing diversity. By extending Allport's (1954) theory of intergroup contact to organizational contexts, I find empirical support for two theoretical advancements that push the study of work unit ethnic composition in new directions. First, I begin to unpack the meaning of ethnicity in American society by using a status perspective to understand the dynamics of ethnic diversity in work units. Second, I show that outcomes of work unit diversity are contingent upon contextual cues regarding the degree of cooperation and competition in the environment.

### *Status Dynamics*

By using categorical measures of work unit ethnic composition (e.g., ethnic variety, ethnic subgroups), past research treats all differences as equal. To begin to address this limitation, I extended Allport's (1954) principle of equal status to work unit ethnic composition. I theorized that the degree of threat, and by extension negative effects on work unit processes and performance, will be greatest in work units composed of numerically equal subgroups that differ maximally in ethnic status (i.e., ethnic status separation or ESS).

The prediction that work unit ESS would be a more powerful predictor of unit-level outcomes than categorical measures of ethnic composition (i.e., ethnic variety or

ethnic subgroups) was not supported for the main effect of work unit ethnic composition, but was supported for interaction of work unit ethnic composition with elements of the work unit and community context. Work unit ethnic composition did not exert a direct effect on unit-level processes and performance when operationalized as ESS, ethnic variety or ethnic subgroups. Therefore, I was unable to test if ESS explained more variance in unit-level outcomes than categorical measures of ethnic composition (i.e., variety or subgroups). Work unit ESS, however, did interact with elements of the work unit and community context to predict unit-level processes and performance. Moreover, when interacting context factors with ethnic variety and ethnic subgroups, instead of ESS, fewer significant effects emerged. Therefore, the Study 2 results support a status-based approach to work unit ethnic composition effects because ESS, in combination with elements of the work unit and community context, captured more variance in unit-level outcomes than ethnic variety or ethnic subgroups in combination with the same context factors.

Although ESS did not exert a main effect on work unit process and performance outcomes, the unit-level ethnic status mean (ESM) was positively related to unit-level task conflict and negatively related to unit-level trust. The observed negative relationship between the ESM and work unit processes is consistent with evidence that high status individuals are less communal than their low status counterparts (e.g., Conway et al., 1996). Evidence that low status (i.e., ethnic minority) work units have more positive interpersonal processes than high status (i.e., ethnic majority) work units also poses an interesting juxtaposition to the myriad of negative outcomes experienced by ethnic minorities in organizations (e.g., discrimination, harassment, social exclusion).



Furthermore, evidence that unit-level ethnic status affects key work unit outcomes adds to the growing body of research on the importance of status and power in organizational contexts (e.g., Conway et al., 1996; Fragale, 2006; Keltner et al., 2003; Lucas, 2003).

### *Cooperative and Competitive Contexts*

Allport's (1954) theory of intergroup contact also posits that facilitating cooperation among interacting members of different social groups reduces tendencies toward ingroup favoritism and outgroup derogation. Thus, the second goal of this dissertation was to test a number of work unit and community context factors that I expected to moderate the relationship between work unit ESS and unit-level outcomes by affecting the degree of cooperation or competition in the environment.

### *Work Unit Context*

At the work unit level, I found support for learning climate as a moderator of work unit ESS effects. Work unit ESS increased task conflict and decreased financial performance in low learning climates, but not in high learning climates. This finding suggests that high learning climates, and the associated norms for cooperation, prevent the tensions present in high ESS work units from having a detrimental impact on process and performance outcomes.

In addition to the significant work unit ESS by learning climate interactions, unit-level learning climate had a main effect on both process and performance outcomes. Specifically, work units with high learning climates experienced less conflict (relationship, task, process), more cohesion and trust, and stronger financial performance than work units with low learning climates. Although a well-established individual-level motivational construct (e.g., Elliot & Church, 1997; Elliot & Harackiewicz, 1996;

VandeWalle, 1997), research on unit-level learning climate is both more recent and more rare (e.g., Bunderson & Sutcliffe, 2003; Dragoni, 2004). The robust effect of learning climate across process and performance outcomes provides evidence that learning climate is a powerful construct, with implications for key outcomes in organizations.

Alternatively, performance climate did not moderate the relationship between work unit ESS and work unit outcomes. Performance climate, however, was positively related to work unit ESS ( $r(119) = .30, p = .00$ ). I originally theorized that performance-oriented climates would exacerbate the negative effect of work unit ESS on work unit outcomes through top-down processes. Perhaps the relationship between work unit ESS and performance climate is better described as a bottom-up effect, in which the intergroup bias present in high ESS work units results in the emergence of performance-oriented, competitive climates.

#### *Community Context*

At the community level, I found that “community matters” (Brief et al., 2005b, p. 830) and therefore build upon a growing body of research showing that organizations are affected by the broader contexts in which they operate (Brief et al., 2005a; Brief et al., 2005b; Dietz et al., 2003; Sacco & Schmitt, 2005). Of the community-level factors investigated, the results were strongest for community ethnic composition. Across process and performance outcomes, work unit ESS had a consistently negative impact in communities characterized by high community-level ESS. Thus, findings supported the prediction that work unit ESS is especially detrimental to unit-level outcomes in competitive contexts (i.e., high community ESS). I also predicted that work unit ESS would have a negative impact in low ESS communities, but not in moderate ESS

communities. The moderating effect of community ESS followed this curvilinear pattern for manager-rated performance, but not for unit-level processes or financial performance. Thus, findings also suggested that work unit ESS is detrimental when ethnic differences are highly salient, as is the case in low ESS (or homogeneous) communities, although the effect was inconsistent across outcomes.

Work unit ESS also interacted with community economic hardship to predict a number of work unit outcomes. Consistent with predictions, work units characterized by ESS had worse financial performance in poor communities (i.e., high competition) than in affluent communities (i.e., low competition). The interactive effect of work unit ESS and community economic hardship on work unit processes, however, was in the opposite direction and suggested that high ESS work units experience more positive interpersonal processes in poor communities than in affluent communities.

Range restriction in the community economic hardship measure provides one potential explanation for this surprising finding. The Study 2 sample included branches of a successful commercial bank. Thus, none of the bank branches were in communities characterized by extreme economic hardship. In the sample, the average percentage of community residents who were below poverty and unemployed was 9% and 5%, respectively. These numbers are slightly below the national averages of 12% for poverty status and 4% for employment (U.S. Census Bureau, 2000b). Furthermore, only 20% of branches were in communities below the national average for poverty status, and only 15% of branches were in communities below the national average for employment. Thus, the possibility remains that work unit ESS may negatively affect work unit processes in communities characterized by extreme economic hardship. The finding that work unit

ESS had a positive impact on unit-level processes in communities characterized by moderate (i.e., high) economic hardship, however, remains perplexing.

I also investigated the moderating effect of community political climate; however, it is unlikely that the conservative political climate measure adequately reflected the intended construct. The interaction of community political climate with work unit ESS was unrelated to work unit processes, and was in the opposite of the predicted direction for work unit financial performance. Furthermore, the interactive effect of community political climate and work unit ESS on financial performance was no longer significant after controlling for the community economic hardship by work unit ESS interaction.

#### *Broad Contributions*

In addition to finding evidence that specific elements of the work unit (e.g., learning climate) and community (e.g., community ESS) context moderate work unit ethnic composition effects, my findings also makes several broad contributions. First, support for the contextualized model of work unit ethnic composition (see Figure 3) makes strides toward integrating the organizational literature with related social psychological research on intergroup bias. Although the topic of much social psychological research (see Pettigrew, 1998 for a review), the boundary conditions for intergroup bias identified in Allport's (1954) theory of intergroup contact have received little attention in the work unit ethnic composition literature. By extending the principles of equal status and cooperation to the work unit context, I provide evidence that the dynamics of intergroup contact identified by Allport almost fifty years ago are alive and well in present day organizations.

Second, I link work unit ethnic composition to objective outcomes, specifically work unit financial performance. Researchers have theorized that work unit ethnic diversity has implication for financial performance (e.g., Richard, 2000; Richard, McMillan, Chadwick, & Dwyer, 2003), but empirical evidence for a direct linkage is rare. Sacco and Schmitt (2005) found a negative relationship between work unit ethnic diversity and financial performance by modeling how this relationship unfolds over time. Like Sacco and Schmitt (2005), I provide evidence that more complex models are needed to capture the relationship between work unit ethnic diversity and financial performance. Specifically, I found that the effects of work unit ethnic composition on financial performance are contingent upon contextual cues regarding cooperation and competition.

Third, although work unit ethnic composition interacted with the context to affect both work unit processes and financial performance, I found no evidence of mediation. Therefore, my findings suggest that work unit ethnic composition exerts independent effects on work unit process and performance outcomes. Such evidence runs contrary to the commonly used input-process-outcome model of work unit functioning (e.g., Guzzo & Shea, 1992; Hackman & Morris, 1975). Although not a mediator of the relationship between work unit ethnic composition and unit-level financial performance, the observed interactive effects of work unit ethnic composition on work unit processes are a meaningful outcome in their own right. Specifically, these findings imply that successfully managing diversity will not only improve the bottom line for organizations, but will also improve employees' social-psychological experiences at work by decreasing conflict and increasing cohesion and trust.

Finally, I started with the baseline assumption that work unit ethnic diversity negatively impacts work unit outcomes (e.g., Bell, Denning, Rudolph, & Villado, 2007), and theorized that this negative relationship would be more severe in competitive contexts than in cooperative contexts. Interestingly, I found that work unit ESS *positively* impacted work unit outcomes in certain contexts (e.g., high work unit learning climate). Researchers have hypothesized that ethnic diversity will positively affect unit-level outcomes by increasing the range of perspectives present in the work unit (e.g., Cox et al., 1991; Watson et al., 1998; Watson et al., 1993; Williams & O'Reilly, 1998), yet evidence of a positive relationship is rare, especially in field settings. More theory and research is needed, however, to provide further evidence that ethnic diversity improves unit-level outcomes under certain conditions and to test theoretical explanations for why diversity, operationalized as work unit ESS, positively affects work unit functioning.

#### *Practical Implications*

Support for the contextualized model of work unit ethnic composition provides several concrete means for avoiding negative effects of ethnic diversity in organizational settings. Most notably, evidence for learning climate as a moderator of the relationship between work unit ESS and unit-level outcomes suggests that organizations can take direct actions to improve outcomes in diverse work units. Specifically, by facilitating learning climates, and the associated norms for cooperation, managers can improve not only interpersonal processes, but also financial performance. Although community dynamics are not in the control of organizations, the moderating effects of the community context on the relationship between work unit diversity and unit-level outcomes also have implications for organizations. I found that diverse work units (i.e., high ESS) are

especially vulnerable to negative process and performance outcomes in communities similarly characterized by ethnic diversity. Thus, attention to community demography can help managers identify the work units in which ethnic diversity is most likely to have a negative impact. Once identified, managers can provide such work units with training and other resources to prevent diversity from having a negative impact on unit-level processes and performance.

In addition to improving organizational functioning, my findings also have implications for the broader societal problems of continued discrimination and insufficient workplace diversity. I have argued that community contexts seep through organizational boundaries and therefore affect workplace outcomes. To the extent that the effect is reciprocal, and individuals carry work unit experiences back to their personal lives, facilitating positive interpersonal experiences in diverse work units may help to alleviate intergroup tensions in other walks of social life. Additionally, evidence that ethnic diversity positively impacts unit-level outcomes under certain conditions may convince organizations of the value in diversity. If diversity is viewed an asset, organizations may go beyond non-discrimination by actively seeking to increase the diversity of their workforce.

#### *Limitations and Future Research*

As with all research, the findings reported here are qualified by several limitations. I originally sampled more than 800 individuals, yet at the work unit-level the analysis sample size was 121 for work unit process outcomes, 85 for manager-rated performance outcomes, and 49 for financial performance. These sample sizes are as large as or larger than those used in past field research on work unit ethnic composition (e.g.,

Harrison et al., 1998; Kirkman et al., 2004), but still resulted in low statistical power, especially for detecting interactions.

A second limitation of this research was the inability to collect ethnicity data for all work unit members. Failure to obtain complete ethnicity data is a common practical constraint in field research on work unit ethnic composition. Consistent with recent recommendations for remedying the issue (Allen et al., 2007), I attempted to collect aggregate data on branch member ethnicity directly from the bank, rather than relying on self-reported ethnicity. The bank, however, was legally constrained from releasing this information. To limit the impact of incomplete ethnic composition data, I only included branches in which at least three individuals reported ethnicity. Furthermore, the disadvantages of missing data should be countered against the importance of studying ethnic composition effects in real world contexts. Work unit ethnic composition research that has obtained complete ethnicity data has largely been conducted in either laboratory (e.g. Chatman et al., 1998; Harrison et al., 2002; Krebs, Hobman, & Bordia, 2006) or classroom (e.g., Chatman & Flynn, 2001; Polzer, Milton, & Swann, 2002) settings, and therefore has less external validity than field research.

The sample I used to test the proposed contextual model of work unit ethnic composition provides two additional limitations. First, the bank branches sampled were only moderately interdependent ( $M = 3.07$ ,  $SD = .35$ , on a five-point scale). Furthermore, moderate interdependence was confounded by a lack of strongly shared perceptions of interdependence among branch members, as evidenced by weak aggregation statistics for this variable (see Table 10). Assuming that interdependence is negatively related to the frequency of interpersonal interactions in work units, the proposed relationships should



be weaker in moderately interdependent work units than in strongly interdependent work units. Thus, while moderate interdependence provides a potential explanation for why some predictions were not supported, it does not provide an alternative explanation for the hypotheses that were supported. Second, all branches in the sample were located within the mid-Atlantic United States. Thus, it is unclear whether or not the observed community context effects will generalize to other regions in the United States. To address these limitations, future research should attempt to replicate these findings in a sample of work units that are both more interdependent and distributed throughout a wider geographic region.

In terms of theoretical limitations, I examined a limited number of the myriad of contextual factors that will likely affect outcomes of work unit diversity by influencing the degree of cooperation or competition in the work environment. Thus, support for other factors related to cooperation (e.g., climate for teamwork, collective reward structures) and competition (e.g., climate for aggression, individual reward structures) should be sought. Furthermore, the contextual model should be expanded to higher levels of analysis by looking for both industry (e.g., pace of growth, age) and societal (e.g., individualism-collectivism, masculinity-femininity, tightness-looseness) moderators of the relationship between work unit diversity and unit-level outcomes.

Expanding the status-based model of work unit ethnic composition to other societal cultures provides an especially intriguing avenue for future research. Although the emergence of status hierarchies is a near universal outcome of social interaction (e.g., Gould, 2002), reactions to status differences are likely to vary across cultures. Consistent with social psychological research conducted largely within the United States (e.g.,

Bettencourt et al., 2001; Ellemers et al., 1993; Hewstone et al., 2002; Turner & Brown, 1978), I theorized that members of low status ethnic groups will reject the status hierarchy and seek to improve the standing of their group by showing favoritism toward the ingroup and derogating high status outgroups. In high power distance cultures (e.g., Mexico, India, Singapore), however, hierarchies are viewed as more stable and there is less social mobility than in the United States. If low status group members accept the position of their group, and therefore engage in less intergroup bias, it follows that the negative effects of work unit ESS on unit-level outcomes will be less severe in high power distance cultures than in low power distance cultures.

I focused on ethnicity-based status, yet a number of other demographic characteristics serve as indicators of status, both ascribed (e.g., gender) and achieved (e.g., job position). Past research that considers the effects of multiple forms of demographic diversity frequently collapses across diversity variables without sufficient theoretical justification. Studying work unit demographic composition from a status perspective provides a common denominator across multiple types of diversity. Thus, I plan to test a more comprehensive theoretical lens for understanding diversity dynamics by expanding the status-based model of work unit composition to other demographic characteristics.

I developed a measure of ethnic status in Study 1, and then used the measure to assess work unit ethnic composition in Study 2. The ethnic status scale, however, has implications that extend beyond studies of work unit diversity. The status approach can be applied to a wide range of diversity issues in organizations, including Affirmative Action, ethnic discrimination and harassment, and adverse impact in testing and

selection. For example, status could be studied as a mediator of the relationship between the specific ethnic group targeted by an Affirmative Action plan (e.g., Asians, Blacks, Latinos) and perceptions of the plan among Whites. Such attempts to assess the factors that drive diversity-related phenomena will make strides toward unpacking ethnicity and therefore provide a deeper understanding of why ethnicity affects outcomes in organizations.

Status, however, is only one dimension along which ethnic groups differ, and more research is needed to uncover other dimensions that underlie ethnicity (e.g., values, norms, attitudes, etc.). Moreover, the status approach is limited in that it places all ethnic groups along a single quantitative continuum, and therefore ignores qualitative differences among ethnic groups. Thus, emic research on the cultural characteristics of individual ethnic groups within the United States is also needed to fully understand the impact of ethnicity in organizations.

### *Conclusions*

Ethnicity has always been, and will likely always be, a highly contentious issue in both the United States and abroad. Ethnic differences are demarcated by surface-level, highly visible physical characteristics (e.g., skin color), and therefore spark well-learned and powerful tendencies toward ingroup favoritism and outgroup derogation. Current societal norms dictate that blatant ethnicity-based prejudice is morally wrong, and therefore encourage Americans to suppress open discussion of differences. Yet ignoring that intergroup bias exists also does a societal disservice. Achieving an egalitarian society requires that we first accept that discrimination is a likely consequence of social interaction in diverse societies, and then develop a systematic understanding of the

conditions under which ethnicity-based biases are minimized. This dissertation contributes to the broader goal of reducing intergroup bias by identifying key conditions for preventing negative outcomes of ethnic diversity in organizational contexts.

## Appendix A: Study 1 Questionnaires

### *Ethnic Status Questionnaire*

- 1) Which ethnic group has higher *status* in American society?
- 2) Which ethnic group has more *prestige* in American society?
- 3) Which ethnic group is more *respected* in American society?

### *Validation Questionnaire*

- 1) Which ethnic group is viewed as more *competent* in American society?
- 2) Which ethnic group is viewed as more *intelligent* in American society?
- 3) Which ethnic group is viewed as more *assertive* in American society?
- 4) Which ethnic group experiences more *discrimination* in American society?
- 5) Which ethnic group is American society more *prejudiced* against?
- 6) Which ethnic group is viewed more *negatively* in American society?

### *Order of Presentation of Response Options*

#### Version 1:

- |                              |    |                           |
|------------------------------|----|---------------------------|
| a) Asian Americans           | OR | Black/African Americans   |
| b) White/European Americans  | OR | Asian Americans           |
| c) Latino/Hispanic Americans | OR | Black/African Americans   |
| d) Asian Americans           | OR | Latino/Hispanic Americans |
| e) Black/African Americans   | OR | White/European Americans  |
| f) Latino/Hispanic Americans | OR | White/European Americans  |

#### Version 2:

- |                              |    |                           |
|------------------------------|----|---------------------------|
| a) Black/African Americans   | OR | Black/African Americans   |
| c) White/European Americans  | OR | Latino/Hispanic Americans |
| d) Black/African Americans   | OR | White/European Americans  |
| e) Latino/Hispanic Americans | OR | Asian Americans           |
| f) White/European Americans  | OR | Asian Americans           |

#### Version 3:

- |                              |    |                           |
|------------------------------|----|---------------------------|
| a) Latino/Hispanic Americans | OR | White/European Americans  |
| b) Black/African Americans   | OR | Latino/Hispanic Americans |
| c) Asian Americans           | OR | White/European Americans  |
| d) Latino/Hispanic Americans | OR | Asian Americans           |
| e) White/European Americans  | OR | Black/African Americans   |
| f) Asian Americans           | OR | Black/African Americans   |

(Appendix A Continued)

Version 4:

a) White/European Americans	OR	Asian Americans
b) Latino/Hispanic Americans	OR	White/European Americans
c) Black/African Americans	OR	Asian Americans
d) White/European Americans	OR	Black/African Americans
e) Asian Americans	OR	Latino/Hispanic Americans
f) Black/African Americans	OR	Latino/Hispanic Americans

Version 5:

a) Black/African Americans	OR	Asian Americans
b) Asian Americans	OR	White/European Americans
c) Black/African Americans	OR	Latino/Hispanic Americans
d) Latino/Hispanic Americans	OR	Asian Americans
e) White/European Americans	OR	Black/African Americans
f) White/European Americans	OR	Latino/Hispanic Americans

Version 6

a) Latino/Hispanic Americans	OR	Black/African Americans
b) Black/African Americans	OR	Asian Americans
c) Latino/Hispanic Americans	OR	White/European Americans
d) White/European Americans	OR	Black/African Americans
e) Asian Americans	OR	Latino/Hispanic Americans
f) Asian Americans	OR	White/European Americans

Version 7:

a) White/European Americans	OR	Latino/Hispanic Americans
b) Latino/Hispanic Americans	OR	Black/African Americans
c) White/European Americans	OR	Asian Americans
d) Asian Americans	OR	Latino/Hispanic Americans
e) Black/African Americans	OR	White/European Americans
f) Black/African Americans	OR	Asian Americans

Version 8

a) Asian Americans	OR	White/European Americans
b) White/European Americans	OR	Latino/Hispanic Americans
c) Asian Americans	OR	Black/African Americans
d) Black/African Americans	OR	White/European Americans
e) Latino/Hispanic Americans	OR	Asian Americans
f) Latino/Hispanic Americans	OR	Black/African Americans

## Appendix B: Study 2 Questionnaires

### *Letter to Survey Participants*

Dear [Company X] Employee,

Greetings from the University of Maryland! I am a Professor of Psychology at the University of Maryland, College Park, and am administering this survey to all [Company X] employees in your region. I am dedicated to understanding how to make workplaces such as [Company X] more enjoyable for people such as yourself.

I hope you will fill out this survey. Your opinions are *very important*. This survey contains a number of questions about your work experiences and your perceptions of your work environment. If you would like to skip any questions, please feel free to do so, although we hope that you will answer all of the questions. The survey will take approximately 45 minutes to an hour to complete.

Important: This survey is being conducted by myself at the University of Maryland and NOT by [Company X]. Your responses to this survey are completely confidential. Your responses will NOT be linked back to you personally.

You can win real money for participating in this survey!

We will have a lottery for 5 prizes of \$60.00 each. At the end of the survey, you will find a lottery ticket. Please fill this ticket out if you participate in the survey and then mail it back SEPARATELY in the stamped white envelope that is provided. We will send you your cash prize by March 4<sup>th</sup> if you win.

Your participation in this project involves minimal risk and your participation is completely voluntary. Although the research is not designed to benefit you personally, I hope to understand how to make workplaces like [Company X] a better place to work for employees.

\*\*\*Please be sure to check the following box if you agree to participate\*\*\*

€ I am over 18 years of age, have read and understand the above, and would like to participate in this survey being conducted by Dr. Michele Gelfand in the Department of Psychology, University of Maryland, College Park.

Please mail your survey back directly to the University of Maryland in the manila envelope that is provided by February 18th. This envelope is already stamped so you can just place it in the mail.

Thank you very much!

(Appendix B Continued)

*Employee Survey Items*

*Work Unit Processes*

1. Work Unit Conflict (Jehn & Mannix, 2001; Jehn et al., 1999)

The following questions ask you about experiences with co-workers in your branch. Please read each item carefully and circle the response that best reflects your opinion (1 = None; 2 = A small amount; 3 = A medium amount; 4 = A sizeable amount; 5 = A lot).

- How much relationship tension is there in your branch? [relationship]
- How much emotional conflict is there in your branch? [relationship]
- How often do people get angry while working in your branch? [relationship]
- How much conflict of ideas is there in your branch? [task]
- How often do people in your branch have conflicting opinions about the project you are working on? [task]
- How frequently do you have disagreements within you branch about the task of the project you are working on? [task]
- How often are there disagreements about who should do what in your branch? [process]
- How frequently do members of your branch disagree about the way to complete a group task? [process]
- How much conflict is there in your branch about task responsibilities? [process]

2. Work Unit Cohesion (adapted from Dobbins & Zaccaro, 1986)

Please rate the extent to which you disagree or agree with each statement (1 = Strongly disagree; 2 = Somewhat disagree; 3 = Slightly disagree; 4 = Neither disagree nor agree; 5 = Slightly agree; 6 = Somewhat agree; 7 = Strongly agree).

- If given the chance, most branch members would leave this branch and join another. [reverse scored]
- The members of my branch get along well together.
- The members of my branch will readily defend each other from criticism by outsiders.
- Branch members feel they are really part of a team.
- Branch members look forward to being together each day.
- Branch members generally do not get along together. [reverse scored]
- Branch members enjoy being members because they have many friends in the branch.
- The branch to which I belong is a close one.



(Appendix B Continued)

3. Work Unit Trust (adapted from Jehn & Mannix, 2001)

Please answer the following questions by using the scale provided (1 = Not at all; 2 = Very little; 3 = Somewhat; 4 = Considerably; 5 = Very much).

- How much do branch members trust each other?
- How truthful and honest are branch members with each other?
- To what extent can branch members rely on each others' promises?

*Work Unit Context*

1. Manager Facilitating Goal Orientation Climate (Dragoni, 2004)

Using the scale provided, please indicate the degree to which you agree or disagree with the following statements (1 = Strongly disagree; 2 = Disagree; 3 = Neither disagree nor agree; 4 = Agree; 5 = Strongly agree).

My branch manager...

- Encourages branch members to participate in learning and development programs. [learn]
- Praises branch members when they take the initiative to learn something new. [learn]
- Facilitates the development of branch members. [learn]
- Treats mistakes as opportunities to learn something new. [learn]
- Emphasizes the importance of outperforming others. [perform]
- Openly ranks branch members' performance on an ongoing basis. [perform]
- Rewards branch members when they outperform others within our branch. [perform]
- Encourages members within my branch to compete with one another. [perform]

(Appendix B Continued)

*Control Variables*

1. Task and Work Interdependence (Campion et al., 1993; Klein et al.,)

Please rate the extent to which you disagree or agree with each statement (1 = Strongly disagree; 2 = Disagree; 3 = Neither disagree nor agree; 4 = Agree; 5 = Strongly agree).

- Branch members cannot accomplish their tasks without information or materials from other branch members. [task interdependence]
- Members of my branch depend on each other for information or materials needed to perform their tasks. [task interdependence]
- Within my branch, jobs performed by branch members are all related to one another. [task interdependence]
- How often are members of your branch required to coordinate their work activities in order to get their work done? [work interdependence]

*Manager Survey*

*Work Unit Performance*

1. Manager-Rated Performance (adapted from Sparrowe et al., 2001)

Please use the following dimensions to rate this branch's performance (1 = Very poor; 2 = Poor; 3 = Satisfactory; 4 = Good; 5 = Very good; 6 = Outstanding):

- Quality of work
- Working together as a branch
- Getting work done efficiently
- Service orientation
- Maintaining a positive attitude
- Communication among branch members
- Flexibility in dealing with unexpected changes
- Overall performance

(Appendix B Continued)

2. Manager-Rated OCBs (Ehrhart, 2004)

Please rate the extent to which employees in this branch do the following (1 = To a small extent; 2 = To some extent; 3 = To a medium extent; 4 = To a considerable extent; 5 = To a great extent):

- Branch employees help out others who have been absent and return to work. [helping]
- Branch employees help others who have heavy workloads. [helping]
- Branch employees help orient new members to the branch. [helping]
- Branch employees willingly help others who have work-related problems. [helping]
- Branch employees are always ready to lend a helping hand to other employees around them. [helping]
- Work attendance of employees in this branch is better than it is in other branches in the organization. [conscientiousness]
- In this branch, employees do not take breaks. [conscientiousness]
- Branch employees obey branch rules and regulations even when no one is watching. [conscientiousness]
- Branch employees are conscientious about their work. [conscientiousness]
- Branch employees give an honest day's work for an honest day's pay. [conscientiousness]

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