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The Impact of Relational Demography on Teamwork: When Majorities are in the Minority

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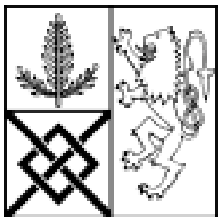

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The Impact of Relational Demography on Teamwork: When Majorities Are in the Minority

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Abstract

Diversity and teamwork are two themes that characterize the writing about the future of organizations. We explore the effects of age, tenure, sex, and race/ethnicity on teamwork. Consistent with the predictions of similarity/attraction and social categorization theory, the results show that individuals who are more different from the group report less teamwork. However, there are important differences in sex and race/ethnicity in this pattern that are not predicted by either similarity/attraction or social categorization theory. For example whites, but not minorities, report more teamwork when in more ethnically diverse groups and men in female-dominated groups also report higher levels of teamwork. Careful analyses of subgroups suggest that the often-reported negative effects of diversity on teamwork depends importantly on the composition of the group and that being a "minority" may be as much a function of the group's context as one's demographic characteristics.

There are two themes that appear in almost all discussions of the future of the U.S. work place. The first focuses on the increasing diversity of the workforce, and the second calls attention to the rising importance of teams and teamwork in the organization and operation of organizations (e.g., Jackson, 1992; Johnston & Packer, 1987; Offerman & Gowing, 1990). Both of these trends have important implications for managers and organizations. Flatter, more flexible organizations will rely more on the use of cross-functional teams and less on stable hierarchies (Manz & Sims, 1993) while individuals will be required to work with increasingly diverse coworkers (Friedman & DiTomaso, 1996).

An important implication of these trends is the need for diverse teams to function effectively. Recently, Williams and O'Reilly (1998) reviewed the literature on diversity in organizations and noted that, in spite of the strong social value placed on diversity, increased diversity in intact groups may have dysfunctional effects on group process and performance. For instance, in their review of over 80 empirical studies, they reported that heterogeneity in age, tenure, sex, and race have been shown to have negative effects on group process (e.g., communication, social integration) and performance (e.g., innovation, turnover). They concluded that "increased diversity typically has negative effects on the ability of the group to meet its members' needs and to function effectively over time" (1998, p. 117). This evidence suggests that being different from one's coworkers may have dysfunctional effects on individuals and groups.

But who is categorized as a "minority" depends critically on the composition of the group. Although there is substantial evidence that conventional minority groups who are often under-represented (e.g., women, people of color) may be marginalized (Ibarra, 1992; Mehra, Kilduff, & Brass, 1998) or undervalued (Ibarra, 1995; Swim, Borgida, Maruyama, & Myers, 1989; Tsui &

O'Reilly, 1989), whether these findings generalize to majorities who find themselves in the minority is less clear. For instance, it is evident that not all traditional "minorities" respond in similar ways or can be considered as a homogeneous group (Hirschman & Wong, 1986; Phinney, 1996; Riordan & Shore, 1997). It is also not clear that minorities share majority values or, when they are in the majority, will necessarily respond the same as white males (Burt & Reagans, 1997; Garza & Santos, 1991; Kim, Park, & Suzuki, 1990; Wagner, 1995). It may be that the experience of having been a minority may result in different responses to being in the majority (e.g., Cox, Lobel, & McLeod, 1991; Fairhurst & Snavely, 1983; Konrad, Winter, & Gutek, 1992).

On the other hand, it may be that when majorities are in the minority they will be more sensitive to this token status since they have less experience in this role. Consistent with this, Tsui, Egan, and O'Reilly (1992) found that men, who may be less accustomed to being in the numerical minority, were more likely to psychologically withdraw than women when in more demographically diverse groups. Conversely, Wharton and Baron (1987) found that women in more male-dominated settings were more satisfied than women in female-dominated settings, suggesting that females respond differently than males to being in the numerical minority. These conflicting findings reflect two weaknesses in the research on relational demography. First, most studies use samples in which white males are in the majority and women and people of color are in the minority. Second, these studies typically do not carefully examine the effects on respondents with differing demographic characteristics of being in the numerical majority or minority.

The present study tests the generalizeability of the common finding from studies of relational demography that being different is associated with less inclusion and more difficulty for individuals who are different to be accepted as a part of the team. We investigate the degree to

which individuals, regardless of demographic characteristics, respond similarly when in a minority position and explore what happens when majorities, such as white males, find themselves in groups where they are in the minority.

Relational Demography in Organizations

In a seminal 1983 article on organizational demography, Pfeffer (1983) noted that to understand demographic effects in organizations, researchers needed to pay attention to the distributional properties of demographic characteristics, not simply the demographic attributes of individuals. In 1989, Tsui and O'Reilly (1989) used the term ***relational demography*** to characterize the comparative similarity or dissimilarity among individuals and argued that at the individual level of analysis it was important to understand how a focal individual compared to those with whom he or she interacted. Since these early studies, an impressive body of empirical research has explored the compositional effects of groups and organizations on a range of individual, group, and organizational outcomes. Organizational demography has become an important body of research aimed at explaining the effects of diversity in groups and organizations.

In their review of this literature, Williams and O'Reilly (1998) noted that similarity/attraction (Byrne, 1971) and social categorization (Hogg & Abrams, 1988) are the theoretical perspectives that characterize the majority of research in studies of the effects of relational demography on individuals in organizations. Both of these theories make similar predictions about the effect of being different in organizations and can help explain the general finding that heterogeneity can have deleterious effects on group process and performance. Both theories propose that individuals are more likely to prefer or respond positively to others who

possess similar attributes. These commonalities are presumed to reinforce a positive self-identity. Diversity, defined as any attribute that perceivers use to tell themselves that another is different, can lead individuals to create in-groups and out-groups, increase the likelihood of stereotyping, and to be attracted to those who have similar attributes. These processes of categorization and attraction are ubiquitous. Triandis, Kurowski, and Gelfand (1993, p. 779) claim that all humans are fundamentally ethnocentric such that "in intergroup relations people tend to use any attributes that happen to be available (are most salient) to make these categorizations, even if these attributes are trivial or explicitly random."

With this definition, it is clear that diversity is not a unitary construct (Phinney, 1996). Any attribute people use to tell themselves that another person is different has the potential to affect group functioning and performance. Further, specific situations and social constructions, such as hierarchy or job assignments, may increase the salience of certain attributes whether or not they are relevant to the task. If salient, these distinctions can lead to in-group and outgroup distinctions and potentially affect group functioning.

Two features of this approach are relevant for understanding the effects of diversity in organizations. First, any attribute or social category that is under-represented in a group is likely to become salient as a possible basis for categorization (Canter, 1977). Second, certain demographic characteristics such as race, sex, and age, are more visible and likely to be salient under most circumstances (e.g., Pelled, 1996; Tsui & O'Reilly, 1989; Tsui, et al., 1992). Previous research has shown that salient or visible characteristics are those most frequently used for social categorization (Stangor, Lynch, Duan, & Glass, 1992). Hence, although a large number of possible attributes can be used to differentiate a person, those that are most salient or visible in a

given situation are expected to be the most important markers of diversity.

Research shows four demographic variables as most likely to affect groups in organizations; age, tenure, sex, and race/ethnicity (Williams & O'Reilly, 1998). The empirical evidence indicates that: (1) there is strong evidence that diversity in tenure is associated with lower levels of social integration, poorer communication, and higher turnover in groups (e.g., O'Reilly, Caldwell, & Bamett, 1989); (2) there is moderate evidence demonstrating that variation in the age composition of groups is associated with less open communication and increased conflict (e.g., Zenger & Lawrence, 1989); (3) variation in the proportions of men and women in groups may be associated with lower levels of satisfaction and higher turnover rates, especially for those most different (e.g., Abrams, Thomas, & Hogg, 1990); and (4) race/ethnic diversity in groups may be associated with communication problems and increased conflict (e.g., Hoffinan, 1985).

While these overall patterns have been documented (e.g., Milliken & Martins, 1996; Williams and O'Reilly, 1998), there are several weaknesses in the existing research base. First, many studies do not carefully distinguish among multiple dimensions of diversity. For instance, what does it mean to be a double or triple minority, such as a younger Hispanic woman in a group of older white males? Because of the predominance of males in most research samples, less is known about the effects of diversity in groups with extensive heterogeneity where, for example, males or whites may be in the minority. Similarly, much of the research on race/ethnic diversity has not separated out the effects of variations in ethnic differences (e.g., Asian versus Hispanic). When this is done, results have shown that being in the minority, regardless of one's race/ethnic@, may be associated with lower commitment, but white males, who are less accustomed to being in

the minority, may be the most affected (Riordan & Shore, 1997). Given the importance of diversity in organizations, we need to understand in more detail how different types of diversity affect group process and performance, especially the asymmetrical effects of sex and race/ethnicity (Konrad & Gutek, 1987; Phinney, 1996).

Although previous research has explored the effects of demographic differences on some aspects of group process, it has not explicitly investigated the impact of diversity on teamwork directly. For example, studies have shown that demographic differences can lead to less sharing of information (Zenger & Lawrence, 1989), less accurate communication (Ibarra, 1992), higher levels of conflict (Pelled, 1996), less cooperation and cohesiveness (Jehn, Northcraft, & Neale, 1997; Riordan & Shore, 1997), an unwillingness to share credit (Burt & Reagans, 1997), and an inability to define common goals and aspirations (O'Reilly, Snyder, & Boothe, 1993). Separately, these suggest that teamwork, or the ability of a group to successfully meet both its collective responsibilities and the needs of its members (Guzzo & Dickson, 1996; Hackman, 1987), may be negatively affected by work group diversity, but do not provide a comprehensive study of the effects of multiple demographic differences on team functioning.

Hypotheses

This study explores how variations in the demographic composition of groups can affect teamwork, including situations in which traditional "majorities" are in groups comprised of others who are demographically different from them. We focus here on two issues linking work group diversity and teamwork. First, we investigate how separate and multiple demographic differences in age, tenure, sex, and race/ethnicity affect individual perceptions of teamwork. Based on similarity/attraction and social categorization theories, we argue that the more demographically

different an individual is from other members of the group, the less teamwork the individual will report. This is the general finding reported in other studies of relational demography (e.g., Jehn, et al., 1997; O'Reilly, et al., 1989; Riordan & Shore, **1997).** We postulate that it is the total or aggregate difference in terms of age, tenure, sex, and race/ethnicity that will lead to less inclusion and lower perceived teamwork.

> **Hypothesis 1:** Individuals who are more demographically different from others in the group will report lower levels of teamwork than those who are demographically more similar.

Although we expect that overall demographic differences will lead to less inclusion and lower perceptions of teamwork, there is also evidence that not all demographic groups respond in similar ways. Thus, we specifically examine how traditional "majorities" react when they find themselves in groups comprised of others who are demographically different. For instance, several researchers have noted that unbalanced proportions in group membership may have the effect of making more salient sub-group distinctions (e.g., Kanter, 1977; Lau & Murninghan, **1998).** This may lead the numerical majority to begin to act in ways that heighten social boundaries and exclude minority group members. However, while the general theoretical expectation is that being significantly different from others in the group will lead to lower perceptions of teamwork, there may be circumstances when this prediction may not hold true.

To understand how a focal individual responds to being different, it is important to know three things: the individual's experience as a numerical minority (e.g., minority/majority), how different the person is from other group members (distance from the rest of the group), and the composition of the rest of the group (e.g., sex and ethnicity of the other group members). Focusing on the individual's experience as a minority, it may be that people used to being in a

majority status are also used to being more powerful and will react more negatively to being in a minority or token status within the group. This was found by Tsui, Egan, and OReilly (1992). Thus, we predict that those who are used to being in positions of higher power through their usual majority status will report less teamwork when they are in the numerical minority than would those used to having less power would feel when they are in the numerical minority. Specifically, we postulate:

> **Hypothesis 2a:** Older employees who are in the minority in groups with younger employees will report less teamwork than younger employees who are in the minority in groups with older employees.
>
> **Hypothesis 2b:** Employees with higher tenure (team and/or organizational) who are in the minority in groups of employees with lower tenure will report less teamwork than employees with lower tenure who are in the minority in groups with higher tenure.

However, these effects will also depend on the nature and the composition of the group; that is, these negative effects may be attenuated or reversed if the group itself is highly inclusive of those who are different. There is evidence that isolation or defensiveness may be overcome by a group culture that emphasizes openness, acceptance, and cooperation. For example, Chatman and her colleagues have demonstrated the interactive nature of demographic differences, culture, and personality on cooperation in organizations (Chatman, Schnog, & Spataro, 1998; Chatman, Polzer, Barsade, & Neale, 1998). So, for instance, groups comprised primarily of women may have a more team-oriented style and be more inclusive of men (Fairhurst & Snavely, 1983). Previous gender research has shown that women are more likely than men to adopt a participative leadership style (Benner, Tonikiewicz, & Schein, 1989; Eagly & Johnson, 1990; Rosener, 1995), be less assertive and more nurturant (Feingold, 1994), emphasize interdependence rather than independence (Bartholomew & Horowitz, 1991; Eagly & Karau, 199l), and express greater

emotional sensitivity (Grossman & Wood, 1993; Roberts, 1991). Thus, groups that are predominantly female may, ceteris paribus, be more team oriented while male-dominated groups may be less open to those who are different (O'Farrell & Harlan, 1982). Similarly, some minorities, notably Asians, have been shown to be more collectivistic and place greater emphasis on interpersonal relationships and group harmony (e.g., Chen, Chen, & Meindl, 1998; Earley, 1989; Hofstede, 1991; Triandis, Bontempo, Villareal, Asai, & Lucca, 1985). Groups that are predominantly Asian may also place more emphasis on teamwork. Finally, conventional minorities who are accustomed to having a token status may be less responsive to being different than those for whom being different is a rare event. These propensities may lead both women and Asians to respond differently to variations in group composition than white males.

These variations may mitigate the experience of being different. For example, groups that are predominantly female or Asian may be more inclusive of others such that those in the minority feel less excluded. Thus, while conventional majorities (e.g., whites versus nonwhites, men versus women, older employees versus newer) with a comparative lack of experience as a minority may be more sensitive to group composition and respond negatively to being different, this heightened sensitivity may be attenuated when in groups with a more inclusive culture. For instance, a white male who is comparatively different from the rest of his group may feel more isolated because of his lack of experience as a token; however, if the white male is in a group of predominantly women or Asians, the feeling of difference may be attenuated or compensated for by the greater inclusion he may experience (e.g., Chatman, et al., 1998; Cox, et al., 1991; Cousins, 1989; Schreiber, 1979). Thus, while the overall expectation is that those who are most different from the group will report lower levels of teamwork, there are other reasons to expect that these

differences will be moderated by the composition of the group. This suggests the following hypotheses:

> **Hypothesis 2c:** Males who are in the minority in groups of female employees will report higher levels of teamwork than females who are in the minority in groups of male employees.
>
> **Hypothesis 2d:** White employees who are in the minority in groups with a high proportion of Asians will report higher levels of teamwork than Asians who are in the minority in groups of white employees.

METHOD

Data

Data were collected from employees of three divisions of a major clothing manufacturer and retailer with a national reputation for its diverse workforce and successful management of diversity. Responses to a survey were obtained from 189 employees out of 222 in the three divisions, a response rate of 85 percent. Surveys were administered by the company and returned via mail directly to the researchers to ensure complete confidentiality. For the total sample, eighty percent were white and twenty percent minority. Sixty five percent of the respondents were women and twenty percent were minority. Of the minorities, sixty three percent were Asian and the remaining divided equally between Black and Hispanic. Average age and organizational tenure for the sample was 36.4 (s.d. = 9.4) and 7.4 years (s.d. = 6.5) respectively. Average tenure with the project team was 2.3 years. Over half the respondents had some college education. These figures were comparable to the composition of the headquarters staff for the company.

All respondents were formally assigned to project teams by the firm. These teams were formal work groups not temporary assignments and represented all functions within the participating divisions (e.g., marketing, product development). All respondents were white-collar

professionals. Individual responses were matched to the project team using company records. To be considered a group, project teams had to have a minimum of three members. Data were used for a project team if at least three group members completed the survey; that is, if a group had only two respondents it was not used in the analysis. Three teams and four respondents were dropped from the analyses because fewer than three responses were available, resulting in an effective sample size of 32 project teams and 185 respondents. Size of teams ranged from 3 to 14 (mean=5.8, sd=2.5).

Measures

Demographic Diversity. Four demographic variables were used to characterize the demographic composition of the team; age, tenure, sex, and race/ethnicity. To determine how different a given individual is on any demographic attribute from others in the group requires the calculation of a Euclidean distance measure (Wagner, Pfeffer, & O'Reilly, 1984). This is an individual-level measure that represents the distance between the focal individual and the average of others in the group. This measure represents the degree of relative isolation of the individual on any given demographic attribute from other members in the group. This measure has been used by a number of organizational demography researchers to assess individual distance (OReilly, et al., 1989; Tsui, et al., 1992). The following formula was used for this calculation:

$$[\ 1/n \sum (s_i - s_j)^2]^{1/2}$$

where S_i is the individual's demographic characteristic and S_j represents the value of the same variable for all individuals in the group. N is the total number of individuals on the team.

Euclidean distance measures were computed for each individual for age, tenure on the team, sex, and race/ethnicity. Differences in age and tenure on the team were measured in years.

Differences in sex and race/ethnicity were measured by a score ranging from zero to approaching one, with zero assigned to individuals who were members of totally homogeneous groups. Theoretically, a score of .99 could be obtained by someone who is the sole minority member in an otherwise large, homogeneous group. For race/ethnicity, in a group consisting of one Asian and three whites, the Asian would be assigned a relational value of 3 (1 for being different from each of the three whites). The three whites would have scores of 1 (0 for being the same as the other whites, and 1 for being different from the Asian). For each individual, the relational value would then be divided by the number of individuals in the group (4 in this case) and the square root of the result taken. The Asian in this group would have a distance score of .87 and each of the three white members would have a distance score of .50.

Although each of the four separate distance measures contains useful information, it does not capture how different an individual is in the aggregate. For instance, a person may be only somewhat different in terms of age, tenure, and sex, but, when the combination of these three differences is summed, the person may be very different from the group overall (e.g., a young female who is new to the organization in a group of predominantly older, long-tenured males). Therefore, to investigate these combined effects, an aggregate Euclidean distance score representing how different the focal individual was from the group was computed by normalizing each of the four separate distance scores and summing.

Teamwork. A number of studies of teamwork and group performance have suggested that effective teams are successful at accomplishing their tasks, meet the individual expectations of their members, and are able to function over long periods of time (e.g., Ancona & Caldwell, 1992; Guzzo & Dickson, 1996; Hackman, 1987; Manz & Sims, 1993). In assessing group functioning,

Denison, Hart, and Kahn (1996) include measures of the ability of the group to solve problems, implement solutions, learn communicate openly and effectively, and be satisfying to team members. Stevens and Campion (1994; 1999) also explored the requirements for teamwork and identified equivalent measures. Others have noted the importance of factors such as social integration (O'Reilly, et al., 1989), common goals (Weingart, 1992; Weldon, Jehn, & Pradhan, 1991), speed and flexibility in decision making (Eisenhardt, 1989), and the ability to adapt over time (Guzzo & Dickson, 1996; Hackman, 1987). To assess these dimensions, we used a six-item index consisting of questions about the team's ability to function effectively on these dimensions. Surveys were distributed at work and returned by mail directly to the researchers. Respondents indicated, on a 7-point Likert scale ranging from "not descriptive at all" to "very descriptive", the degree to which each item applied to their team. The items and the single factor loading resulting from a factor analysis are presented in Table 1 (M = 29.4, s.d. = 7.0, Cronbach alpha = .83).

Insert Table 1 about here

Control Variables. Based on previous research, two control variables were used in testing the hypotheses. First, how long an individual has been in the organization may affect their knowledge of the organization and its culture and their access to informal networks, both of which may affect perceptions of teamwork. Therefore, tenure in the organization was controlled in all analyses. Second, simple demographic effects need to be controlled before examining the effects of the distance measures (e.g., Tsui, et al., 1992). Therefore, when examining the compositional effects of a demographic variable, the simple demographic variable (e.g., the individual's age or sex) was included in the equation as a control variable. Group size is reflected in the Euclidean distance measure which reflects how similar or different others in the group are

to the focal individual (reflecting this, the correlation between group size and the aggregate Euclidean distance measure is r=.45).

Analysis

The separate and combined effects of the aggregate distance measure and each of the four demographic diversity measures on teamwork was examined using regression analyses. To examine the compositional effects of groups on teamwork, two equivalent sets of analyses were conducted to examine Hypothesis 2. First, a regression approach for analysis of covariance (ANCOVA) was used to examine the hypothesized interaction effects (Cohen & Cohen, 1983). Based on these results, separate regression analyses were run for the demographic subsamples appropriate for the hypothesis and comparisons made of the effects of the distance measures on different demographic groups. Differences in the magnitude of regression coefficients across subsamples was assessed using the formula recommended by Paternoster, Brame, Mazerolle, and Piquero (1998). Although both methods of analysis provide equivalent results, given the complexity of the comparisons the latter is easier to interpret.

Results

Table 2 shows the aggregate effects of being different on teamwork. Recall that the Euclidean distance measure is the normalized sum of the four demographic distance measures of age, team tenure, sex, and race, scored such that a higher score represents greater distance from the group mean. The overall results are consistent with the first hypothesis that postulated that greater differences from other group members would be associated with lower levels of perceived teamwork. These results hold even after controlling for the individual's race, sex, age, and organizational tenure.

Results in Table 2 also indicate that women report higher levels of teamwork than men (female mean = 30.4, male mean = 27.6; t = 2.69, $p<.01$). The results in Table 2 do not show a significant effect on teamwork for white/nonwhite differences. However, this is because the nonwhite sample includes Asians, Hispanics, and African-Americans. A one-way analysis of variance of perceived teamwork across ethnic groups (Asian, Hispanic, African-American, and white) does show that Asians report significantly higher levels of teamwork than the other groups ($F = 4.8$ 1, $p<.01$, Scheffe test $p<.05$). Being different from others is associated with perceptions that less teamwork exists.

When the overall distance measure is disaggregated into its four components (Table 3), the findings remain largely consistent with Hypothesis 1 and show that being different from the group in age and group tenure are associated with lower levels of teamwork. Previous research has suggested that more visible demographic characteristics (sex, race/ethnic@) may have more important effects than less visible characteristics (age, tenure). Results in Table 3 reveal significant standardized regression coefficients (betas) for three of the four distance measures, both with and without simple demographic variables as controls. Being different in tenure on the team ($\beta = -.16$, $p<.05$) and age ($\beta = -.15$, $p<.05$) had the predicted negative effects and race/ethnicity had a marginally significant positive coefficient ($\beta = .15$, $p<.10$). Based on the comparable size and significance of these effects, the results do not support the contention that visible demographic characteristics are more important than those that are less visible.

Insert Tables 2 and 3 about here

Although these findings are generally consistent with previous studies of relational demography, these aggregate results also obscure any effects stemming from fine-grained

demographic differences in the composition of groups and do not show how compositional variations may differentially affect majority and minority group members. Tables 4 through 7 illustrate these effects.

Insert Tables 4 - 7 about here

The findings shown in Tables 4 through 7 offer general support for the second hypothesis which proposed that perceptions of teamwork in the group would be a function of both one's own demographic attributes (e.g., how old a person is or whether one is male or female) and the composition of the rest of the group. Specifically, these results show that older employees in younger groups report less teamwork than do younger employees in older groups (Hypothesis 2a, Table 4), males who are more distant in female-dominated groups report higher levels of teamwork than do females in male-dominated groups (Hypothesis 2c, Table 5), and whites in groups with proportionately more Asians also report higher levels of teamwork than do whites in nonasian groups (Hypothesis 2d, Table 7). Only the results for tenure effects (Hypothesis 2b, Table 5) present mixed findings. These results show effects for team tenure diversity, but not organizational tenure.

Hypothesis 2a proposed that older employees in groups comprised of younger employees would report less teamwork than younger employees in groups with older members; that is, less experience in a token role may heighten the effects of being different on teamwork. To investigate this effect, we first divided the sample at the median for age into groups with younger or older members. Model 4 in Table 4 shows that, consistent with the hypothesis, being an older worker in a younger group had a significant negative effect on perceived teamwork ($\beta = -.19$, $p < .05$) while

Model 5 indicates that being a younger person in a group with older employees did not affect perceptions of teamwork (β = .OO, n.s.). But these coefficients were not statistically different from each other. Subsequent analyses, however, did reveal significant differences in the effects of age diversity for males but not females; models 5 and 6 in Table 6 show that for males being older in a younger group had a strong negative effect on teamwork ($\beta = -.62, p<.01$) while being younger in a group of older employees had a marginally significant positive effect ($\beta = .34, p<.10$). The two coefficients were significantly different from each other ($Z = 2.55, p<.01$).[1]

This finding, however, could result from either older employees being less accustomed to being a minority or younger group members being more included by older team members. Evidence of the latter would be a finding that, ceteris paribus, older employees reported higher levels of teamwork. Results of all analyses (Tables 2-7) fail to show a significant age effect on teamwork, suggesting that the more likely explanation for the results comes from older workers in younger groups reporting lower levels of teamwork. Thus, consistent with Hypothesis 2a, when a traditional majority who is less accustomed to being in the minority, in this instance an older male, finds himself in the minority there is a larger negative effect than for a person who is more used to being different, in this instance a younger male.

Table 5 presents the results for differences in both organizational and team tenure diversity on teamwork. Models 1 and 2 report the separate effects for team and organizational diversity while model 3 presents the combined effects. Overall, the results show that only team tenure diversity has the hypothesized effect on teamwork such that being more distant is associated with

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[1]The interaction between age and the Euclidean distance measure for age was not statistically significant for the full sample (β = .19, n.s.) but was significant for the analysis for the male subsample ($\beta = 1.67, p<.01$).

lower reported teamwork (β = -.19, $p<.05$). It is important to note that this effect occurs independent of mean team tenure and reflects distance from the group rather than how long the group has been together. This is consistent with Hypothesis 1 for team tenure heterogeneity but not variance in organizational tenure. For this sample, heterogeneity in organizational tenure in a team does not result in lower teamwork but variance in team tenure does have the predicted negative effect.

Hypothesis 2b postulated that employees with long tenure in the organization (who may be less accustomed to being newcomers or in the minority) who are in comparatively low team tenured groups would report less teamwork than those employees with low organizational tenure who were in comparatively high team tenured groups. The hypothesized interaction term between team tenure and organizational tenure diversity is significant in model 4 (β = .51, $p<.01$). Models 5 and 6 in Table 5 show results consistent with the hypothesis. For individuals in teams with low team tenure, being different, or older organizationally, is significantly and negatively associated with teamwork (β = -.20, $p<.05$). However, for individuals in groups with a high average team tenure, being different, or younger with regard to the organization, is significantly and positively related to being different (β = .19, $p<.05$). These regression coefficients are significantly different from each other (Z = 2.54, $p<.01$). The interpretation of this findings is similar to that of Hypothesis 2c. Given that employees with comparatively long organizational tenure are less likely to be accustomed to be in the minority in groups than are comparatively new employees, the results suggest that being an outlier or different from the group has a negative effect on reported teamwork for more tenured employees than the equivalent experience for those with shorter tenure. Again, there is no evidence that longer-tenured employees report higher

levels of teamwork than do those with less tenure (correlation between organizational tenure and teamwork r = .04, n.s.), suggesting that the results do not stem from greater acceptance of younger employees in higher tenured teams.

Table 6 shows the results for Hypothesis 2c which proposed that males in female-dominated groups would report more teamwork than females in male-dominated groups. Although the general analyses (models 1 and 2) indicate that being more different than the group in terms of sex has no effect on teamwork, when the hypothesized interaction term between sex and the distance measure for sex is added (model 3), this term is significant ($\beta = -.71, p<.01$). The interpretation of this effect can be seen in the subgroup analyses (models 4 and 5). Sex diversity does have a significant negative effect (models 4) for white females (standardized $\beta = -.27$, $p<.01$), but the opposite effect (model 5) for white males (standardized $\beta = +.31$, $p<.01$). This difference in regression coefficients is statistically significant ($Z = 3.28$, $p<.01$). Consistent with the hypothesis, females who are more distant (in more male-dominated groups) report lower levels of teamwork, but males who are more distant (in more female-dominated groups) report higher levels of teamwork.

The findings in Table 7 reveal a similar picture for the effects of race/ethnic diversity on perceptions of teamwork. Models 1 and 2 show that, contrary to similarity/attraction and social categorization theory predictions, being more distant from the group in terms of race/ethnicity is associated in this sample with more positive perceptions of teamwork. Analyses of this effect by subgroups show why this puzzling finding occurs. Consistent with the idea that majorities who find themselves in the minority are most likely to be affected, models 4 and 5 reveal that whites, but not minorities, are most affected by being different. Again, however, these differences are

positive for whites (standardized $\beta = +.20, p<.01$) and nonsignificant for nonwhites (standardized $\beta = .OO$, n.s.). But neither the interaction term (model 3) nor a test for the significance of differences in regression coefficients reaches conventional levels of significance ($Z=.91, p<.20$). Additional analyses of race/ethnic and male/female subsamples clarifies this. When models 1 and 2 are rerun including as a control variable the proportion of Asians in the team, the coefficient for this variable is positive and significant ($\beta = .45, p<.001$) and the sign for the race/ethnic distance variable is reversed and is no longer significant ($\beta = -.03$, n.s.); that is, individuals who are more different from the rest of the group report higher levels of teamwork only when they are in groups with proportionately more Asians. Further analyses show that this reversal is most powerful for the white female subsample. Thus, consistent with Hypothesis 2d, whites, and especially white females, who are in groups with higher proportions of Asians are more likely to report higher levels of teamwork. Once the effect of the proportions of Asians is removed, the effects of race/ethnicity diversity are consistent with what similarity/attraction and social categorization theories would predict.

Discussion

Overall, the results suggest several important conclusions. First, consistent with previous research on relational demography, being different does affect perceptions of teamwork. In this study, individuals who are more demographically different overall from others in the group report lower levels of teamwork. These differences are not, as suggested in earlier research, more pronounced for more salient demographic characteristics such as race or sex, but result from

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[2]The interaction term between white/nonwhite and the Euclidean distance measure for race/ethnicity for the female subsample after controlling for the proportion of Asians in the group is negative and statistically significant ($\beta = -.81, p<.01$).

being different from other group members on multiple demographic dimensions.

More fundamentally, the results reported here document that it is the composition of the group that affects teamwork more than simple demographic characteristics (e.g., Lau & Murninghan, 1998; Tsui, et al., 1992). These findings are consistent with previous studies that have noted that being different depends on the composition of the rest of the group. (e.g., Ely, 1994; Kanter, 1977; Spangler, Gordon, & Pipkin, 1978). Being different, or in a token status, Can lead individuals to feel that their actions are being scrutinized and perhaps more subject to negative evaluations and stereotyping (e.g., Abrams, et al., 1990; Fairhurst & Snavely, 1983; Hoffman, 1985). In the present study, being different in terms of age and tenure is largely consistent with the logic of similarity/attraction and social categorization theories. Consistent with Hypotheses 2a and 2b, the evidence is that age and tenure diversity has differential effects on perceptions of teamwork. When the majority, in this case older and longer-tenured employees, find themselves in the mincrity, they react negatively to their token status. In contrast, individuals who are more accustomed to being in the minority (younger and less-tenured employees) have positive responses to being different. These findings may shed light on earlier research that has sometimes found that traditional minorities sometimes respond positively when in a token status while majorities may respond negatively to diversity (e.g., Tsui, et al., 1992; Wharton & Baron, 1987).

Also consistent with Hypothesis 2, the effects for differences in race and sex are complicated and not always what theory would predict. For instance, in this sample there is a strong positive effect of sex with women reporting higher levels of teamwork than men (e.g., all-female group mean = 3 1.4, all-male group mean = 24.1; **t=4.03, p.<001)**. This finding is

consistent with previous research on gender showing that women leaders are more likely than men to adopt a participative leadership style (Benner, Tomkiewicz, & Schein, 1989; Eagly & Johnson, 1990; Rosener, 1995), be less assertive and more nurturant (Feingold, 1994), emphasize interdependence rather than independence (Bartholomew & Horowitz, 1991; Eagly & Karau, 1991), and express greater emotional sensitivity (Grossman & Wood, 1993; Roberts, 1991). These propensities may reasonably be associated with the higher levels of teamwork reported here.

The results for sex differences (Table 6) also show that men in predominantly female groups report higher levels of teamwork while women in more male-dominated groups report less teamwork. There are two potential explanations for this finding. First, it may be objectively the case that female-dominated groups are more team oriented so that men in these groups are more interdependent. This is consistent with both popular theorizing and empirical research (Gilligan, 1982; Helgesen, 1990; Konrad & Gutek, 1987; Rosener, 1995). Thus, males in more female-dominated groups may be veridical in reporting higher levels of teamwork while females in male-dominated groups experience more independence and competitiveness and report less teamwork.

Second, it may be that men in female-dominated groups are treated better than females in male-dominated groups, leading these men to report more teamwork. For instance, although females in male-dominated groups have been found to be treated with hostility (O'Farrell & Harlan, 1982), the opposite may not be the case. For example, Fairhurst and Snavely (1983) reported that men in predominantly female jobs were socially well integrated. Wharton and Baron (1987) found that men in mixed sex settings were less happy than those in either male- or female-dominated settings, suggesting that men in the latter are well accommodated. Hayes and Young

(1997), in a study of 850 flight attendants, found that although males did experience some tokenism (feelings of increased visibility and isolation), they also were favored by not being required to perform some typically female tasks such as taking care of children and benefitted from more career advancement. Since the sample used in the present study is drawn from a company with a worldwide reputation for its positive treatment of women and minorities, there may be no stigma or lower social status for men in women-dominated groups, whereas in less progressive organizations, female-dominated groups may be of lower social and organizational status. In this case, men in female-dominated groups may perceive higher levels of teamwork, either because it objectively exists or because they are more likely to be accepted into the team.

The findings for race/ethnicity (Table 7) are also more complicated than a simple hypothesis would suggest. For instance, contrary to what similarity/attraction and social categorization theories would predict, whites, but not minorities, report higher levels of teamwork when they are in more diverse groups. On the face of it, this finding is puzzling. However, once the composition of the sample is accounted for, a reasonable explanation emerges. Recall that the dominant minority represented in this study was Asian. A substantial amount of previous research has documented that Asian societies often emphasize more collectivistic values (Dweck, Hong, & Chiu, 1993; Earley, 1989; Triandis, 1995). More collectivistic individuals have been shown to emphasize greater responsibility to the group and less emphasis on individual achievement (Cousins, 1989), more collaborative and less competitive styles (Chen, Chen, & Meindl, 1998), a preference for less confrontational conflict resolution (Leung & Lind, 1986), and an emphasis on more egalitarian reward allocations (Kim, et al., 1990; Leung & Bond, 1984; Mann, Radford, & Kanagawa, 1985). When race/ethnic diversity is examined after accounting for the proportion of

Asians in the group, the results seem more interpretable. Compared to whites, Asians in this sample report significantly higher levels of teamwork (Asian mean = 33.0, white mean = 29.2; t = 2.56, $p<.01$).[3] Further, a comparison of the mean level of teamwork in Asian-dominated groups (more than 50 percent Asian) versus those that were not shows that groups with more Asians are also predictably characterized by more teamwork (Asian-dominated mean = 34.4, others mean = 30.0; t = 2.86, $p<.01$). Thus, whites, who are comparatively distant from their team members, who are in predominantly Asian groups also report more teamwork.

Whether this is because these perceptions are veridical or because the stereotype leads to a reporting bias is not clear. It may be that whites in groups with a large proportion of Asian members experienced less conflict and more cooperation and reported higher teamwork. Alternatively, whites may be engaging in what has been labelled "aversive racism" (Gaertner & Dovidio, 1986); that is, when a person who supports the view that racial equality is important, and regards themselves as unprejudiced recognizes almost unavoidable negative feelings about others of a different race, their response may be to amplify their positive attitudes and behavior as a way of compensating. It may be that in this study whites, confronted with the reality that they were in more diverse groups than usual, responded by emphasizing the benefits, either perceived or real, of teamwork. As Gaertner and Dovidio (1986) demonstrate, these reactions are more likely in the presence of norms against bias--the clear case in the organization from which the sample was drawn where valuing diversity is a key part of the organizational culture.

Overall, the results of this study support two major conclusions. First, although earlier studies have demonstrated that heterogeneity can have negative effects on group processes such

[3] These results hold after controlling for sex.

as communication and cohesion, this study shows that this diversity can have direct negative effects on reported teamwork--but these effects are conditional on the actual demographic categories on which such diversity exists, not simple demographic differences. In this regard, being different from the rest of the team in terms of tenure or age can have as much of an impact on perceived teamwork as sex or race/ethnicity. These findings are consistent with social categorization and similarity/attraction effects. Individuals who are more different from the group may categorize themselves or be categorized by others as different with the result that perceived teamwork is diminished.

Second, while generally consistent with similarity/attraction and social categorization theories, the results shown here also demonstrate that these theories are not always accurate predictors of individual responses. Sex and race diversity may have complicated effects on group process and performance, depending on the composition of the group. The impact of being different depends on how individuals interpret and respond to their differences and how the context affects these interpretations (Hofstede, 1991; Lawrence, 1997). To understand these differences requires understanding in detail both the demographic composition of the group and what types of people are in the numerical majority and minority. For example, Chatman and her colleagues (Chatman & Barsade, 1995; Chatman, et al., 1998; Schnog & Chatman 1998) have shown that norms for cooperation are an important determinant of teamwork. Contrary to the findings for race/ethnicity reported here, they have also found that increased group homogeneity can promote collectivistic norms (Chatman & Flynn, 1999). However, if the collectivistic norms in the present study result either from the presence of proportionately more women who are more collaborative than men or individuals from backgrounds that emphasize collectivistic norms, then

heterogeneity does not necessarily need to result in less teamwork. Said differently, the results in our study show that increased heterogeneity is associated with perceptions of more teamwork, especially by white males, may reflect the moderating effect of a more collectivistic culture in the group if the group has more women and Asians. Thus, being a "minority" may be as much a function of the group and context as one's race, sex or age. This seems especially likely in that the strong culture of the participating organization emphasizes the value of diversity. Research on demographically equivalent groups in an organization without this value might show very different results.

While interesting, the results presented here also need to be understood in context. First, the organization from which the sample was drawn has a very strong culture which values diversity and inclusion. This corresponds to Carroll and Harrison's (1998) finding that the assumption of the effects of tenure demography is most plausible in organizational contexts characterized by strong recruitment selectivity and socialization. Given that the average organizational tenure of participants was relatively high, it is likely that they shared the firm's values and had a positive view of diversity. Second, the minorities in this sample were predominantly Asian. Future research is clearly needed using samples with proportionately more African-Americans and Hispanics to test the generalizeability of the findings here. Further, since there is evidence of important differences among Asian populations (Hermans & Kempen, 1998; Kim, et al., 1990), future research might productively explore these differences as well.

A strength of this study lies in the fact that the sample consisted of intact working groups with substantial diversity, rather than ad hoc laboratory groups. Average individual team tenure for this study was over two years. This increases the likelihood that the findings reflect long-term

group dynamics, not transitory effects of short-term interactions. A potential weakness of the study, however, could be the reliance on individual reports of teamwork rather than some more objective measure. This concern is attenuated by two factors. First, in order to understand how diversity affects an individual, it is important to assess the person's response to differences, not the aggregate group variable. Further, the items used to assess teamwork are equivalent to those validated in studies of actual teamwork (Stevens & Campion, 1999). In addition, items equivalent to those used here to assess teamwork have been shown in other studies to be predictive of group problem solving, communication, conflict resolution, and other aspects of group functioning (e.g., Jehn, et al., 1997; Mullen & Copper, 1994; O'Reilly, et al., 1989). Thus, the use of a perceptual measure of teamwork seems appropriate for the purposes of this study.

Overall, the results of the study suggest an optimistic view for practicing managers. Although there is evidence that increased distance from the group is associated with less inclusion and teamwork, the results here also indicate that there are circumstances that can mitigate or even reverse this tendency. A culture of inclusion appears to be one way to overcome the natural tendency for individuals to form in-groups and out-groups. This culture may be developed through experience as a token, socialization from ethnic values, or organizational culture. However developed, an implication of the current study is that just as group composition can result in a loss of teamwork, properly managed it can also be used to enhance team functioning.

As Williams and O'Reilly (1998) observed, diversity is a reality for managers and organizations. It is also an important social value for our society. For these reasons, it is important that research clearly and accurately elucidate the true impact of diversity in organizations. This requires moving beyond studies of simple demographic effects and broad generalizations about

the effects of diversity to understanding how these differences arise and are experienced in specific contexts (Lawrence, **1997).** Only then will we be able to manage differences effectively and to understand in detail how demographic differences really affect individuals in organizations.

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Table 1
Factor Analysis of Teamwork Items (N=185)

Items (7-point Likert scale)	Factor Loadings
1. People in our team feel that they are pulling together for a common goal.	.79
2. There is a willingness on the part of people in our team to share credit for successes with each other.	.79
3. In our team, there is a great deal of openness in sharing information.	.78
4. Members of our team listen carefully to the views of others.	.85
5. Our team is flexible and adapts quickly to new opportunities.	.79
6. There is a shared vision about what we are trying to accomplish here.	.64
Cronbach alpha	**.83**

Table 2
Effects of Overall Relational Demography on Teamwork

Independent Variables	Full Sample (N=185) (1)	(2)	(3)	(4)
Organization Tenure (years)	.04	.07	.08	.09
Age (years)	-	-	-	-.03
Sex (O=male; 1=female)	-	.21***	.20***	.20***
Race (O=white; l=nonwhite)	-	-	-.05	-.05
Overall Diversity (Total Euclidean Distance)	-.15**	-.14**	-.14**	-.14**
F-ratio	1.91	3.92***	3.04**	2.44**
Adjusted R^2	.01	.05	.04	.04

***p <.01 (one-tailed test),
** p <.05
* p <.10

Table 3
Combined Relational Demography Effects on Teamwork

Independent Variables	Full Sample (N=185) (1)	(2)
Age (distance)	-.12*	-.15**
Team tenure (distance)	-.19***	-.16**
Sex (distance)	.05	.07
Race (distance)	.13””	.15*
Team Tenure	-	-.05
Age (years)	-	.06
Sex (O=male, l=female)	-	.14**
Race (O=white, l=nonwhite)	-	.08
F-ratio	3.78***	2.62***
Adjusted R^2	.06	.07

***p<.01 (one-tailed test)
**p<.05
*p<.10

Table 4
Effects of Age Diversity on Teamwork

Independent Variables	Full Sample (N=185) (1)	(2)	(3)	In Younger Age Groups (N=92) (4)	In Older Age Groups (N=88) (5)	Younger Groups Males (N=23) (6)	Older Groups Males (N=39) (7)
Organization Tenure (years)	.02	.01	.05	.08	.09	.17	.26*
Age (years)	-	.01	-.08	.06	-.14	-.27	-.16
Sex (O=male; 1=female)	-	.21***	.22***	.16*	.22**	-	-
Race (O=white; l=nonwhite)	-	-.02	-.01	.01	-.01	.24	-.01
Age Diversity (Age Euclidean Distance)	-.15"	-.15"	-.29*	-.19**	.00	-.62***	.34*
Interaction Term (Age x Age Diversity)	-	-	.19	-	-	-	-
F-ratio	208 .	2.44**	.2.13**.	1.39	1.35	2.22*	1.03
Adjusted R^2	.01	.04	.04	.02	.02	.18	.00

***p <.01 (one-tailed test)
** p <.05
*p <.10

Table 5
Effects of Organizational and Team Tenure Diversity on Teamwork

Independent Variables	Full Sample (N=185)				In Low Team Tenure Groups (N=83)	In High Team Tenure Groups (N=88
	(1)	(2)	(3)	(4)	(5)	(6)
Organization Tenure (years)	-	.07	.16**	.20**	.29***	.05
Team Tenure (years)	-.04	-	-.08	-.61***	-	-
Age (years)	.03	-.03	-.05	-.07	-.14	-.05
Sex (O=male; 1 =female)	.17**	.22***	.19***	.21***	.45***	.02
Race (0=white; l=nonwhite)	-.01	-.03	.00	-.05	.04	-.01
Team Tenure Diversity	-. 17**	-	-.19**	-	-	-
Organizational Tenure Diversity	-	.02	.04	-.21**	-. 20”	.19**
Interaction Term (Team Tenure (x Organizational Tenure Diversity)	-	-	-	.51***	-	-
F-ratio	2.94””	1.64	2.43***	3.10***	4.81***	0.57
Adjusted R^2	.05	.02	.06	.08	.19	.00

***p <.01 (one-tailed test)
** p <.05
*p <.10

Table 6
Effects of Sex Diversity on Teamwork

Independent Variables	Full Sample (N=185)			White Females (N=88)	White Males (N=54)
	(1)	(2)	(3)	(4)	(5)
Organization Tenure (years)	.04	.09	.08	.09	.01
Age (years)	-	-.04	-.05	-.04	.02
Sex (O=male; 1 =female)	-	.20***	.53***	-	-
Race (O=white; l=nonwhite)	-	-.03	.02	-	-
Sex Diversity (Sex Euclidean Distance)	-.08	-.04	.64***	-.27***	.31**
Interaction Term (Sex x Sex Diversity)	-	-	-.71***	-	-
F-ratio	0.64	1.75	3.00***	2.07	1.82
Adjusted R^2	.00	.02	.06	.05	.04

***p<.01 (one-tailed test)
**p <.05
*p <.10

Table 7
Effects of Race Diversity on Teamwork

Independent Variables	Full Sample (N=185) (1)	(2)	(3)	Whites (N=146) (4)	Nonwhites (N=32) (5)
Organization Tenure (years)	.07	.10	.08	.09	.14
Age (years)	-	-.04	-.02	-.01	-.13
Race (O=white; l=nonwhite)	-	.06	-.08	-	-
Sex (0=male; 1 --female)	-	.16”	.16**	.15**	.21
Race Diversity (Race Euclidean Distance)	.19***	.17**	.00	.20**	-.00
Interaction Term (Race x Race Diversity)	-	-	.17	-	-
F-ratio	3.23”	2.36**	2.18**	2.99””	0.39
Adjusted R^2	.02	.04	.04	.05	.00

***p <.01 (one-tailed test)
**p <.05
*p <.10