

ABSTRACT

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Research on the benefits of diversity in groups is mixed, finding both positive and negative outcomes for group productivity and satisfaction. The present research examines how the physical arrangement of members within diverse groups influences perceptions of diverse groups. Findings from 4 studies demonstrate that when one's ethnic ingroup is represented as the minority of a diverse group, there is a tendency to prefer groups that are physically clustered by such that members are spatially close to other members of their ethnicity. When one's ethnic ingroup is represented as the majority of a diverse group, there is a tendency to prefer groups that are physically dispersed such that members are not grouped by their ethnicity. These findings are discussed in terms of the relative amounts of power inherent in majority and minority status within diverse groups, as well as multicultural and colorblind approaches to appreciating diversity.

DIVERSITY IN SMALL GROUPS

By

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Chapter 1: Introduction

Literature Review

As American society becomes more committed to equalizing educational and employment opportunities for members of all ethnic groups, it is increasingly important to understand the impact of diversity in small groups. The research on diversity is mixed, finding many positive outcomes in diverse groups, as well as many problems associated with diverse groups (see Mannix, & Neale, 2005). Whereas previous research has generally compared diverse groups to homogeneous groups (e.g. Lord & Saenz, 1985; Sekaquaptewa & Thompson, 2002) without manipulating aspects of the diverse groups, the present research will focus on the impact of structural characteristics within groups, holding the amount of diversity constant. More specifically, the findings presented here demonstrate that the physical arrangement of members within a diverse group influences perceptions of the group, and thus may provide insight into ways of maximizing the potential of the existing diversity within an organization.

Diversity refers to “any attribute that another person may use to detect individual differences in other people” (O'Reilly, Williams, & Barsade, 1998, PAGE). This definition is quite broad, and could refer to many different types of diversity which could each influence group processes to varying degrees. The focus of this research is on racial diversity, which represents a particularly interesting and important type of diversity. Individuals do not choose their racial group memberships the way they may choose their political or religious affiliations; however, specific

behavioral traits are associated with different racial groups and lead to expectations about the behavior of specific members of these groups (Stangor & Lange, 1994; Fiske, 1998). Furthermore, race is highly visible (Brewer, 1988), leads to automatic categorizations (Stangor, Lynch, Duan, & Glass, 1992) and is the basis for much prejudice, discrimination, and social inequality (Fiske, 1998).

A large body of research has focused on the positive aspects of diversity in groups (see Mannix & Neale, 2005 for a review). Group members with different backgrounds should bring different perspectives and new insights to group tasks. Indeed, diverse groups have been shown to produce higher quality ideas, and are more innovative (McLeod & Lobel, 1992; Schreijer & Mostert, 1997). Phillips et al. (2009) found that newcomers to groups who do not share in-group membership with existing group members can help produce better group decisions, and exposure to dissenting minority group members' ideas has been found to lead to increased creativity (Nemeth, 1986). In contrast to more heterogeneous groups, homogeneous groups are at a higher risk of groupthink, as members tend to agree with and reinforce each other's ideas by ignoring conflicting information and valuing cohesion. This can result in overly confident groups and poor decision-making (Janis, 1982).

In addition to the evidence that diversity can benefit group outcomes, however, there is also evidence that diversity can have negative impacts on both the group's outcomes and the experiences of the group members. Diverse groups generally experience more conflict, and have lower levels of cohesion (Byrne, 1971; Shaw, 1981; Tsui, Egan, & O'Reilly, 1992). For example, when group members bring differing perspectives to a task, conflict can arise if group members are unable

to communicate effectively (Zenger and Lawrence, 1989). Furthermore, members of diverse groups tend to be less committed to their groups (Tsui et al., 1992), which could cause a group to adjourn before conflict can be reduced or group norms can be developed.

Diverse groups are not generally composed of equal proportions of ethnicities, leading to numeric majorities and minorities within the groups. The positive impacts of diversity in groups discussed above should only influence the group if all group members (majority and minority) participate in the task (De Drue & West, 2001). However, being a solo, or one of a few minority members often leads to feelings of isolation and performance deficits (Lord & Saenz, 1985; Stangor, Carr, and Kiang, 1998), which may prevent minority members from actively participating in the group, thus attenuating the positive influence of their membership in the group. Reducing such feelings of isolation and providing a sense of security for minority group members may allow minority members to become active in the group, which in turn may lead to the positive group outcomes that have been examined in the literature.

The research discussed in this paper examined how the physical arrangement of members within a diverse group can impact perceptions of the group. To the extent that physical distance signals psychological distance (see Fujita, Henderson, Eng, Trope, & Liberman, 2006), reducing the physical distance between minority group members may reduce the psychological distance between minority members, and thus may reduce feelings of isolation within the diverse group felt by any one minority member. Given this, my general hypotheses guiding this research are as follows: 1) when an individual's ethnic ingroup is represented as the minority in a

group, the individual will prefer the groups that are physically arranged by ethnicity, or *clustered*; and 2) when an individual's ethnic ingroup is represented as a majority in a group, the individual will prefer the groups where members are not physically arranged by ethnicity, or *dispersed*.

Minority Group Members

Being a solo minority within a group can be a very negative experience.

Ethnic minority members are highly visible within their groups because their differences stand out to other group members (Lord & Saenz, 1985; Taylor & Fiske, 1978; Taylor, Fiske, Etcoff, & Ruderman, 1978), which causes minority members to feel isolated and overly distinctive (Kanter, 1977; Yoder & Aniakudo, 1997).

Isolation activates stereotypes associated with the minority's social group and can lead to serious performance deficits (Lord & Saenz, 1985; Stangor, Carr, and Kiang, 1998). Furthermore, solo minorities are often cautious in diverse groups (Carli, 1990; Lakoff, 1973) due to feeling highly visible within the group (Sekaquaptewa & Thompson, 2002).

Heightened distinctiveness due to ethnic minority status within a group often causes minority members to feel as though their behavior and characteristics displayed in the group context will be applied to all members of their ethnic group, giving them the burden of representing their entire ethnicity (Pollak & Niemann, 1998; Sekaquaptewa, Waldman & Thompson, 2007). As much of one's identity is based on the groups to which he or she belongs (Tajfel & Turner, 1979), feeling like a representative of one's entire ethnicity may increase the salience of one's ethnicity causing added stressors which may prevent the individual from maintaining a healthy

ethnic identity which may reduce feelings of identity safety (see Davies et al., 2005). Gaertner and Dovidio (2000) suggest that interactions between different ethnic groups within a larger superordinate group (e.g. majority and minority ethnicities on a work team) will be most successful when group members are able to maintain both their ethnic identities, as well as their superordinate group identity. In line with this theory, Thompson and Sekaquaptewa (2002) argue that allowing minority group members to maintain such a 'dual-identity' may help to reduce the negative impact of solo minority status. Allowing for ties between minority group members may reduce feelings of distinctiveness, isolation, and the burden of representing one's entire ethnicity. Indeed minority members in organizations have been found to prefer mentor relationships with members of their own ethnicity rather than with outgroup ethnicities (González-Figueroa, & Young, 2005).

Clustering group members by ethnicity may in fact be desirable to minority members if it allows for the acknowledgement and appreciation of ethnic group memberships. Although much research has been devoted to reducing the use of stereotypes through decategorization, or the individuation of category members (e.g. Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993; Brewer & Miller, 1984; Bettencourt, Brewer, Croak, & Miller, 1992), this research may underestimate the importance of the target's social category membership to their personal identity. Whereas White Americans, compared to Black Americans, may be reluctant to admit that race informs their judgments for fear of appearing prejudiced, race is a critical factor in person-perception (Norton et al., 2008; Norton, Sommers, Apfelboum, Pura, & Ariely, 2006). Furthermore, attempting to ignore, or reduce the importance of

category membership altogether can lead to increased automatic stereotyping through rebound effects (e.g. Macrae, Bodenhausen, Milne, & Jetten, 1994), and attempting to appear unracist can lead to unsuccessful intergroup interactions (Shelton, Richeson, Salvatore, & Trawalter, 2005).

Acknowledging a target's ethnic group has been shown to increase positive evaluations of the ethnic group (Wolsko, Park, Judd, & Wittenbrink, 2000), and may therefore create identity safety within a diverse group. Recent research comparing colorblind (i.e. assimilation) and multicultural approaches to diversity has found that minority group members tend to prefer a multicultural approach, and feel less threatened by organizations that espouse this approach (Verkyten, 2005; Taylor & Lambert, 1996; Purdie-Vaughns, Steele, Davies, Ditlmann, & Randall Crosby, 2008). A multicultural perspective does increase the saliency of intergroup boundaries; however, this can actually increase perceived similarity, reduce ingroup favoritism, and increase positive evaluations of outgroups (Deffenbacher, Park, Judd, & Corell, 2009; Wolsko, Park, Judd, & Wittenbrink, 2000). Creating a structure within diverse groups that allows for clear differentiation between ethnic groups may reduce feelings of isolation and identity threat for minority group members. Therefore, I expect that when participants' ethnic ingroups are represented as the minority of a group, they will prefer groups that are clustered by ethnicity over those that are completely dispersed.

Majority Group Members

Numeric majority group members within a diverse group should not be specifically opposed to a group structure that increases the saliency of ethnic

categories. Majority members may not feel overly distinctive or isolated within diverse groups, but they should prefer to be physically close to similar others. According to the attraction-similarity hypothesis (Byrne, 1971), people tend to view others who are similar more favorably than others who are different. This tendency should be universal, regardless of minority or majority status within a group. Thus, in diverse groups, all group members may feel dissimilar to one another, which may cause lower levels of group commitment (Triandis, 1959; Tsui, Egan, & O'Reilly, 1992). However, if members of a diverse group are physically near similar others, then the group settings may lead to more positive affect than a setting with a dispersed group. This clustering of similar members within a diverse group may attenuate the negative impact of diversity on overall group commitment (Triandis, 1959; Tsui, Egan, & O'Reilly, 1992).

Evidence from several domains lends support to the notion that clustering by ethnicity within a group is both natural and desirable. Organizational research has found that within organizations, people tend to seek out friendships with people who share similar attributes (Ibarra, 1992). These homophilous networks develop when individuals are able to freely choose those with whom they associate. McPherson and Smith-Lovin (1987) found that as groups become larger, there is a greater tendency toward homophilous networks, as individuals have more opportunities to seek out ties with similar others. Such 'spontaneous' clustering among similar individuals has also been observed in animal behavior. Male chimpanzees typically form strong social bonds for long periods of time within their larger social groups, and these

bonds are more common between males who share a genetic relationship or a similar dominance ranking (Mitani, 2009).

The evidence described above suggests that a clustered group would produce the most positive group outcomes, and therefore should be preferred by both majority and minority group members. However, there may be additional factors influencing ethnic majority members within a group that are not relevant, or less important to minority members. Because majority group status should not threaten an individual's ethnic identity, and because majority group members are not isolated or overly distinctive within a group, their preferences for clustering or dispersion may be driven by other motivations, such as appearing unbiased, or maintaining dominance within the group.

In our society, there is common motivation to control prejudices, or at least to appear unbiased (e.g. Gaertner & Dovidio, 1986; Plant & Devine, 1998). Assuming that a dispersed group reduces the saliency of category boundaries, majority members who are motivated to appear as though race does not influence their decisions may prefer a dispersed group that suggests the assimilation of all members. Research has demonstrated that majority members are more likely to endorse a colorblind approach to prejudice reduction, and that White people in particular are reluctant to admit that race influences their judgments (Verkuyten, 2005; Norton, et al., 2008). Majority members are also more likely to endorse a 'melting-pot' philosophy that reduces distinguishing characteristics of minority groups (Taylor & Lambert, 1996). Therefore, majority group members may specifically prefer dispersed groups because they signal assimilation and do not signal racial boundaries.

Factors related to the group setting may also influence the experience of majority members, and their preferences for clustered or dispersed groups. If the majority wishes to maintain dominance in the group setting, or reduce the influence of the minority, the best strategy may be to separate the minority members to reduce their influence. As minority groups are most influential when they are consistent and unanimous (Wood, Lundgren, Ouelette, Busceme, & Blackstone, 1994; Moscovici, Lage, & Naffrechoux, 1969), preventing open lines of communication between minority group members should reduce their influence by hindering their ability to maintain consistency and unanimity. In fact, group leaders may punish deviants in an effort to gain compliance (Barron, Kerr, & Miller, 1993). If minority group members are expected to disagree with a group majority, they may be treated as deviants, and punished through isolation. Therefore, one might expect that when participants' ethnic ingroups are represented in the majority of a group, they should prefer groups that are dispersed rather than clustered.

Overview of Present Research

The aim of the following studies was to examine preferences for diverse groups in which members are either clustered by ethnicity or dispersed, and to examine situational and group characteristics that influence these preferences. Each study employed a procedure in which participants were presented with images of faces that were arranged to look like a group, and in which the faces were either clustered or dispersed by ethnicity. In Studies 1-3 the groups contained 2 minority faces and 4 majority faces, and in Study 4 the groups contained 3 minority faces and 6 majority faces. In Studies 1, 3, and 4 the groups were shown in color and in Study

2 the groups were shown in Black and White. In Studies 1 and 3 participants were asked to make a forced preference choice between clustered or dispersed groups, in Study 2 participants were asked to create their own arrangements for groups, and in Study 4 participants were asked to rate the extent to which they liked each group.

Chapter 2: Study 1

The purpose of Study 1 was to examine basic preferences for images of diverse groups that are either clustered by ethnicity or dispersed, where the participant's own ethnicity is pictured as either the numeric majority or the numeric minority of the group, or was not present in the group. In Study 1, I asked participants to indicate which of two groups of faces they preferred. Because the setting in which a group exists may influence perceptions of diverse groups, I manipulated the instructions for viewing each pair of groups so that participants construed the groups as social groups, working groups, or neutral groups (without specific instructions).

My first hypothesis was that participants would be more likely to prefer the clustered (vs. dispersed) arrangements when their own ethnicity was pictured in the minority (vs. majority) of a group. A work group setting has the potential to impact an individual's future and livelihood, whereas a negative social group outcome would be less consequential; thus a work group setting should have higher stakes associated with it than either a social or neutral group setting. A participant may be more motivated to choose groups that have the best potential for success in a work (vs. social or neutral) group setting, and these work groups should be more personally relevant to participants. Therefore, my second hypothesis was that the predicted

pattern of preferences would be strongest for participants who were asked to view the groups as work (vs. social or neutral) groups.

In Study 1, participants viewed images of groups where their ethnic ingroup was either represented as the numeric majority or minority of the group, or was not represented in the group at all. When one's ethnic ingroup is not present in the group, identity safety concerns should not be relevant, but desires to appear unprejudiced should be relevant. I expected that participants would view the dispersed groups as assimilated, with less salient racial boundaries, which may be more desirable for participants with a colorblind approach to diversity. Therefore, my third hypothesis was that participants would prefer the dispersed arrangements more for the groups in which their own ethnicities were not pictured (vs. depicted as part of the minority).

Methods

Participants and Design

Participants were 35 White University of Maryland students who participated in exchange for course credit (13 male, 22 female). The gender of participants did not produce any main effects or interactions; therefore I will not discuss it further. Only White participants were included in the analysis because there were too few participants from any other ethnic group to provide enough power to test for differences between ethnicities.

To test my first two hypotheses, the design was a 3(Group Setting: work, social, neutral) x 2 (White status: Majority, Minority) x 2 (Other Race: Asian, Black) mixed design with repeated measures on the last two factors. To test my third hypothesis, the design was a 3(Group Setting: work, social, neutral) x 2 (White status:

Majority, Minority, Not Present) mixed design with repeated measure on the second factor. The dependent variable in Study 1 was a preference for the dispersed group or the clustered group in each presented pair of group pictures.

Procedure.

Participants completed the study independently on a computer in a small room. They had minimal interaction with the experimenter, who led them into the room, asked them to read and sign a consent form, and then instructed them that all of the directions for the study would be presented on the computer and that they should read everything carefully. After the participant signed the consent form, the experimenter left the room and closed the door so that the participant had privacy while completing the task.

The study began with several unrelated computer tasks, followed by a series of instructions introducing them to the procedure. The instructions varied depending on the group setting condition. For the neutral control condition, participants were instructed that they would view a series of pairs of groups on the computer screen and that their task was to indicate which group they preferred. For participants in the social groups condition, participants were additionally instructed that they should think of the groups as representing people with whom they would spend free time (e.g. watch movies, eat dinner). The participants were instructed to select the group with whom they would rather become close friends. For participants in the working groups condition, participants were additionally instructed that they should think of the group as representing people with whom they would work on an important school project that would make up a large portion of their grade in a course. All participants

were further instructed to indicate which of the two groups they preferred by typing the “A” key for the group on the left of the screen or the “L” key for the group on the right of the screen. Participants then viewed a series of paired groups, and each pair appeared on the screen until the participant indicated which group they preferred. One group in each pair was always clustered and the other was always dispersed. Following the presentation of the paired groups, participants completed a demographics questionnaire, and then were fully debriefed.

Materials

Participants were presented with a series of image pairs on the computer; one image on the left on the screen and one image on the right of the screen. Both images appeared an equal distance from the top and bottom of the screen. The two images on either side of the screen contained groups containing the same set of 6 faces to control for the attractiveness of each face. Each group was presented in a circular shape with an equal distance between each face, and the images appeared in color. On one side of the screen, the group was clustered by ethnicity such that the two minority faces appeared next to each other in the group. On the other side of the screen, the group was dispersed, such that the two minority members were placed on opposite sides of the group with two majority members between them on either side (see appendix). Each group contained 2 ethnicities: White majority and Black minority, White majority and Asian minority, Black majority and White minority, Asian majority and White minority, Black majority and Asian minority, Asian majority and Black minority, and the same ethnic composition appeared in each group on either side of the screen. All group pairs were gender-homogeneous, and each ethnic

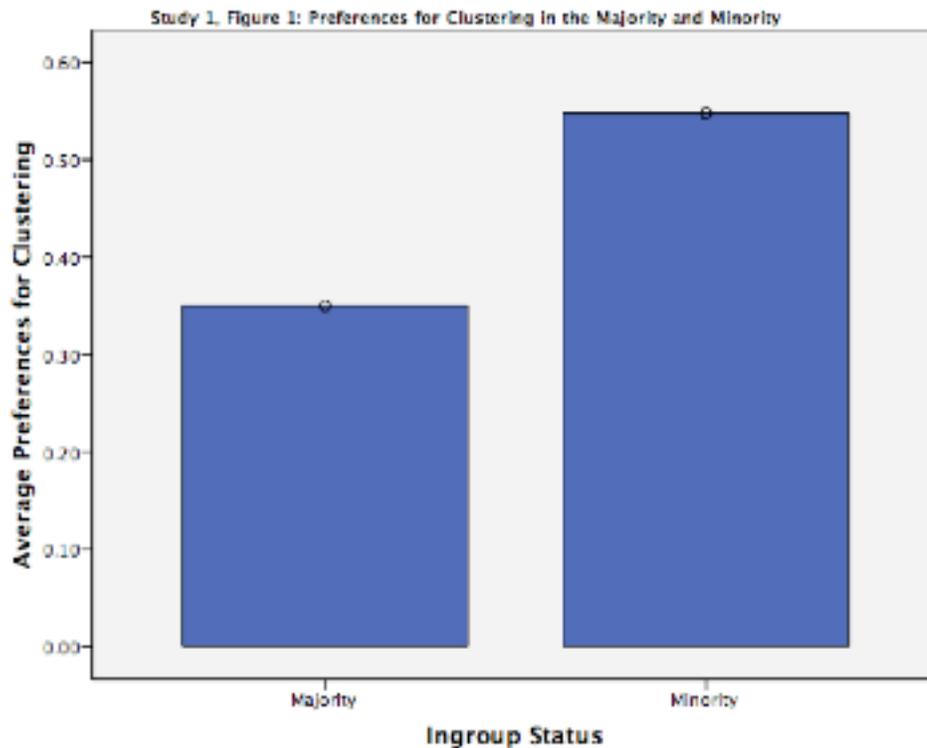
majority/minority composition was shown with once with all male faces and once with all female faces. Each pair of groups was presented four times; the clustered arrangement appeared on the right two times and on the left two times. This led to a total of 12 pairs, each of which was repeated 4 times.

Results

I calculated the average preference for each type of ethnic majority/minority group combination, such that the average preference score for each group combination was comprised of the preferences indicated for each of the 4 presentations of that pair. I only conducted analyses on pairs of groups that were the same gender as each participant, to control for the domain of social categorizations. For male participants I only computed means for combinations that were presented in all-male pairs, and for female participants I only computed means for combinations that were presented in all-female pairs. The dependent variable was participants' average clustering or dispersion preferences for each ethnic majority/minority combination groups. A higher number indicates a greater preference for clustering and a lower number indicates a greater preference for dispersion.

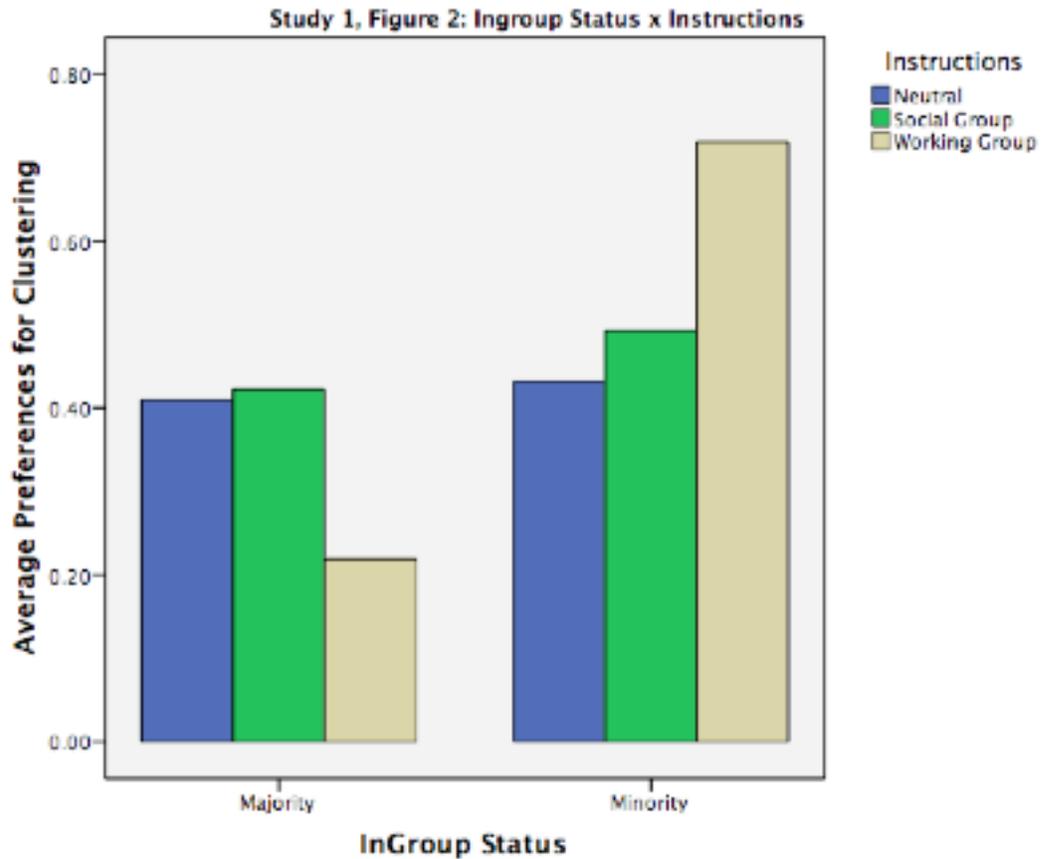
Because neither participants' gender nor the other race represented in each slide with the White faces produced significant main effects or interactions, both variables were removed from subsequent analyses. This led to a 3 (Group Setting: work, social, neutral) x 2 (Ingroup status: Majority, Minority) repeated-measures ANOVA with the group setting as a between-subjects factor. A significant main effect emerged for ingroup status, $F(1,32) = 9.97, p < .01$, partial $\eta^2 = .24$, such that participants were more likely to prefer the clustered arrangements when their ingroup

was pictured in the minority ($M = 0.55$) vs. the majority ($M = 0.35$; see Figure 1). Thus, my first hypothesis was confirmed; preferences for clustering were stronger when participants' own ethnicity constituted the minority (vs. majority) of the group.



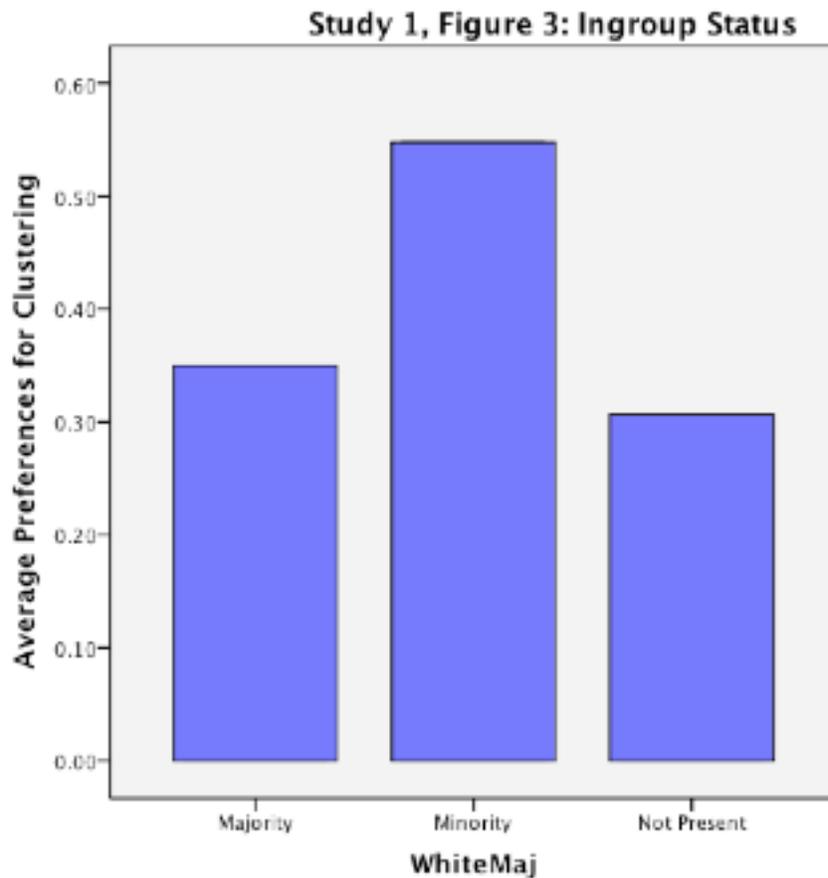
The main effect for ingroup status was qualified by a significant Ingroup status x group setting instructions, $F(2,32) = 4.97, p = .14$, partial $\eta^2 = .24$. However, based on planned comparisons, the above main effect of ethnic ingroup minority vs. majority status on preference for clustering vs. dispersion was only significant for participants who were instructed to think of the groups as working groups, $p < .01$ (Neutral instructions: $M_{majority} = 0.41, M_{minority} = 0.43$; Social Group: $M_{majority} = 0.42, M_{minority} = 0.49$; Working Group: $M_{majority} = 0.22, M_{minority} = 0.72$; see Figure 2). This finding supports my second hypothesis; the preferences for clustering (vs. dispersion)

when participants' ethnic ingroup was in minority (vs. majority) were strongest in working (vs. social or neutral) groups.



In order to compare preferences for the physical arrangement of groups that contained ingroup members with groups that contained only outgroup members, I conducted a 3 (Group Setting: work, social, neutral) x 3 (Ingroup Status: Majority, Minority, Not Present) repeated-measures ANOVA with Group Setting as a between-subjects factor. As predicted, a significant main effect emerged for Ingroup Status, $F(2,31) = 6.79, p < .01, \text{partial } \eta^2 = .30$. Based on planned comparisons, there was not a significant difference in preferences when the participant's ingroup comprised the group majority ($M = 0.35$) compared to when the participant's ingroup was absent

from the group ($M = 0.31$). However, preferences for clustering in both the majority and when the ingroup was absent from the group were significantly lower than preferences for clustering when participants' ingroup was pictured in the minority, $p < .01$ ($M = 0.55$; see Figure 3). The interaction with group setting was nonsignificant. These findings lend support to my hypothesis that participants would prefer dispersed arrangements when whites were not present in the groups.



Discussion

Study 1 provides general support for my hypothesis that participants would be more likely to prefer clustered (vs. dispersed) group arrangements when their own ethnicity was pictured in the minority (vs. majority) of a group. When Whites were

not present in the groups at all (i.e., the groups only contained members of outgroups), participants were more likely to prefer dispersed over clustered arrangements compared to when Whites were in the minority of a group. One explanation for this finding is that judgments of these groups represent baseline judgments for instances where other personal motivations, such as dominance in the group or identity safety, would be irrelevant. However, it is also possible that when groups were not personally relevant and specific motivations associated with majority or minority status were absent, participants' primary motivation was to appear unbiased or to choose the most socially desirable image, thus choosing the groups that signaled assimilation.

I also found support for my hypothesis that group arrangements should be most important in work group settings. In fact, the difference between preferences for clustering and dispersion based on the majority or minority status of one's ethnicity were only significant when participants were instructed to think about the groups as working groups. This preference should be strongest in working groups, because a work-group setting should carry the highest stakes. Because one's livelihood depends on one's success at work, a work group setting should be the most personally relevant to the participant. Therefore, preferences for clustering or dispersion may be stronger in work (vs. social or neutral) groups due to the increased personal relevance to the individual. I directly tested this hypothesis that preferences for clustering are more pronounced when groups are more personally relevant in Study 2.

A limitation of Study 1 is that participants were asked to make a forced choice between clustered and dispersed groups in which I held their own ethnicity's majority or minority status within the group constant. Because participants did not make independent judgments of each type of group (i.e. White majority clustered, White majority dispersed, etc.), it was not possible to compare preferences for clustered vs. dispersed arrangements within each type of majority or minority status. Therefore, I cannot draw any conclusions from Study 1 about the absolute preferences for clustering and dispersion within groups in which one's ingroup is the majority vs. minority. This limitation will be addressed in Study 4.

A third limitation of Study 1 is that it only included data from White participants. White people are not generally minority members of diverse groups, especially in work settings. Furthermore, on the relatively rare occasions when Whites are in the minority, they may experience their minority status differently than would Blacks, who are often in the minority (e.g. Pollack & Niemann, 1998). For instance, when the minority members of a group have a higher social status than the majority members of a group (e.g. White minority, Black majority), they do not appear to experience the performance deficits which occur when low status individuals are solos, or one of few minorities (Heikes, 1991; Sekaquaptewa, Thompson, 2002). Therefore, it is unclear whether the findings from Study 1 suggest an overall preference for clustered group arrangements when one's ethnic group is in the minority, or a preference for clustering only when such minority status is unusual, unfamiliar, or unrelated to group performance. It is unclear whether these findings would generalize to members of other ethnicities who are more familiar with being

minority group members. Study 2 will also address this limitation by including data from both Black and White participants.

Chapter 3: Study 2

The purpose of Study 2 was to conceptually replicate the findings of Study 1 and to explore my hypothesis that the personal relevance of a group will strengthen the interaction with the majority or minority status of one's ingroup found in Study 1. I expected that preferences for clustering in the minority and preferences for dispersion in the majority would be stronger when the diverse groups seem to be more personally relevant to the participant. To manipulate the personal relevance of the groups, some of the groups contained images that represented the participant as members of the group.

In Study 2, I asked all participants to think of the groups they viewed in a work context because a work group setting is more theoretically interesting, as it has the most direct applications. Participants completed the study through a paper-and-pencil questionnaire that asked them to view a series of groups. For each group of faces, they were asked to indicate where each group member should sit around a table. Thus, participants created their own group arrangements without any mention of clustering or dispersion. The paper-and-pencil surveys were tailored to the gender and ethnicity of each participant, such that all groups of faces were the same gender as the participant, and that the participant's own ethnicity was either the majority or minority of each group. There were no groups containing only outgroup members.

Methods

Participants and Design

Sixty-nine undergraduate students (30 male and 39 female) from the University of Maryland completed this study in exchange for course credit. There were 55 White participants and 14 Black participants. Because gender did not produce any meaningful interactions or main effects, this factor was removed from subsequent analyses.

In Study 2, I tailored the surveys that participants completed to their gender and ethnicity. Participants only viewed images of groups that contained faces of the same gender and the same ethnicity as the participant. In half of the pictured groups, the participant's own ethnicity was the numeric majority of the group, and in the other half of the pictured groups, the participant's own ethnicity was the numeric minority of the group. To manipulate the extent to which the groups were personally relevant, participants were instructed that they should picture themselves as members of some of the groups. For the groups representing high personal relevance, participants were instructed that they would see blank faces in each group, and that these faces represented the participant, indicating that they were members of the group. For the groups representing low personal relevance, participants were instructed that they would not see these blank images, and that they should not think of themselves as members of the group (see appendix).

It would have been impossible to present the images of faces to participants without clustering or dispersing the faces; therefore, all groups of faces were presented to participants on the page with the most amount of distance between each

face as possible so that the clustered or dispersed arrangements were not overly apparent. Half of the faces were presented in a clustered arrangement, where the minority faces were presented near one another on the top of the page. The other half of the faces were presented in a dispersed arrangement where one minority face appeared on the top of the page and the other minority face appeared on the bottom of the page. All faces were presented with as much distance between them as was feasible given the size of the page. To control for order effects, the order in which participants viewed the clustered and dispersed faces was counter-balanced. Participants either viewed all of the faces clustered first, followed by the dispersed faces, or all of the faces dispersed first, followed by the clustered faces. This led to a 2 (Participant Ethnicity: White, Black) x 2 (Presentation Order: clustered first, dispersed first) x 2 (Ethnic ingroup: majority, minority) x 2 (Personal Relevance: high, low) x 2 (Presentation of faces: clustered, dispersed) design, where Participant ethnicity and presentation order were between-subjects variables and Ethnic ingroup, personal relevance, and the presentation of faces were within-subjects variables. My dependent variable was the type of arrangement the participant created.

Procedures

In the lab, participants completed the paper-and-pencil survey in groups ranging from 1 participant to 5 participants. An experimenter handed out consent forms to participants, then gave them each a paper packet designed specifically for the participant's gender and ethnicity, and then instructed them that all instructions would be in the packet of papers they received and that they should read everything carefully. The experimenter was always present in the room while participants were

completing the survey to ensure that participants did not talk to one another; however, the experimenter did not sit near the participants in the room and remained silent. When the participant completed the first packet with the images of groups, the experimenter handed them a second packet containing a demographics questionnaire. After completing both packets, participants were fully debriefed.

Materials

Study 2 was completed through paper-and-pencil packets with Black and White images. Each packet contained an introduction page with the following instructions:

You are meeting with a group of classmates to work on a class project. You are all going to sit together at a table and discuss the project. Please indicate where you would like each group member to sit around the table.

In some of the groups you are a member, which is represented by a question mark, and labeled 'you'. When you are a member of the group, write 'me' where you would like to sit.

Each subsequent page included one group of faces on the left side of the page. On the right side of each page was a sketch of a table with 6 lines drawn around it; participants could indicate where they wanted each face to sit by writing the name assigned to each face on the desired line.

On each page, the participant's own ethnicity comprised either the majority or the minority of the group; furthermore, all faces were the same gender as the participant, and all groups of faces contained 6 faces. When the participant was not represented in the groups, there were 2 minority and 4 majority faces created from combinations of the participant's own ethnicity and one other ethnicity. When the

participant was represented in the groups and the participant's own ethnicity was in the majority, the group contained one blank face with a question mark to represent the participant, 3 other majority ethnicity faces, and 2 minority ethnicity faces. When the participant was represented in the groups and the participants' own ethnicity was in the minority, the group contained one blank face with a question mark to represent the participant, 1 other minority face, and 4 majority faces (see appendix). The questionnaire presented each ethnic majority/minority combination once with the participant represented, in a clustered pattern and in a dispersed pattern, and once without the participant represented, in a clustered pattern and a dispersed pattern. For White participants the groups either contained White majorities with Black or Asian minorities, or White minorities with Asian and Black majorities. For Black participants, the groups either contained Black majorities with Asian or White minorities, or Black minorities with Asian or White majorities. Therefore, there were four types of ethnic majority/minority for each participant. Each type of group was presented in a clustered or dispersed group, and each type of group was represented once without a blank face and once with a blank face to represent the participant. Therefore, each participant viewed 16 groups total.

Results

Data Coding

I coded the types of arrangements that participants created by the extent to which they were clustered or dispersed. When the participant was not pictured in the group, or when the participant was pictured in the group but was part of the minority, there were only three possible types of arrangements a participant could create. A score of

1 indicates that the arrangement was maximally dispersed, where the two minority members were placed across from each other at the table, and there were two majority members on either side. A score of 3.5 indicates that the arrangement was moderately dispersed, where the two minority members were placed with one majority member between them on one side and 3 majority members between them on the other side. A score of 6 indicates maximal clustering, where the two minority members were placed next to each other.

When the participant was pictured in the group and was part of the majority, there were 6 types of arrangements a participant could create. A 1 and 6 are coded in the same manner described above. A 2 is slightly less dispersed, where the two minorities are separated by 1 majority member, however the participant has placed him/herself in between the two minority members. A 3 indicates moderate dispersion where the participant is placed next to one minority member and one majority member, and there is 2 other majority member placed between the two minority members. A 4 indicates moderate dispersion where one majority member separates the minorities, but the participant is placed next to two majority members and is not next to a minority member. A 5 indicates clustering where the two minority members are placed next to each other and the participant is placed next to one minority member and one majority member (See appendix for a complete diagram of the coding scheme).

Analysis

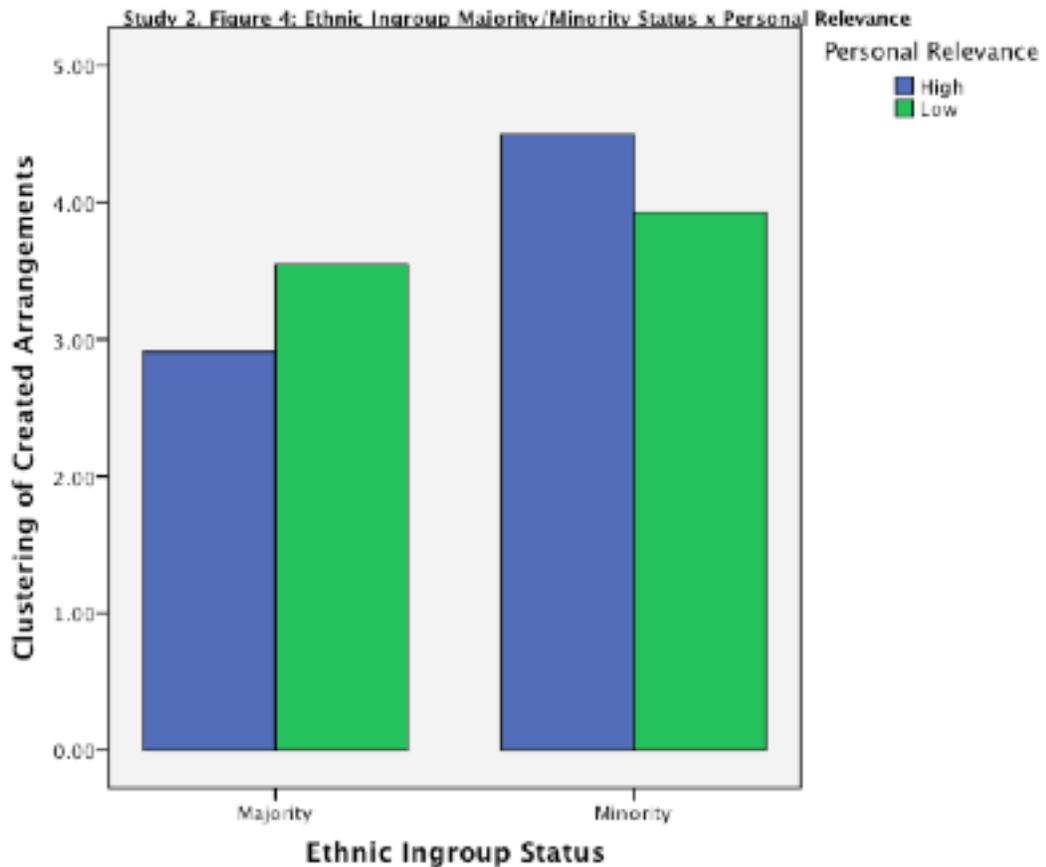
Because each participant completed a survey that was tailored to their own gender and ethnicity, White participants only created arrangements of groups containing White and Black members or White and Asian members, and Black

participants only created arrangements of groups containing Black and White members or Asian and White members. Based on separate analyses for Black and White participants, the other ethnicity that was paired with participants' own ethnicities did not significantly interact with the participants' ingroup status as the majority or minority. Furthermore, because the 'other' race that was paired with Black and White faces differed for Black and White participants, I collapsed across the groups and conducted analyses simply based on whether the participant's ingroup was the ethnic majority or minority of each group.

I conducted a 2 (Order of faces presented: clustered first, dispersed first) x 2 (Participant ethnicity: White, Black) x 2 (Ethnic ingroup: majority, minority) x 2 (Personal Relevance: high, low) x 2 (presentation of faces: clustered, dispersed) repeated-measures ANOVA, with the order in which faces were presented (clustered or dispersed) and participant ethnicity (White or Black) as between-subjects factors. In line with my hypothesis, a significant main effect emerged for the majority/minority status of participants' ethnic ingroup, $F(1,64) = 30.43, p < .001$, partial $\eta^2 = .32$, such that participants were more likely to create clustered arrangements when their own ethnicity was pictured in the minority ($M = 4.22$) vs. the majority ($M = 3.23$).

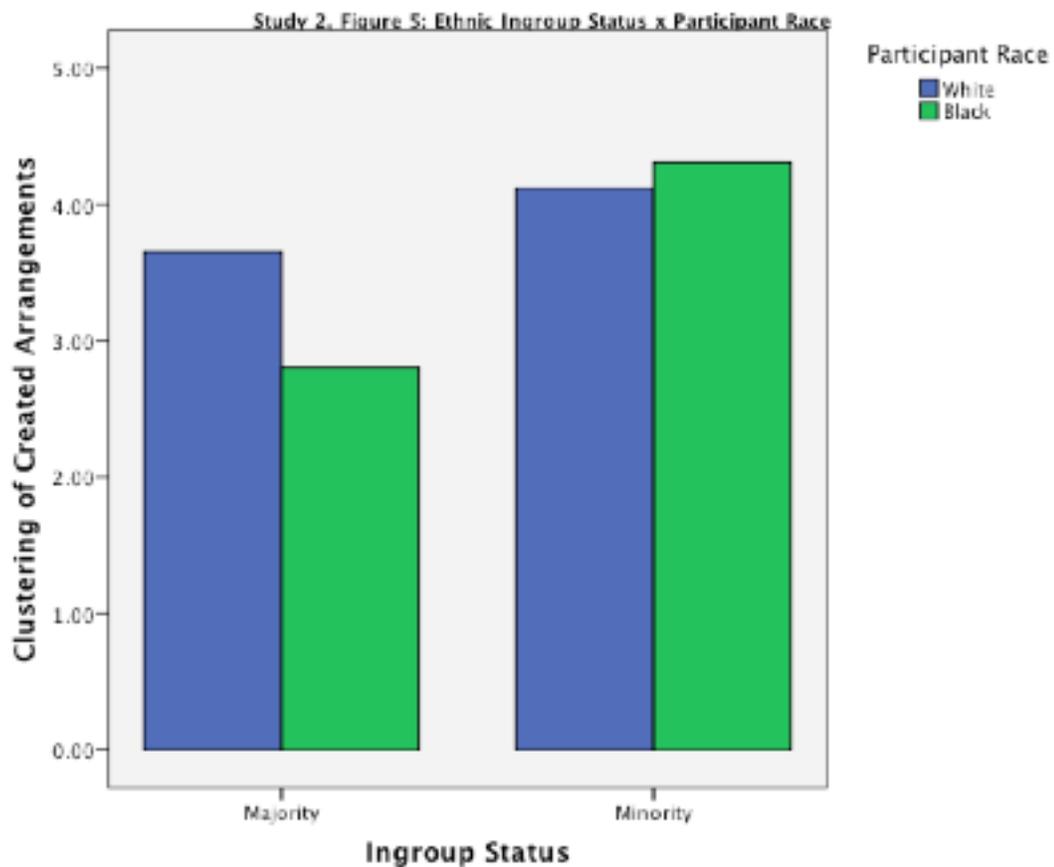
This main effect was qualified by several significant interactions. In line with my hypothesis, there was a significant interaction between the majority/minority status of participants' ethnic ingroups and the degree of personal relevance of the groups, $F(1,64) = 8.98, p < .01$, partial $\eta^2 = .02$. When participants' own ethnicity was represented as the majority of the group, participants were more likely to create

dispersed arrangements when the participant was pictured as present in the group ($M = 2.92$), vs. absent from the group ($M = 3.53$). When participants' own ethnicity was represented in the minority of the group, participants were more likely to create clustered arrangements when the participant was pictured as present in the group ($M = 4.48$) vs. absent from the group ($M = 3.96$; see Figure 4).



There was also a significant interaction between the participant's ingroup minority/majority status and the race of the participant, $F(1,64) = 8.55, p < .01$, partial $\eta^2 = .12$. Both Black and White participants were more likely to create clustered arrangements when their ingroup was represented in the minority (vs.

majority). However, Black participants were more likely to create dispersed arrangements when their ingroup was presented in the majority ($M = 2.80$) compared to when White participants' ingroup was presented in the majority ($M = 3.65$), and were more likely to create clustered arrangements when their ingroup was presented in the minority ($M = 4.32$) compared to when White participants' ingroup was presented in the minority ($M = 4.12$). Thus, their preferences were more extreme than those of White participants (see Figure 5).



There was a significant interaction between the participant's ingroup majority/minority status and the order in which clustered or dispersed faces were

presented to participants, $F(1,64) = 4.56, p < .05$, partial $\eta^2 = .07$. Participants who viewed dispersed faces before clustered faces were more likely to create dispersed arrangements when their own ethnicity was presented in the majority ($M = 2.87$) compared to participants who viewed clustered faces before dispersed faces ($M = 3.58$). When participants' ingroup was presented in the minority of the group, participants who viewed the dispersed arrangements first were slightly more likely to create clustered arrangements ($M = 4.25$) than those who viewed the clustered arrangements first ($M = 4.19$).

Discussion

Study 2 replicated the main finding from Study 1 using a different procedure, and addressed some of limitations of Study 1. The findings in Study 2 lend further support to my primary hypothesis that people will prefer groups to be clustered by ethnicity if their ingroup is in the minority (vs. majority). Because participants in Study 2 indirectly indicated their preferences for clustered and dispersed groups by creating their own group arrangements rather than making a forced choice, the decisions participants made are more similar to those one might make in an actual diverse group setting.

In Study 2, I added the independent variable of high or low personal relevance. This variable was important because I was not able to draw conclusions in Study 1 about specific preferences for clustering and dispersion when one's ingroup was pictured in the majority or minority. Because personal relevance interacted with the majority/minority status of participants' ethnic ingroup, rather than producing a main effect for clustering or dispersion, it seems that people hold specific preferences

for clustering when they are in the minority of a group, and dispersing when they are in the majority of the group. Participants were more likely to create clustered arrangements when they were in the minority and dispersed arrangements when they were in the majority, if they were represented (vs. not represented) as a member of the group. That is, preferences for clustering in the minority and dispersion in the majority were polarized when the groups were more personally relevant to participants.

Study 2 included data from both White and Black participants. The main effect found in Study 1 that participants preferred clustering (vs. dispersion) when their ingroup was in the minority (vs. majority) was replicated with both White and Black participants, and there was also a significant interaction with the preferences for clustering and the ethnicity of the participant such that Black participants were even more likely to create clustered arrangements when they were in the minority (vs. majority). This rules out an alternative explanation for the findings from Study 1 was that the main effect was due to White participants' unfamiliarity with being in the minority, rather than to their basic minority status. However, Black participants would be more familiar with being in the minority; therefore, it seems that the observed effects from Studies 1 and 2 signal preferences inherent to majority and minority status within diverse groups, regardless of one's ethnicity.

There were some effects of the procedural variables included in Study 2. There were significant interactions with the order in which participants viewed the clustered or dispersed groups of faces. This is expected, as the type of arrangement that was presented first may have created a primacy effect such that participants were

more predisposed to that type of arrangement. In line with these expectations, when participants' ethnic ingroups were presented in the majority, participants who were shown clustered arrangements first were more likely to create clustered arrangements, and participants who were shown dispersed arrangements first were more likely to create dispersed arrangements. However, it was unexpected that there was no significant difference between the two ordering conditions when participants' own ethnic ingroup was presented in the minority. Because the order of arrangement only shifted the arrangements in the majority, but not in the minority, one potential explanation is that being in the minority carries strong preferences for clustering that are difficult to change. This finding might also be interpreted as signaling the psychological importance of minority status within diverse groups.

Because the majority/minority status of one's ethnic ingroup does seem to be an important determining factor in preferences for clustered or dispersed groups, it is important to determine the specific aspects of majority/minority status that influence these preferences. Because group majorities generally have more control over group decision-making, it would follow that majority members feel a sense of power in the group. A dispersed arrangement should be ideal for maintaining this sense of power because communication lines among the other ethnicity in the group would be disrupted. Conversely, minority members should feel less powerful in a group because it is more difficult for them to alter group decisions. A clustered arrangement should be ideal for regaining power in a group if clustering allows for communication lines among one's own ethnicity within the group. In Study 3, I

manipulated feelings of powerfulness and powerlessness to determine their distinct influence on preferences for clustering and dispersion.

Chapter 4: Study 3

The purpose of Study 3 was to explore power as one aspect of majority or minority status that may have driven the effects observed in studies 1 and 2. In Study 2 I found that when groups were more personally relevant to participants, participants created more clustered arrangements when their ingroup was in the minority and more dispersed arrangements when their ingroup was in the majority. Because personal relevance interacted with the majority/minority status of the participant's ethnicity, it follows that certain aspects of majority and minority status motivate these preferences. A group member should feel more powerful in the majority of a group compared to the minority of a group, because they have more potential to influence group outcomes (e.g. Asch, 1955). Therefore, majority members may be motivated to prefer dispersed groups, because dispersion is a potential method for maintaining the power of the majority and reducing the power of the minority.

Research on social influence and persuasion has found that minorities are more likely to influence group outcomes if they remain consistent and unanimous (Moscovici et al., 1969; Wood et al., 1994). Physical or psychological closeness between minority members should facilitate consistency and unanimity by allowing for communication. Alternatively, physical or psychological separation should make communication between minority members more difficult, thus reducing their abilities to remain consistent or unanimous. The presence or absence of power should moderate participants' preferences for clustering and dispersion. I expect that when

primed to feel powerful, participants will be more likely to prefer dispersion, and that when primed to feel powerless, participants will be more likely to prefer clustering, regardless of the majority or minority status of their ingroup.

In Study 3, I examined the influence of feelings of powerfulness and powerlessness on preferences for clustering and dispersion. After being primed to feel powerful, powerless, or after no prime, participants completed a computer procedure similar to the one used in Study 1, in which each pair of groups was presented very quickly. The purpose of Study 3 was to test the hypothesis that feelings of powerfulness will reduce the preference for clustering when one's own ethnicity is in the minority, and that feelings of powerlessness will increase preferences for clustering when one's own ethnicity is in the majority.

Methods

Participants and Design

Seventy-four White undergraduate students from the University of Maryland participated in exchange for course credit (26 male, 48 female). Gender did not interact with any variables of interest in this study, so I removed it from subsequent analyses.

The design in Study 3 was very similar to that of Study 1. Instead of manipulating the type of group setting, I manipulated feelings of powerfulness and powerlessness as a between subjects factor. This led to a 3 (Prime: powerfulness, powerlessness, no prime control) x 2 (Ingroup Status: majority, minority) x 2 (Other race: Black, Asian) mixed design the last two factors as repeated measures.

Participants' preferences for clustered or dispersed groups was the dependent variable.

Procedures

In the lab, participants were taken into a small private room. After signing the consent form, the experimenter asked them to complete a short questionnaire for another researcher before beginning the study they had signed up for. Once the participant agreed, the experimenter left the room until they had completed the questionnaire. The initial questionnaire asked them to recall a time, in detail, when they either felt very powerful or powerless. Participants were provided with one blank page for their response, and were given as much time as they needed. Most participants finished within five minutes. After the participant was finished with the questionnaire, the experimenter explained that they would now begin the study they had signed up for, and that it was entirely on the computer and that they should read all the instructions carefully. At this point the experimenter left the room and the participant completed the same forced-choice task used in Study 1 (with only the neutral instructions), followed by a demographics questionnaire. When the participant completed the computer task, the experimenter returned to debrief them and probe them for suspicion.

Materials

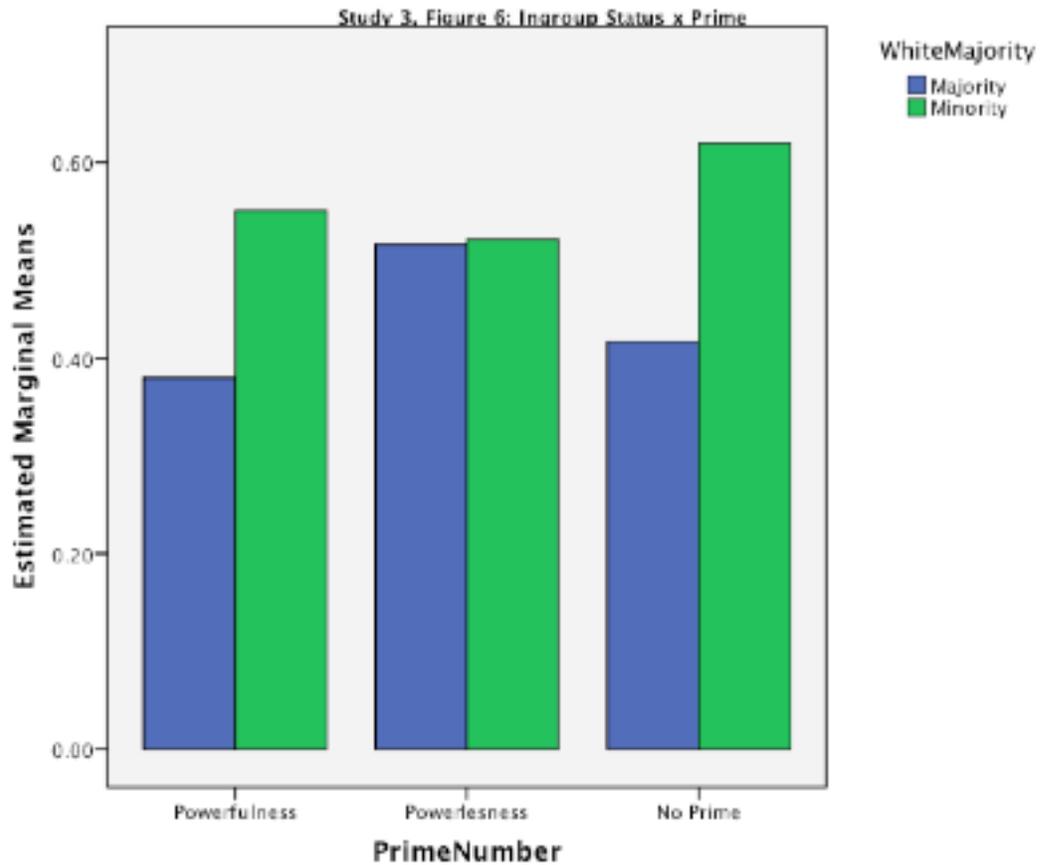
The initial survey was used to prime feelings of powerfulness or powerlessness. It was adapted from Galinsky, Magee, Gruenfield, Whitson, & Liljenquist (2008), and instructed participants to describe a time, in detail when they either felt powerful or powerless. The computer task was identical to the one used in

Study 1, except that the instructions did not include a manipulation of group setting, and participants were instructed to make their decisions quickly.

Results

Because neither participants' gender nor the other race represented in each slide with the White faces produced significant main effects or interactions, both variables were removed from subsequent analyses. This led to a 3 (Prime: powerfulness, powerlessness, no prime control) x 2 (Ingroup Status: majority, minority) repeated-measures ANOVA with the power prime as a between-subjects factor. There was a significant main effect for the ingroup status, $F(1,71) = 10.38$, $p < .05$, partial $\eta^2 = .13$, supporting my hypothesis that participants are more likely to prefer clustered groups when their own ethnicity is in the minority ($M = .56$) vs. majority ($M = .44$). There was also a marginally significant ingroup status x power prime interaction, $F(2,71) = 2.34$, $p = .10$ (see Figure 6). Based on planned comparisons, when Whites were pictured in the majority, there was a significant difference in preferences for clustering between those participants who were primed to feel powerful and those who were primed to feel powerless, $p < .05$. Participants who were primed to feel powerless were much more likely to prefer clustering in the majority ($M = 0.52$) than participants who were primed to feel powerful ($M = 0.38$). The preferences of participants who were not primed at all were not significantly different from either primed group; however, their mean preference score was between the means of the two primed groups ($M = .42$). When White participants were pictured in the minority, there were no significant differences between priming conditions.

Based on planned comparisons, participants in the powerful prime condition and no prime control condition showed significantly greater preferences for clustering when their ingroup was in the minority ($M_{powerful} = 0.55$; $M_{control} = 0.62$) vs. the majority ($M_{powerful} = 0.38$; $M_{control} = 0.42$). For participants in the powerlessness prime condition, there were no differences between preferences when participants' ingroup was in the majority ($M = 0.52$) or the minority ($M=0.52$). These comparisons partially support to my hypothesis regarding the influence of power on preferences for clustering and dispersion.



Discussion

The findings in Study 3 confirmed my general hypothesis that participants will prefer groups that are clustered by ethnicity if their own ethnicity is pictured in the minority (vs. majority). In Study 3, I also tested the hypothesis that feelings of powerfulness would lead to greater preferences for dispersion, and that feelings of powerlessness would lead to greater preferences for clustering. I did not find complete support for this hypothesis. Instead, I found that for participants primed to feel powerless, there was a general preference for clustering which occurred when participants' ingroups were in the minority *and* when they were in the majority. This finding does support my hypothesis that clustering may be preferable for participants with lower levels of power. If a majority group member feels as though they do not have power, he or she may have similar motivations as a minority group member, and may feel that it is advantageous to have a clustered arrangement to try to gain power.

Participants who were not primed and participants who were primed with powerfulness showed the same general pattern of preferring dispersion in the majority and clustering in the minority. It is possible that the powerfulness prime was not as strong as the powerlessness prime, and therefore did not significantly influence participants' judgments. It is also possible that even when group members feel powerful within a group, it is always advantageous to cluster if one is a minority member. Alternatively, it is possible that participants who were primed to feel powerful did indeed feel powerful, and that these feelings influenced their preferences for dispersion in the majority. However, when these participants' ingroups were in the minority, stronger motivations, such as identity safety and the reduction of

isolation were dominant over any feelings of powerfulness induced by the manipulation. Due to these many potential explanations, I will tentatively conclude that power is one motivational factor that influences preferences for clustering and dispersion. Future research should directly test the relationship between feelings of powerfulness or powerlessness and preferences for clustering in the majority and minority of diverse groups.

From the findings from Studies 1, 2, and 3, it is still unclear whether the demonstrated preferences for clustering among participants in the minority are due primarily to minority members' desires to keep their own ingroup clustered, or to keep the majority group clustered. It is also unclear whether preferences for dispersion among participants in the majority are due primarily to desires to keep the minority dispersed or their own ingroup dispersed. Study 4 will address this question by independently manipulating the clustering and dispersion of the majority and minority. Study 4 will also extend the findings from the first 3 studies to a slightly larger group. If the observed pattern is a basic group phenomenon, it should be observed in larger groups as well. If the observed pattern is specific to groups with only six members, or to groups with smaller numeric minorities, then the pattern will not be observed.

Chapter 5: Study 4

The purpose of Study 4 was to determine whether the observed preferences for clustering are explained by desires to cluster the minority or the majority when participants' own ethnicities are in the minority, and the desire to disperse the majority or the minority when participants' own ethnicities are in the majority. In

Studies 1, 2, and 3, due to the type of arrangements we created, if the minority of a group was clustered, the majority was also clustered. If the minority was dispersed, then the majority was also moderately dispersed (2 majority members on either side of the minority members). In Study 4 I created group arrangements where I could cluster either the minority or the majority and leave the other group dispersed, or I could cluster or disperse both groups. This allowed me to independently manipulate the clustering and dispersion of the majority and minority members in each group.

An additional purpose of Study 4 was to generalize the findings from Studies 1, 2, and 3 to a larger group. Minority and majority group size can be an influential factor in the productivity of groups. As group size increases, the proportion of group members who remain active in the ‘functional’ group decreases (Bray, Kerr & Atkin, 1978). Furthermore, individual members of larger groups may feel more anonymous or deindividuated (Zimbardo, 1969; Festinger, Pepitone, & Newcomb, 1952). Therefore, a larger absolute group size may reduce the extent to which a minority member feels critical to the group, and may allow them to hide or become less visible. It may also be more likely that the ‘functional’ group will consist of only majority members or that majority members will be more easily able to exclude minority members. Thus, it may be even more important to a minority member to prefer clustered arrangements and a majority member to prefer dispersed arrangements in larger groups.

Whereas Studies 1, 2, and 3 each used groups with 6 members, Study 4 used groups with 9 members. The minority to majority proportion is equal to that of the first three studies, with 3 minority members and 6 majority members, so any

differences in observed patterns should be due to the difference in the absolute, rather than relative, size of the minority and majority. Therefore, I predicted that I would replicate the pattern observed in the first 3 studies, where participants were more likely to prefer clustered (vs. dispersed) groups when their ethnic ingroup was in the minority (vs. the majority).

In terms of the independent clustering of the majorities and minorities in diverse groups, I predicted that when participants' ingroups are pictured in the majority, participants would prefer groups in which the minority is dispersed but the majority is clustered. For the majority to maintain control in a group, they may gain a strategic advantage by separating the minority members and clustering the majority members. I also predicted that when participants' ingroups were pictured in the minority, participants would prefer groups where the minority is clustered and the majority is dispersed. In both cases, I predicted that preferences for the arrangement of the minority in the group would be stronger than that of the majority.

Methods

Participants and Design

Thirty-six White University of Maryland undergraduate students completed the study online (13 male and 23 female) in exchange for course credit. Gender did not produce any significant main effects or interactions, so it was removed from the analysis. In this study I manipulated the majority/minority status of Whites in each group, the clustering of the majority in each group, and the clustering of the minority in each group. This led to a 2 (Ethnic Ingroup: Majority, Minority) x 2 (Majority Arrangement: Clustered, Dispersed) x 2 (Minority Arrangement: Clustered,

Dispersed) repeated measures design with all independent variables as within-subjects measures, and with pleasantness ratings of each group as the dependent variable.

Procedures

Participants completed the study online. The first page of the survey was a consent form, which they were required to agree to before beginning the study. On the next page, participants were given the following instructions:

In this survey, we are interested in your impression of different groups of people. You will be presented with many different groups. Please rate the extent to which you like each group. You will be rating many groups, so please try not to spend too much time on each individual group. Just respond with your gut feeling.

While you should move quickly through the survey, it is very important to consider the impression you have of each individual group. You should not respond with the same rating for all the groups.

Participants rated the extent to which they liked each group on a scale from 1 to 7, with a higher number indicating a more pleasant impression of the group. After viewing all the groups, participants completed a demographics questionnaire, and then were fully debriefed.

Materials

Participants viewed one group at a time on computers over the internet. One group image was presented on each page, and the study was programmed so that participants were not able to advance to the next page until they had rated the pleasantness of the image on their current page. The study was also programmed so that participants could not navigate backwards to change their previous responses. Each group image contained 9 faces with 2 races. The ethnic combinations of faces

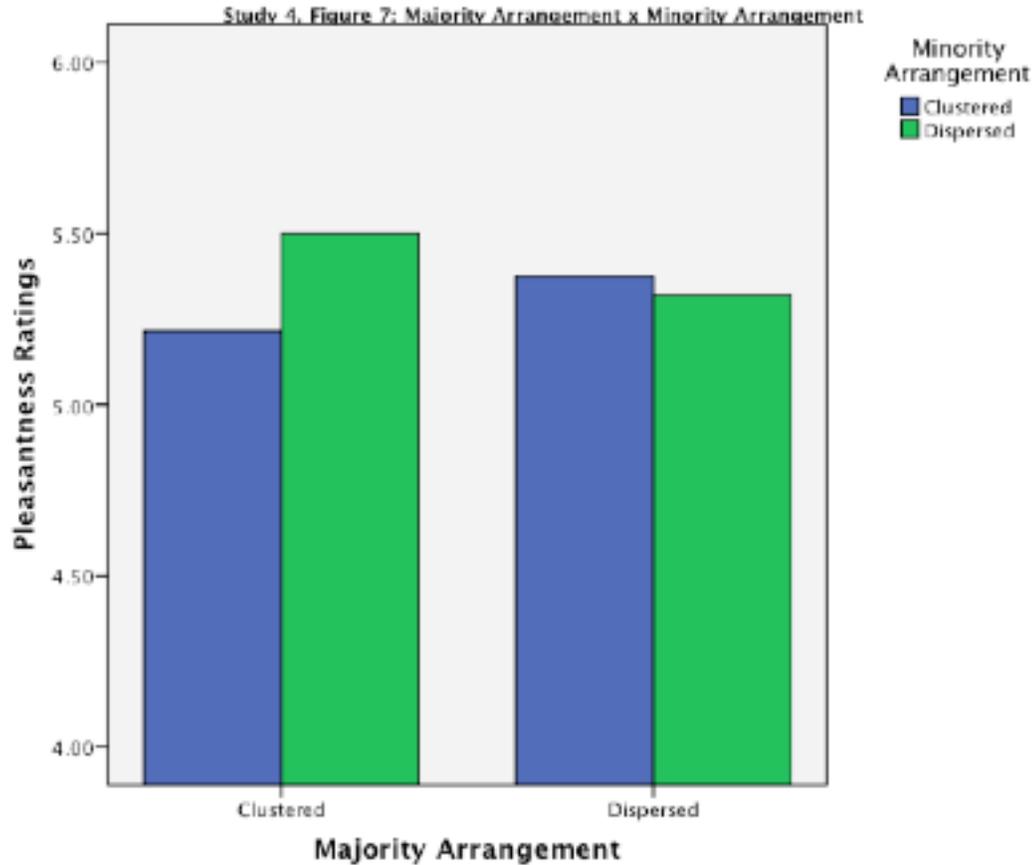
in each group were: White majority and Black minority, White majority and Asian minority, Black majority and White minority, Asian majority and White minority. Each group was shaped in an oblong pattern so that it was possible to create arrangements where the majority and minority could be independently clustered or dispersed (see Appendix). Each ethnic combination was presented once with all male faces and once with all female faces.

Results

For all analyses, I only included participants' ratings of groups that shared the same gender as the participant, and I averaged the scores for groups of Whites and Blacks and Whites and Asians to create scores for White majority or White minority. First I conducted an analysis on only the groups in which both the majorities and minorities were clustered or dispersed, to determine if the pattern of clustering found in studies 1, 2, and 3 was replicated in groups with 9 members. This led to a 2 (Ingroup Status: Majority, Minority) x 2 (Arrangement: Clustered, Dispersed) repeated-measures ANOVA. A significant main effect emerged for the ingroup status, $F(1,35) = 8.76, p < .01$, partial $\eta^2 = 0.20$, such that participants viewed groups more pleasant when Whites were in the majority ($M = 5.67$) vs. minority ($M = 5.22$). Although I did not make specific predictions about this main effect, it is reasonable that participants would prefer for their own ethnicity to comprise the majority in groups rather than the minority. This main effect was qualified by a significant Ingroup Status x Arrangement interaction, $F(1,35) = 5.79, p < .05$, partial $\eta^2 = 0.14$, such that when Whites were depicted in the majority, participants preferred groups to be dispersed ($M = 5.81$) rather than clustered ($M = 5.53$); however, when Whites were

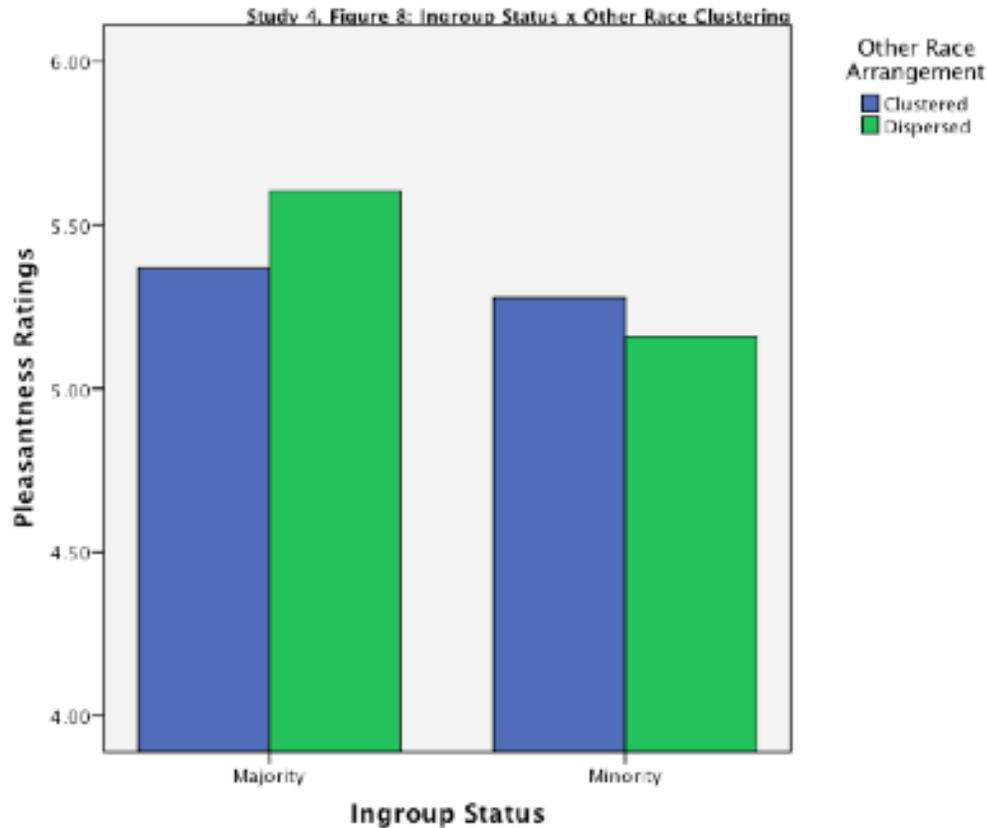
in the minority, participants preferred groups to be clustered ($M = 5.23$) rather than dispersed ($M = 5.20$). Planned comparisons revealed that the difference between ratings of clustered and dispersed groups is only significant when Whites are pictured in the majority, therefore this partially replicates my previous findings and partially supports my hypothesis.

I also conducted a 2(Ethnic Ingroup: Majority, Minority) x 2 (Majority Arrangement: Clustered, Dispersed) x 2 (Minority Arrangement: Clustered, Dispersed) repeated-measures ANOVA. Again, I found a significant main effect for White majority/minority status $F(1,35) = 6.18, p < .05$, partial $\eta^2 = 0.15$, such that participants preferred groups in which Whites were pictured in the majority ($M = 5.49$) vs. the minority ($M = 5.22$). There was also a main effect for the arrangement of the minority, $F(1,35) = 5.55, p < .05$, partial $\eta^2 = 0.14$, such that participants preferred the minority of the group to be dispersed ($M = 5.41$) rather than clustered ($M = 5.30$). These main effects were qualified by a significant majority arrangement x minority arrangement interaction $F(1,35) = 5.98, p < .05$, partial $\eta^2 = 0.15$, such that if the majority was clustered, participants preferred the minority to be dispersed ($M = 5.50$) rather than clustered ($M = 5.22$), and that if the majority was dispersed, participants preferred the Minority to be clustered ($M = 5.48$) rather than dispersed (5.32 ; see Figure 7). Because this finding was not a 3-way interaction with White majority status, my hypothesis was not fully supported. However, it does appear that participants preferred an incongruity between the clustering and dispersion of the majority and the minority, regardless of their own ethnicity's status in the group.



I carried out a third analysis of the data where the variables were recoded in terms of whether the participant's ingroup was clustered or dispersed, and whether the participant's outgroup (Blacks or Asians) was clustered or dispersed. The main effect for White majority/minority status was qualified here by a significant ingroup status x outgroup arrangement interaction, $F(1,35) = 13.99, p < .01, \eta^2 = 0.27$ (see Figure 8), such that when Whites were pictured in the majority, there was a preference for the outgroup (minority) to be dispersed ($M = 5.6$) rather than clustered ($M = 5.37$). Based on planned comparisons, when Whites were pictured in the minority, there was no significant difference between preferences for the outgroup (majority) to be clustered ($M = 5.28$) compared to dispersed ($M = 5.16$). This finding

partially supports my hypothesis that it would be preferable for a minority to be dispersed if one's own ethnicity was in the majority. I did not find support for my prediction that it would be preferable for a majority to be dispersed rather than clustered if one's own ethnicity was pictured in the minority.



Discussion

For my first analysis using only the ratings of groups where both majorities and minorities were clustered or dispersed, I partially replicated my findings from Studies 1, 2, and 3 in Study 4 with the larger absolute group size. There was a significant interaction between White majority status and dispersed/clustered groups, such that participants preferred dispersed groups (vs. clustered groups) when their ingroups

were pictured in the majority. This also suggests that the preferences for dispersion when Whites are in pictured in the majority is very strong, as this pattern was exhibited in groups with 9 members. This notion is supported by the main effect found in my second analysis, where participants preferred all majority groups to be dispersed rather than clustered, regardless of which race was pictured in the majority, or the arrangement of the minority.

Interestingly, the difference between ratings of clustered and dispersed groups when Whites were pictured in the minority was small and nonsignificant. This may be due to the fact that participants simply rated all groups with Whites in the minority as less pleasant, overall. However, it is also likely that the preference for clustering in the minority that was observed in Studies 1, 2, and 3 is weaker in groups with larger absolute minorities. Much of the research demonstrating feelings of isolation and increased distinctiveness of minorities of groups has focused on solo minority members (e.g. Lord & Saenz, 1995). In Studies 1, 2, and 3, the groups contained 2 minority members, which may be few enough that minority status still signaled isolation or extreme distinctiveness. However, once the size of the minority increases to 3 people, the isolation on any one of the minority members should be reduced. If minorities do not feel isolated or overly distinct within the diverse group, clustering may not be a meaningful improvement in the diverse group. Thus, the absolute size of the minority may be more important than the relative size of the minority in small groups.

I did not find support for the hypothesis that when ingroups were in the majority, participants would prefer groups where the majority was clustered and the

minority was dispersed, and that when ingroups were in the minority, participants would prefer groups where the minority was clustered and the majority was dispersed. However, I did find a significant 2-way interaction between the clustering/dispersion of the majority and that of the minority. Regardless of whether Whites were in the majority or minority, there was a preference for an incongruity between majority and minority clustering. Participants preferred both a) groups in which the majority was clustered and the minority was dispersed and b) groups in which the minority was clustered and the majority was dispersed, over those in which both the minority and majority were clustered or both were dispersed. Whereas this interaction including the majority/minority status of participants' ingroup was not significant, it does suggest that participants may have a general understanding that it is advantageous to majority groups if the minority is dispersed while the majority is clustered. To maintain control as a majority, this arrangement would isolate minority members, but consolidate majority members. Furthermore, participants may have a general understanding that it is advantageous to minority members to have a majority that is dispersed and a minority that is clustered.

There were two important limitations of Study 4. The first limitation is that I used a rating scale to measure preferences. A rating scale for pleasantness of each group may be preferable to a forced-choice rating that overestimates participants' true preferences (i.e., if participants don't have strong feelings about either group they must still indicate a choice between them). However, with ratings scales, participants may have the tendency to rate everything positively, especially if the target of their rating is a series of diverse groups. Participants who do not want to appear biased

may inflate their ratings of all the groups. A second limitation of Study 4 is that it was conducted online. Although participants were only given access to the study after they had registered to be a participant through a secure university website, there is always a possibility that participants were dishonest or distracted when participating in the study.

Chapter 6: General Discussion

In sum, the findings from four studies support my hypothesis that preferences for clustering by ethnicity are stronger when a participant's ethnic ingroup is pictured in the minority. It also appears that when participants' ethnic ingroups are pictured in the majority, participants prefer groups that are dispersed by ethnicity. These patterns were found for both White and Black participants, and through various methodological approaches.

In Study 1 I found that participants preferred clustered arrangements more frequently when their ethnic ingroups were represented as the minority of the group (vs. the majority, or absent from the group). Because this pattern was strongest for participants who were asked to view the groups as working groups, it follows that the physical arrangements of group members may be most important in contexts that carry high stakes, or are more personally relevant. In study 2 I directly manipulated the personal relevance of diverse groups, and replicated the findings from Study 1. Participants were more likely to create clustered (vs. dispersed) arrangements when their ingroup was in the minority, and dispersed (vs. clustered) arrangements when their ingroup was in the majority, however this difference was only significant in groups where the participant was pictured as a member.

I hypothesized that when in the majority of the group, feelings of power influence preferences for dispersion and that when in the minority of a group, feelings of powerlessness influence preferences for clustering. I found partial support for this hypothesis in Study 3. When Whites were pictured in the majority, participants in a control condition and those who were primed to feel powerful preferred groups that were dispersed; however, participants who were primed to feel powerless were significantly more likely to prefer groups that were clustered. Interestingly, I found that when one's ingroup is in the minority, there were no differences in preferences between participants primed with powerfulness, powerlessness, or those who were not primed at all. Because being primed with powerlessness reduced the tendency to prefer dispersion in the majority, we can conclude that feelings of power may be inherent in majority status, and that these feelings at least partially motivate preferences for dispersion.

I hypothesized that participants would be motivated to appear unbiased, and therefore should prefer dispersed groups because they signal assimilation and less salient boundaries between races. However, when other factors, such feeling isolated, or motivations for dominance or influence are present, these motivations to appear unbiased may be less important. In study 1 participants viewed groups where their own ethnicity was present as the majority or minority, or was not present at all. In groups where the majority and minority were ethnic ingroups, participants should not think about feeling isolated, or dominant. Therefore, appearing unbiased should be a primary motivation. Indeed, when participants viewed groups that did not contain their ingroup, they tended to prefer dispersed arrangements. Future research should

examine the influence of motivations to appear colorblind on preferences for dispersed groups.

In Study 4, I found that when Whites were pictured in the majority, there was a significant preference for the minority group to be dispersed rather than clustered; however, when Whites were pictured in the minority, it did not matter how the majority was arranged; there was no significant difference between ratings of groups where the majority was dispersed or clustered. In Study 4, I also found that ratings of groups where the participant's ingroup was in the minority were generally unpleasant, regardless of their arrangement, which may suggest that participants simply viewed minority status within a diverse group negatively.

One limitation of the set of studies presented here is that none involved real group interactions. Each study involved judgments made by participants about pictures of groups. Furthermore, there may be other important motivations for both majority members and minority members that were not explored in this research but that may be very important and informative. For instance, if a minority member wishes to be less involved in the group processes, or doesn't want to be visible in the group, a dispersed arrangement may in fact be preferable. Or, if the minority wishes to subtly influence the majority, it may also be useful to have a dispersed arrangement such that the minority members have access to more majority members. Finally, without placing participants into real groups and manipulating their structure, I can only make generalizations about preferences for different arrangements of diverse group members; I cannot make any generalizations about which types of group arrangements will be most productive or successful.

The findings from these studies have some very important and direct implications. As the demographic makeup of our country shifts, members of many different social groups are entering into new job sectors, and must work in increasingly diverse atmospheres. However, as the workplace becomes more diverse, there is a potential for increased conflict between different social groups. Many organizations are committed to maintaining these high levels of diversity in the workplace, and work to ensure a positive work environment for their workers. Therefore, this research may be useful to managers and human resource departments that may be able to help minorities to be more successful in the workplace. If a workplace is able to provide ties between minority members within the organization, the minority members may feel more comfortable in their work groups and may be more productive.

It is important to note that I am not suggesting that forcing minority workers to sit next to one another during meetings, or simply placing minority workers near one another in the office will alleviate all racial tensions and allow minority workers to become happier and more productive. Rather, physical distance is one way of signaling psychological distance. Allowing for psychological closeness between minority workers may be an important way to reduce psychological tension due to being a sole minority. Bonds between minorities should not be forced on any worker, but should be available to them and accepted within the structure of the organization.

Critics of this research may argue that promoting clustering among minority members is akin to segregation, which has very negative outcomes and historical connotations. However, I am not arguing that people should be given specific roles

or should be excluded from certain activities or locations because of their ethnicity. Rather, I am arguing that clustering based on race within groups may occur naturally and may be preferable to minority members as a means of gaining social support and power within a group comprised mostly of majority status members. I am not arguing that fault lines should be promoted between individuals based on their race; rather, allowing for clustering between minorities who share similar traits may be natural, desirable, and may promote more integration of minority members within organizations while allowing them to maintain healthy ethnic identities.

It may not be beneficial to minority members to ignore ethnicity, or to ignore how ethnicity and minority status influences their experiences. Research has found that such a 'colorblind' ideology is essentially a suppression technique that results in implicit biases and rebound effect (Correll, Park, & Smith, 2008; Apfelbau, Sommers, & Norton, 2008). Research has also found that Blacks are more likely to support a multicultural ideology that acknowledges differences between ethnicities (Ryan, Hunt, Weible, Peterson, & Cases, 2007), and that there may be a link between the colorblind ideologies and pressures on minorities to assimilate into White culture (Lewis, Chesler, & Forman, 2000). Social psychological research has found that minority applicants were more attracted to business that promoted a multi-cultural ideology than those that promoted a colorblind ideology (Purdie-Vaughns, et al., 2008).

Fostering clustering in the workplace may signal a multicultural approach to diversity, if ethnic group memberships can be acknowledged and appreciated. However, fostering dispersion may signal a colorblind approach where minority

members are forced to assimilate. Therefore, clustering based on ethnicity (or other salient and important group memberships) within work groups may foster open discussions about ethnicity and how it influences individual experiences. Businesses that do allow for and promote bonds between minority members may become more desirable to minority applicants, and may also benefit from better work group outcomes.

Chapter 6: Conclusion

The structure of group members is an important factor that individuals consider when evaluating diverse groups. The findings from four studies demonstrate that when participants' ethnic ingroups are pictured in the minority of groups, there is a preference for the group members to be clustered by ethnicity, and that when participants' own ethnicities are pictured in the majority of groups, there is a strong preference for dispersion. These preferences seem to be stronger in working groups than in social or neutral group settings, and are due in part to the feelings of power that may be inherent in majority status. These findings also demonstrate that participants prefer an incongruity between the clustering/dispersion of the majority and minority. These findings may be useful for organizations that are committed to maintaining cohesion and commitment in the workplace while also creating a safe and welcoming environment for minority workers. Clustering fostering in organizations may signal an appreciation for diverse backgrounds that may attract highly qualified minority workers, and maximize their productivity.

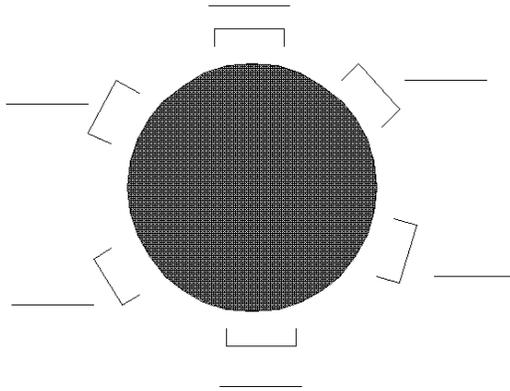
Appendices

Study 1



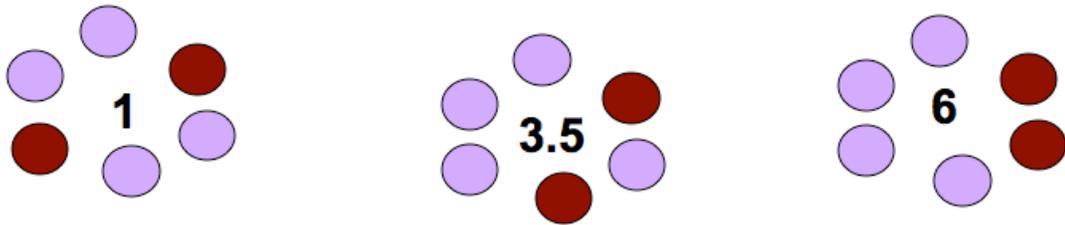
Study 2



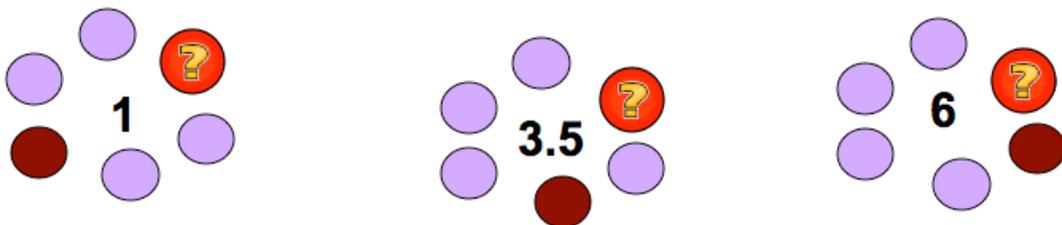


Study 2 Coding Scheme:

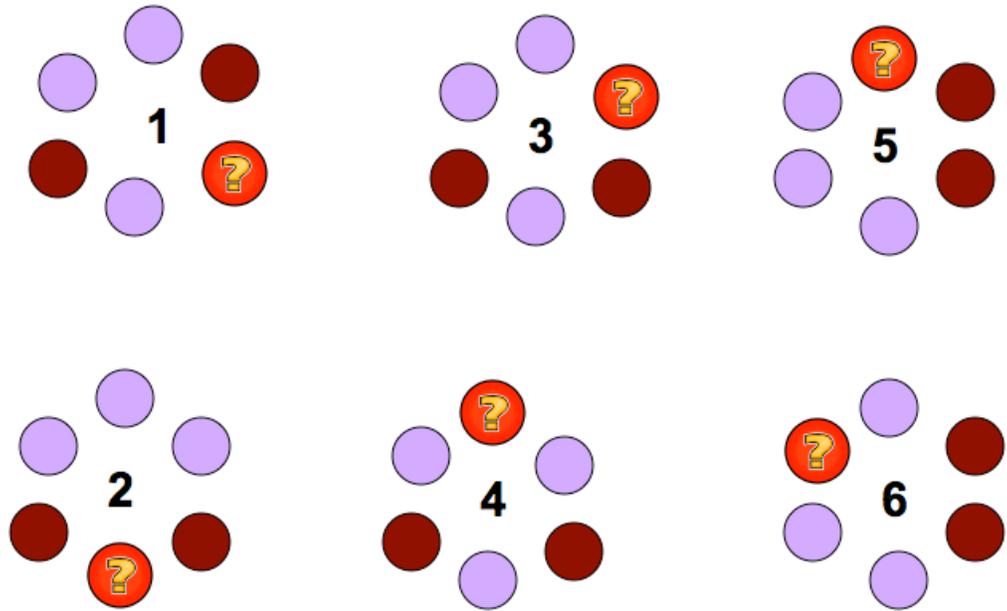
Low Personal Relevance (Participant not represented as group member), ethnic ingroup is majority or minority:



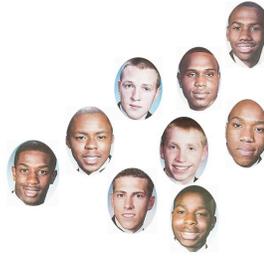
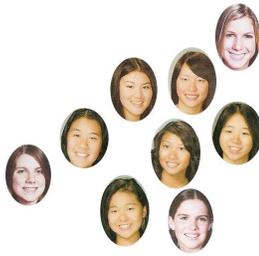
High Personal Relevance (Participant is represented as group member), ethnic ingroup as minority, and circle with question mark represents the participant:



High Personal Relevance (Participant is represented as a group member), ethnic ingroup as majority, and circle with question mark represents the participant:



Study 4



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