Authoritarianism, Social Dominance Orientation, and Behavior in Majority and Minority Groups

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AUTHORITARIANISM, SOCIAL DOMINANCE ORIENTATION, AND BEHAVIOR IN MAJORITY AND MINORITY MINIMAL GROUPS

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by
Suzanne Janean Hillin
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Table of Contents

Acknowledgements iii
Table of Contents iv
Abstract v

Chapter One: Introduction 1

Literature Review 3

Social Identity Theory 3
Right-Wing Authoritarianism and Minimal Groups 7
Social Dominance Orientation and Minimal Groups 11

Majority/Minority Group Size in a Minimal Group Paradigm 12

Hypotheses 20

Chapter Two: Method 22

Participants 22
Procedures 22

Dependent Measures 27

Results 30

Chapter Three: Discussion 37
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BEHAVIOR IN MAJORITY AND MINORITY MINIMAL GROUPS

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Abstract

The influence of authoritarianism, social dominance, and ingroup identification on
ingroup favoritism and outgroup discrimination in a minimal group paradigm were
investigated in this study. Possible effects of majority and minority group size
interactions with these constructs were also examined. It has been previously shown
that right-wing authoritarianism (Altemeyer, 1981) and social dominance orientation
(Pratto, Sidanius, Stallworth, & Malle, 1994) influence ingroup favoritism and
outgroup discrimination in Tajfel’s (1978) minimal group paradigm (McFarland &
Majority and minority group status also influence behavior in minimal groups (Gerard
& Hoyt, 1974; Otten, Mummendey, & Blanz, 1996; Sachdev & Bourhis, 1984; Simon
& Brown, 1987). Based on motivational differences between authoritarianism and
social dominance, individuals higher in authoritarianism were expected to display
greater ingroup favoritism than those lower in authoritarianism, regardless of group
size. Social dominance was expected to interact with group size such that individuals
higher on this dimension in minority groups would identify less with the ingroup, as
opposed to those in majority groups who would identify more, and display less favoritism toward the ingroup than those in majority groups.

To create minimal groups, participants completed an estimation task and were told that their scores indicated they were either “overestimators” or “underestimators.” Three conditions were established: Neutral (group size was unspecified), majority (one group was identified as being numerically large), and minority (one group was identified as being numerically small). Trait ratings (Thompson & Crocker, 1990) and Tajfel’s (1978) resource allocation task were used to measure ingroup favoritism.

Participants overall displayed ingroup favoritism on both dependent measures, although parity was used most on the Tajfel (1978) matrices. Neither authoritarianism, social dominance, nor any interaction between these constructs and group size significantly affected trait ratings. On the matrices, authoritarianism led to favoritism on only one of the six pull scores and did not interact with group size. Social dominance led those in the neutral condition to display greater ingroup favoritism. Contrary to predictions, social dominance led those in majority groups to select parity over favoritism, but did not affect those in minority groups. Finally, ingroup identification mediated the relationship between social dominance and ingroup favoritism on the trait ratings for those in neutral and minority groups, though not in the predicted direction. Those in minority groups gave more positive trait ratings to the ingroup rather than to the majority outgroup as their identification with the ingroup increased.
Chapter One

Introduction

Right-wing authoritarianism (RWA; Altemeyer, 1981, 1988, 1996) and the social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994), while independent of each other (Pratto et al., 1994), are both strong predictors of prejudice and ethnocentrism (Altemeyer, 1998; McFarland & Adelson, 1996). As stated by Pratto et al., (1994), authoritarians and social dominants are thought to be “relatively conservative, racist, ethnocentric, and prejudiced, and they should show little empathy for lower status others” (p. 744). Authoritarians and social dominants consistently display ingroup favoritism and outgroup derogation toward a broad spectrum of real groups, including women, homosexuals, and ethnic groups (Altemeyer, 1998; Duncan, Peterson, & Winter, 1997; McFarland & Adelson, 1996, 1997; Pratto et al., 1994; Whitley, 1998, 1999).

Recently, research has shown that authoritarianism and social dominance may explain a proportion of the variance of ingroup favoritism and outgroup discrimination that occurs within the context of Tajfel’s (1978) minimal group paradigm (McFarland & Ageyev, 1992; Perrault & Bourhis, 1999; Sidanius, Pratto, & Mitchell, 1994).

Tajfel’s (1978) minimal group paradigm, where individuals are arbitrarily assigned to groups and asked to allocate resources to anonymous ingroup and outgroup members,
provides a unique opportunity to assess the degree of ingroup favoritism and outgroup discrimination that individuals display. However, to date there has not been a direct comparison of the influence of both authoritarianism and social dominance orientation on the dependent measures commonly used in minimal groups.

Majority and minority group size also influences behavior in minimal groups. Knowledge of one’s group size in relation to the outgroup can accentuate an individual’s need to preserve a positive social identity when in the minority.

Furthermore, differences in group size affect perceptions of group homogeneity, especially among those in minority groups (Gerard & Hoyt, 1974; Otten, Mummendey, & Blanz, 1996; Sachdev & Bourhis, 1984; Simon & Brown, 1987). Because SDO is based on maintaining group hierarchies, the status of being a high SDO in a minority group appears likely to intensify the competition between social identity needs and social dominance needs for these individuals, possibly inducing greater identification with the outgroup, and consequently reducing or eliminating ingroup favoritism (Levin & Sidanius, 1999). Authoritarians, however, are motivated by the desire to maintain their traditional values and moral superiority (Altemeyer, 1981, 1988, 1996). These individuals are expected to display ingroup favoritism regardless of relative group size. The present study, therefore, will examine whether authoritarianism and social dominance orientation affect ingroup favoritism within a minimal group paradigm and whether group size has any effect on the degree to which these individuals identify with the ingroup and hence display ingroup favoritism.
Literature Review

This review of the research begins with an explanation of social identity theory and how discrimination is manifested within minimal groups. Next, results from studies of right-wing authoritarianism and social dominance orientation within a minimal group setting are reviewed. Finally, the possibility that a majority or minority group size condition may especially influence the behavior of individuals higher in SDO in a minimal group situation will be discussed.

Social Identity Theory (SIT)

According to social identity theory (SIT), group membership confers a social identity upon the individual. This social identity in turn leads to an accentuation of the differences between the individual’s ingroup and outgroups. To the extent that these differences are perceived as positive, the individual’s self-esteem is enhanced. Ingroup favoritism and outgroup derogation are the mechanisms by which self-esteem is enhanced through making more favorable comparisons of the ingroup over the outgroup.

This phenomenon is strikingly manifested within the minimal group paradigm (Tajfel, 1970; Tajfel, Billig, Bundy, & Flament, 1971). In a typical minimal group experiment, individuals are arbitrarily assigned to groups, ostensibly on the basis of their performance on an estimation task or aesthetic preferences. For example, participants may be asked to estimate the number of dots on a screen, and are then divided arbitrarily into fictitious groups of either “overestimators” or
“underestimators” (Tajfel, 1970). Individual participants may also be grouped according to their preference for a work of art, with arbitrary names given to the groups (e.g., the *blue* group and the *green* group; Downing & Monaco, 1985; Moscovici & Paicheler, 1978). Sometimes groups are based simply on the toss of a coin (Sachdev & Bourhis, 1984). No social interaction occurs within or between groups, and no suggestion is made that there are qualitative differences between the groups. Despite the absence of any implied or actual competition between the groups, this simple categorization is sufficient to elicit intergroup discrimination (Brewer, 1979; Diehl, 1990; Tajfel, 1981).

Two types of measures of intergroup discrimination are typically used: resource allocation and trait ratings. In Tajfel’s (1970) original resource allocation task, participants select one pair of numbers from among 13 pairs which awards points to a member of the ingroup and the corresponding number of points to a member of the outgroup. Often, these points are said to represent a quantity of money or extra credit for participation. The pairs are arranged such that participants can use varying strategies of allocation. Parity (P) awards an equal number of points to ingroup and outgroup members. In choosing maximum joint profit (MJP), participants maximize the total combined number of points awarded to the ingroup and outgroup recipients, regardless of equality or which group receives more points. The strategy of maximum ingroup profit (MIP) awards the highest absolute number of points to ingroup members, regardless of the amount awarded to the outgroup. Finally, maximum
differentiation (MD) is the least economically rational choice, maximizing the
difference in points awarded to the ingroup and the outgroup, despite sacrificing
maximum ingroup profit to do so. Ingroup favoritism (FAV) is the combination of
MIP + MD. A negative FAV and negative MD imply outgroup favoritism (OF),
negative MJP indicates minimum joint profit, and negative MIP means minimum
ingroup profit (see Bourhis, Sachdev, & Gagnon, 1994).

Brewer and Silver (1978) developed a similar allocation measure which permits a
choice of point distributions that results in either relative gain, own gain, joint gain, or
equality. McFarland and Ageyev (1992) found that ingroup favoritism scores on the
Tajfel (1970) and Brewer and Silver (1978) measures were significantly correlated,
$\rho=.59$, in their sample.

When asked to allocate resources (i.e., money, extra points) between an
anonymous member of one’s ingroup and an anonymous member of the outgroup,
many participants clearly favor the ingroup and allocate greater resources to the
ingroup member. This occurs even though the individual making the allocation does
not directly benefit from the ingroup favoritism (Brewer & Silver, 1978; Tajfel, 1970;
Tajfel, Billig, Bundy, & Flament, 1971). In this way, participants are able to achieve a
positive social identity, which is then translated into higher self-esteem (Lemeyer &
Smith, 1985; Oakes & Turner, 1980; Tajfel, 1978, 1981). It is the desire for a positive
self-image that appears to provide the impetus for making distinctions between the
ingroup and the outgroup. “To the extent that the ingroup is perceived as both
different and better than the outgroup, thereby achieving positive distinctiveness, one’s social identity is enhanced” (Hogg & Abrams, 1990, p.3).

The second type of dependent measure, trait ratings, usually consists of evaluating an anonymous member of one’s ingroup and an anonymous member of the outgroup on the basis of social and personality dimensions. For example, in Thompson and Crocker’s (1990) minimal group study, participants rated themselves, an anonymous member of their ingroup, and an anonymous member of the outgroup on six positive and negative social dimension traits (friendly, rude, etc.) and six intellectual traits (intelligent, stupid, etc.). Single scores were calculated for the positive traits and the negative traits, respectively, by summing the ratings in each category. A difference score was then obtained, with higher scores indicating more positive evaluations. The overall results indicated that participants rated ingroup members more favorably than they did members of the outgroup.

However, because social identity theory focuses totally on the forces of intergroup dynamics and gives little credence to individual personality variables, very little research has been conducted on how individual differences influence discrimination in minimal groups. Nevertheless, there is now evidence that both authoritarianism and social dominance enhance our understanding of ingroup favoritism and outgroup derogation by identifying the type of individuals most likely to discriminate in minimal groups.
Right-Wing Authoritarianism and Minimal Groups

Authoritarianism was first proposed as an effort to explain the rise of Fascism in the 1930s (Fromm, 1941). Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) devised the first measure of authoritarianism, the Fascism scale (F-scale) as a measure of the “enduring psychological dispositions” (p. 223) underlying ethnocentrism, stereotypy, conventionalism, concern with power, and antidemocratic attitudes. Adorno et al. (1950) believed authoritarianism was best explained by the psychodynamic principles of repressed anger and feelings of inadequacy in adulthood resulting from childhood experiences of punitiveness and a lack of open affection from parents. This psychodynamic interpretation presumes that aggressive feelings toward the parental authority are redirected toward a safe alternative, i.e., a minority group, rather than toward the source of the repressed anger, the parent.

However, methodological and conceptual problems caused the F-scale to fall out of favor. Taking a new approach, Altemeyer (1981) resurrected the construct in the form of right-wing authoritarianism (RWA). His balanced RWA scale measures three clusters of attitudes: a) authoritarian submission to established authorities and the social norms they endorse, b) authoritarian aggressiveness toward outgroups, especially when the aggressiveness is sanctioned by the established authority, and c) adherence to social conventions perceived to be endorsed by both society and its established authorities. Altemeyer (1981) has presented evidence supporting the view that authoritarianism is acquired through social-learning processes rather than
stemming from psychodynamic origins.

Basically, authoritarians divide the world into ingroups and outgroups. Authoritarians perceive outgroups as threatening to traditional or conventional values. By engaging in derogation of the outgroup, authoritarians are able to defend against the threat the outgroup poses to these values. The tendency for authoritarians to display ingroup favoritism and outgroup derogation toward a broad spectrum of real groups has been found in many studies (e.g., Altemeyer, 1998; Duncan, Peterson, & Winter, 1997; McFarland & Adelson, 1996, 1997; Whitley, 1998, 1999).

Evidence also suggests that authoritarianism affects discrimination within the context of the minimal group paradigm. Using a manipulation similar to a minimal group experiment, Downing and Monaco (1985) asked participants to rate the average performance of members of their ingroup and of members of the outgroup after receiving skiing instructions. They permitted three levels of interaction between experimental groups: groups given instruction together, groups instructed together but physically separated by a small distance with separate practice areas, and groups separated for both instruction and practice. High authoritarians (those above the mean of their sample) rated in-group members more favorably and outgroup members less favorably than did those low in authoritarianism. Furthermore, as the degree of contact between the ingroup and outgroup increased, so did the ingroup favoritism of the high authoritarians. Low authoritarians did not discriminate between ingroup and outgroup suggesting that only high authoritarians discriminate in minimal groups.
In a conference paper, McFarland and Ageyev (1992) proposed that high authoritarians would display ingroup favoritism to enhance their self-esteem to a greater degree than would low and middle authoritarians. McFarland and Ageyev (1992) used all three dependent measures of minimal group discrimination: a) Tajfel's (1970) resource allocation task, b) Brewer & Silver's (1978) resource allocation task, and c) Thompson & Crocker's (1990) trait-rating task. These authors found substantial ingroup favoritism among all participants in an American sample. This result was particularly significant on the two resource allocation tasks (which were standardized and summed for use as a composite dependent variable). The standardized means on the resource allocation measure were -0.34, 0.08, and 0.53 for low, middle, and high authoritarians, respectively, with a main effect for authoritarianism, $F(2, 152) = 5.46$, $p < .005$, indicating that high authoritarians discriminated more than middles or low authoritarians. A comparable Russian sample contained no high authoritarians, preventing a parallel analysis.

Interestingly, the order of tasks had a pronounced effect. In general, the presentation of the trait-rating task prior to the allocation tasks seemed to make the group distinction highly salient, such that authoritarianism more strongly influenced assigning awards to the ingroup. Ingroup favoritism was enhanced for high authoritarians while that of low authoritarians actually decreased when the trait-rating task was completed first. Overall, when group distinctions were made more salient by the trait-rating task, authoritarianism accounted for 16.5% of the variance in ingroup
favoritism on the Tajfel (1970) and Brewer and Silver (1978) composite measure. Furthermore, the standardized Tajfel-Brewer ingroup favoritism measure correlated $r = .41, p< .05$ with the Sherwood self-esteem scale for high authoritarians, but only .02 and -.17, ns, for low and middle authoritarians, providing support for their hypothesis that high authoritarians use ingroup favoritism for the purposes of self-esteem enhancement, but low or middle authoritarians do not.

Only one published study has investigated a relationship between authoritarianism and ingroup favoritism in the minimal group paradigm. As part of a study identifying factors influencing the strength of group identification and subsequent ingroup favoritism, Perreault and Bourhis (1999) hypothesized that authoritarianism, ethnocentrism, and personal need for structure would enhance identification with the ingroup and would ultimately lead to greater discrimination in a minimal group setting. They discovered that none of the three personality variables significantly correlated directly with discrimination. Path analysis, however, indicated that individuals higher in ethnocentrism were more likely to identify strongly with their ingroup, and the degree of ingroup identification significantly correlated with discriminatory behavior. In short, ethnocentrism was a factor in discrimination to the extent that it led to greater ingroup identification. However, Perreault and Bourhis (1999) also point out that authoritarianism was significantly correlated with ethnocentrism in their study, implying that the ethnocentric nature of authoritarians may influence their greater degree of identification with the ingroup, leading them to increased discriminatory
behavior.

**Social Dominance Orientation (SDO) and Minimal Groups**

SDO is a measure of anti-egalitarian values and a preference for stable between-group hierarchies. Though not conceptualized as a personality variable per se, it is a stable individual difference. Pratto et. al. (1994) state that SDO is “a general attitudinal orientation toward intergroup relations, reflecting whether one generally prefers such relations to be equal, versus hierarchical, that is, ordered along a superior-inferior dimension” (p.742). Consequently, people high in SDO favor group-based inequality and hierarchy-enhancing ideologies and policies, whereas people low in SDO prefer equality between groups and hierarchy-attenuating ideologies and policies. SDO consistently correlates with scales assessing opposition to social policies designed to promote equality and racial programs (i.e., affirmative action) and various groups’ civil rights (Pratto et al., 1994).

As for the influence of social dominance in a minimal group setting, Sidanius, Pratto, and Mitchell (1994) found that social dominance orientation interacted with the degree of ingroup identification to affect differential intergroup evaluations (DIE), a difference between ratings of the ingroup and outgroup on four items (able, intelligent, stupid and incompetent). Analysis of the resulting interaction revealed that participants with both high levels of identification with the ingroup and high levels of social dominance orientation were more likely to evaluate the ingroup as more competent than the outgroup.
Sidanius et al. (1994) combined DIE with indices of social distance and group cooperation, referring to the assorted behaviors as differential intergroup social allocations (DISAs). Participants with both greater ingroup identification and higher in SDO allocated greater social value to the ingroup than to the outgroup. Results also revealed that the greater the social dominance orientation of participants, the more they displayed a desire for social distance from the outgroup and the less willing they were to cooperate with the outgroup. These tendencies were significant even after the effects of gender, self-esteem, and ingroup identification were controlled.

Majority/Minority Group Size in a Minimal Group Paradigm

While evidence suggests group size influences discriminatory behavior, there is ambiguity with regard to the direction of this influence. This direction seems to rest upon the possible positive and/or negative evaluations individuals make about being a member of a majority or minority group.

Gerard and Hoyt (1974) first manipulated group size in minimal groups. They hypothesized that as ingroup size decreases relative to the outgroup, distinctiveness increases and favorable ingroup evaluations are enhanced. Participants in their study were arbitrarily assigned to groups of “overestimators” and “underestimators” on the basis of a dot estimation task. The authors further suggested to participants that their responses to the dot estimation task conveyed information about their personality characteristics. Participants were instructed, however, that neither group was superior to the other. Group size was manipulated by varying the number of individuals in the
ingroup such that there were either 2, 5, or 8 persons in the ingroup out of a possible 10 participants per session, with ingroup category (overestimator or underestimator) counterbalanced.

Modifying the usual trait-evaluation task, Gerard and Hoyt (1974) asked participants to write an essay about a painting and told them they would subsequently evaluate an essay from another ingroup member and from an outgroup member. Actually, participants evaluated bogus essays, randomly labeled as an ingroup or an outgroup essay. They were then asked to form an impression of and evaluate the writer on seven characteristics: warm/cold, creative/uncreative, strong/weak, intelligent/unintelligent, talented/untalented, definite/wishy-washy, and honest/dishonest.

While results were mixed, there was some support for Gerard and Hoyt's (1974) proposition that group size influences ingroup favoritism. Participants' evaluations of the essays did not indicate significant ingroup bias, but their trait assessments of the supposed writer did. As ingroup size decreased from 8 to 5 to 2 persons, ingroup writers were assigned more favorable traits than outgroup writers. In fact, when ingroup/outgroup sizes were equal or the ingroup was in the majority, outgroup bias actually occurred.

Moscovici and Paicheler (1978), on the other hand, did not find the minority group condition to elicit greater ingroup favoritism. These authors used a somewhat different manipulation of group size, however. Participants were divided into groups
ostensibly on the basis of their preferences for one of two paintings. They were then told that their preferences placed them either with 81.8% of the total participant population (majority condition) or among 18.2% of the total participant population (minority condition). A Tajfel resource allocation task was used to assess ingroup favoritism. They found that those in majority groups were more discriminatory toward outgroups than were those in minority groups.

Sachdev and Bourhis (1984) suggested that the differences in operationalizing the majority/minority condition were at the root of the discrepancy in results between the Gerard and Hoyt (1974) and Moscovici and Paicheler (1978) studies, because of the possibility that participants made different subjective evaluations about their group assignments. Specifically, participants in Gerard and Hoyt's (1974) study may have judged the majority as having more normal personality characteristics than the minority. In the case of Moscovici and Paicheler's (1978) study, participants may have considered the majority opinion with regard to painting preference as more right and the opposing opinion of the minority more threatening. Sachdev and Bourhis (1984) hypothesized that "since minority group membership confers a relatively insecure and negative social identity, minorities should show more discrimination and less fairness than majorities" (p.47).

Sachdev and Bourhis (1984), therefore, sought to evaluate any difference that might occur as a result of differences in the method of group assignment (truly arbitrary or anonymous). The effects of saliency of group categorization on
intergroup behavior and participant’s perceptions of being in a majority, equal, or minority group were analyzed. Group assignments were made on the basis of a coin toss to eliminate any subjective evaluations that participants might have made about the basis for their group assignments as in Gerard and Hoyt’s (1974) or Moscovici and Paicheler’s (1978) studies. Sachdev and Bourhis (1984) found that both minorities and majorities showed significant discrimination, but majorities were more fair toward minorities than vice versa. These results were interpreted as supporting the social identity theory argument that minorities show more discrimination and less fairness than majorities because of the relatively insecure and negative social identity posed by the minority group membership. Majority group members can afford to be fair towards minorities because the group membership is perceived as more secure and positive.

The suggestion made by Sachdev and Bourhis (1984) that being labeled a minority carries a connotation of a negative image of either abnormality or wrongness and thus is a threat to a person’s self-esteem was further examined in a study by Simon and Brown (1987). Simon and Brown (1987) argued that people belonging to a minority group not only engage in discrimination in order to strengthen a positive social identity but also perceive more homogeneity within the ingroup as a protective mechanism to accentuate their positive social identity. They asserted that the perception of greater ingroup similarity enhances the subjective feeling of the ingroup as an entity in and of itself, whereas the outgroup, being perceived as less
homogenous, is less inclusive of its membership. The result is that being a member of the minority ingroup is judged superior to membership in the outgroup because of the sense of community that the ingroup provides.

Otten, Mummendey, and Blanz (1996) obtained similar results. They studied the effects of status, along with group size, and the use of both positive and negative resource allocations (money or unpleasant tasks.) These authors found that threatening participants' positive social identity by assigning them to an inferior status group or a minority group led them to display increased levels of favoritism to the ingroup over the outgroup in the allocation of both positive (money) and negative (unpleasant tasks) resource allocations.

But suppose an individual is oriented to seek membership in high status groups and to support policies that promote high status groups over low status groups? What influence, if any, might being in a minority have on someone high in social dominance? Would we find that high social dominants perceive a negative connotation associated with minority classification, fail to identify strongly with the ingroup, and thus display outgroup favoritism in an attempt to share in the superior image of the majority?

Levin and Sidanius (1999) suggested this is often the case with real groups, at least in the case of ingroup and outgroup affect. They examined the relationships between ingroup identification, SDO, and ingroup/outgroup affect among Whites and Latinos in the United States, as well as among Ashkenazim/Mizrachim and Jews/Arabs in Israel. Specifically, they proposed that people high in social dominance in high-
status groups (Whites, Ashkenazim, and Jews) would identify more with the ingroup than high social dominants in low-status groups (Latinos, Mizrachim, and Arabs). Furthermore, they proposed group members high in social dominance would display more positive affect toward high-status groups and more negative affect toward low-status groups, regardless of their group membership. Finally, status and SDO were expected to interact so that members of high status groups who were also high in social dominance would exhibit more positive affect toward the ingroup and more negative affect toward the outgroup. Members of low status groups who were high in social dominance were expected to exhibit more negative ingroup affect and more positive outgroup affect.

Ingroup identification was measured by the items “To what extent do you identify with other members of your group?” and “To what extent do you feel close to other members of your group (p. 107)?” The items were evaluated using a 7-point scale from 1 (a very small extent) to 7 (a very large extent). Participants were also asked to indicate how positively or negatively they felt toward their ingroup and the relevant outgroup for purposes of measuring group affect, again on a 7-point scale. A single item assessed perceived status of different groups within each society, essentially asking participants to rate how most people in their society view the status of the other group. Whites in the United States were perceived as higher in status than Latinos in accordance with expectations. Likewise, Jews were perceived higher in social status than Arabs, and Ashkenazim received higher status ratings than Mizrachim (although
this gap was smaller than the other two conditions).

Results supported Levin and Sidanius's (1999) hypotheses. In the high status groups (Whites, Ashkenazim, and Jews), higher social dominance was positively related to degree of ingroup identification and affect and negatively related to outgroup affect. Levin and Sidanius write "... these are effective strategies for reinforcing the dominant position of the ingroup in society" (p.119). The effect of SDO on ingroup affect was mediated by ingroup identification such that high SDO led to stronger ingroup identification, which led, in turn, to more positive ingroup affect. The authors proposed that these differential effects on ingroup and outgroup affect may be explained by both social identity needs as well as social dominance needs. High status group members may satisfy the former need through ingroup favoritism and the latter through derogation of the outgroup. This further suggests that the differences in ingroup favoritism and outgroup derogation that occur in group setting may be a result of two separate processes, at least among high-status group members.

The results for low status groups were somewhat mixed. For Latinos and Arabs, high SDO was associated with more negative ingroup affect for these two groups, but there was not a direct relationship between SDO and more positive outgroup affect. For Latinos, there emerged an indirect relationship between SDO and positive outgroup affect such that higher SDO Latinos identified less with their ingroup, which led to more positive affect toward Whites. High SDO Arabs, on the other hand, while displaying less identification with the ingroup, nevertheless did not exhibit more
positive affect toward Jews. This difference between Latinos and Arabs, explain Levin and Sidanius, may be due to the differences in the degree of stability and legitimacy of the ethnic stratification that occurs in the United States and Israel.

To interpret these results, the authors proposed that high SDOs in low status groups are unable to simultaneously meet social dominance needs and social identity needs. Instead, the low status condition threatens high SDO’s positive social identity to the point that it supersedes social dominance needs and, as a consequence, high SDO individuals identify less with their inferior group in order to overcome the threat to positive social identity posed by the low status condition.

For the Mizrachim, SDO had no effect on ingroup identification or group affect. Levin and Sidanius (1999) point out that specific religious characteristics of this group may be responsible for the discrepancy. Also, the distinctions between the Ashkenazim and Mizrachim may not have been great enough for social dominance needs to be triggered.

Levin and Sidanius’s (1999) results suggest that SDO differentially influences the degree of ingroup identification and ingroup/outgroup affect, depending upon the majority/minority status of one’s group. That the groups in their study could be defined not only by their relative status as inferior/superior but also by their majority/minority position, suggests that group size alone may be enough to exacerbate the competition between social identity needs and social dominance needs. Those individuals high in SDO, but in a minority, may display less ingroup
identification and, as a result, engage in outgroup favoritism. Levin and Sidanius (1999) suggest that the salience of the social-status difference may be an important variable in determining whether social dominance needs are preeminent.

In summary, both authoritarianism and social dominance enhance ingroup favoritism and outgroup discrimination against real groups. Recent research suggests they may also do the same in minimal groups, except for high SDO's in minority group groups. However, the underlying motives for the two types of individuals differ. While authoritarians are motivated to establish and maintain their moral superiority, social dominance reflects a concern for maintaining group hierarchies. As a result, the extent to which SDO's identify with their ingroup may be affected by the size of their ingroup. Individuals higher in SDO who find themselves in a majority group should display greater ingroup favoritism and outgroup discrimination than those higher in SDO and in a minority group. Authoritarians should not be affected by group size.

**Hypotheses**

On the basis of the aforementioned research and findings, the following hypotheses are proposed.

1. Overall, participants will display ingroup favoritism as measured by a) trait ratings and b) resource allocations within minimal groups.

2. A main effect of authoritarianism should occur such that individuals higher in authoritarianism display greater ingroup favoritism than those lower in authoritarianism, regardless of group size.
3. An interaction between group size and social dominance will occur, with the pattern of the interaction indicating that SDO enhances ingroup favoritism and discrimination against outgroups for individuals in majority groups, while SDO reduces the levels of ingroup favoritism and enhances outgroup discrimination in minority groups.

4. Identification with the ingroup is expected to mediate the relationship between social dominance orientation and ingroup favoritism in minority groups. Specifically, individuals higher in social dominance in a minority group will exhibit less identification with the ingroup and display less ingroup favoritism. Further analyses will examine the relationship between RWA, SDO, and self-esteem enhancement. Effects of task order and gender will also be investigated.
Chapter Two

Method

Participants

Data were collected from 310 students (116 males and 194 females) enrolled in undergraduate psychology classes at Western Kentucky University. The sample was comprised of 85.8% Whites, 10.6% Blacks, with Asians, Hispanics, and various others making up the remaining 3.6%. The majority of students were freshman (66%), and aged 18-21 (89.7%). Participants received extra credit for their participation and a chance to receive one of three monetary awards of $10.00.

Procedures

Students were recruited in their classes to participate in a study of decision-making processes in individuals. All sessions were conducted on campus, outside of class, and lasted approximately one hour. Between 10 and 30 students were recruited for each session. Because the experiment was conducted over a period of two weeks, participants were not debriefed immediately in order not to confound the results from later sessions. The experimenter informed participants that once all sessions had been completed, she would return to their class and explain the research in full.

After obtaining written informed consent, participants were asked to provide a four-digit identification number of their choosing, such as the last four digits of their
social security number, phone number, or pin number, for the purposes of matching materials and preserving anonymity.

Participants were then asked to engage in an estimation task. This task was used as a prelude to the minimal group paradigm. The experimenter explained the procedures as follows:

We will be asking you to engage in a number of decision-making tasks.

The first one is an estimation task. You are asked to estimate the number of beans in a 64 ounce jar; the weight of a solid steel bar, approximately 15 inches in length; the distance around the outer perimeter walkway of Downing University Center on the campus of Western Kentucky University, and the amount of time passed in silence with your eyes closed.

Participants were provided with an answer sheet and pencil. They were instructed to write the four-digit number provided earlier at the top of the answer sheet. Two to six assistants took the estimation responses into another room, ostensibly for scoring purposes.

Participants were told that for the purposes of assessing other types of decisions and for ease in coding, they would be grouped on the basis of the judgements they had just made on the estimation task. In reality, individuals were randomly assigned to one of two groups, overestimators or underestimators. While waiting for the assistants to return, participants were asked to respond to a questionnaire entitled A Survey of Attitudes and Beliefs (see Appendix A). It included the following:
1. A 12-item RWA scale, condensed by McFarland, Ageyev, and Abalakina (1993), from Altemeyer's (1998) 30-item measure. In the current study, the reliability of this scale was $\alpha = .78$.

2. The 16-item SDO scale (Pratto et al., 1994). The reliability of the SDO scale in this sample was $\alpha = .88$.

3. Heatherton and Polivy's (1991) State Self-esteem Scale (SSES), a well-validated measure of social, appearance, and performance self-esteem. For the purposes of this study, only the 14 items related to social and performance esteem were used. The reliability of the SSES in the present study was $\alpha = .86$.

For purposes unrelated to this thesis, the following were also included on the measure:

A. The empathetic concern and perspective taking subscales of Davis's (1983) Interpersonal Reactivity Index (14 items) measure feelings of sympathy and a cognitive tendency to take the perspective of others.

B. A 12-item balanced ethnocentrism scale, adapted by McFarland (1999), from Altemeyer's Manitoba Prejudice Scale (Altemeyer, 1998). The scale measures a general rejection of a number of outgroups, including Russians, Indians, Japanese, Arabs, Asians, foreign (i.e., non-Christian) religions, and foreign refugees.
A 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used for each scale. Responses were made on a scantron sheet. Questions assessing gender, ethnic heritage, age, and class in school were included.

After completing the questionnaire, the experimenter manipulated the group size condition through instructions given to participants. The group size condition used in each experimental session was randomly determined prior to conducting the sessions, with one session out of every three being either a neutral (the number of overestimators and underestimators was unspecified), overestimator-majority/underestimator-minority, or underestimator-majority/overestimator-minority group condition. The actual numbers of overestimators and underestimators in each condition were equal. The instructions were as follows:

For the Neutral Group Condition:

You will be assigned to a group based on your responses to the estimation task for the purposes of our next activity. Results from this type of task have shown that some people consistently overestimate the number, weight, distance, and time quantities and some people consistently underestimate these values.

For the Majority/Minority Group Condition:

You will be assigned to a group based on your responses to the estimation task for the purposes of our next activity. Results from this type of task have shown that some people consistently overestimate the number, weight,
distance, and time quantities and some people consistently underestimate these values. Results also indicate that 81.2% of college students are overestimators (underestimators) and 18.8% will be underestimators (overestimators).

After completing the questionnaire, the assistants returned with an envelope for each individual, identified by the four-digit identification number. Each envelope contained information that the participant was either an overestimator or an underestimator, the trait-rating instrument, a booklet of matrices for the Tajfel (1978) resource allocation task, and a post-session questionnaire. To reinforce majority/minority status, a written copy of the statement made by the experimenter about the distribution of overestimators and underestimators (majority and minority or neutral) was included with the information about group assignment and participants were asked to read this. Participants were asked to write their four-digit identification number on the trait-rating task and the first page of the matrices booklet where instructed. The order of the trait-rating task and resource allocation task was counterbalanced among sessions.

The instructions for the Tajfel (1978) resource allocation task were as follows:

You will now engage in a task that consists of giving additional rewards and penalties in real extra credit points to other participants, beyond what you have earned just by coming. The identity of the individuals to whom you will be assigning these rewards and penalties will remain anonymous since everyone is using a four-digit code number. At no point
will you be awarding points to or penalizing yourself; you are allotting the points to others. At the end of the study, we will notify your class instructor of the amount of extra credit to award to each person.

All participants received extra points beyond what they had been told they would receive for their participation, and all participants from the same undergraduate psychology class received the same number of points for attending and participating.

Two examples of matrices, not used in the experiments, were shown to the participants, and the nature of the various choices was explained. Upon completion of the tasks, participants were asked to place the group assignment information, the trait-rating score sheet, and the booklet of matrices back in the envelope provided. Participants were then asked to complete the post-experiment measure. Answers were recorded on scantron sheets. These were then placed in the envelope by the participants and collected by the experimenter.

Dependent Measures

Trait-rating Task

As in Thompson and Crocker (1990), participants were presented with 16 traits comprising a social dimension (friendly, sincere, trustworthy, considerate, boring, rude, self-centered, insensitive) and an intellectual dimension (motivated, ambitious, creative, intelligent, stupid, apathetic, uninformed, incompetent). They were instructed to rate how true, on a 7-point scale, each of these traits were of an anonymous member of the ingroup and an anonymous member of the outgroup.
Ratings of ingroup and outgroup members were counterbalanced. Traits were presented in the same random order to all participants.

**Resource Allocation Task**

Each page in the Tajfel (1978) resource allocation booklet contained one matrix. A matrix consists of 13 pairs of numbers (Appendix B). Each row is preceded by the phrase: Member 8244 of Overestimators or Member 2219 of Underestimators: (in both instances the four-digit number was fictitious and was varied on each matrix). These designations represent anonymous members of the ingroup or the outgroup, depending on the group assignment of the participant. Participants indicated their choices by circling the set of numbers that they would like to give to the person in their group (either overestimators or underestimators) and the person in the other group. Choices were confirmed by having participants write the numbers that were allotted to each person in the blanks provided on the page.

Four matrices of each of the following types were contained in the resource allocation task booklet. Each matrix type was presented twice in two ways: strategies-together and strategies-opposed, for a total of 12 matrices.

1. Matrix Type A compares ingroup favoritism (FAV or MIP + MD) with maximum joint profit (MJP).
2. Matrix Type B compares maximum difference in favor of ingroup (MD) with a combination of absolute ingroup profit (MIP) and maximum joint profit (MJP).
3. Matrix Type C compares parity or fairness, (P) with ingroup favoritism (FAV).

For example, there are two matrices in each booklet of Matrix Type A strategies-together, and two matrices in each booklet of Matrix Type A strategies-opposed. In a strategies-together matrix of Matrix A: FAV and MJP, choices indicate the joint influence of both strategies. When strategies are together, the optimum points of two strategies coincide. In a strategies-opposed matrix, participants are forced to make a choice that maximizes one strategy, for example maximum ingroup favoritism (FAV), at the expense of foregoing the opportunity to maximize another, maximum joint profit (MJP). The number pair that allows one to engage in FAV is at the farthest distance from the number pair that permits one to engage in MJP. Each pair was presented one time with one group designation as the top row and the other group designation as the bottom row and one time in the reverse order. The order of matrix presentation was randomized within each booklet and varied from one booklet to another.

Post-Session Questionnaire

The post-session questionnaire (see Appendix C) included the Heatherton and Polivy (1991) state self-esteem scale and four items assessing the degree of ingroup identification: (a) I was placed in the correct group. (b) I identified with my group. (c) I am not like other members of my group (reverse scored). and (d) I identified with the other group (reverse scored). Four items concerning which allocation strategy participants were trying to use were included, though unrelated to the current study. All items were scored on a scale from 1 (strongly disagree) to 5 (strongly agree).
Results

Trait ratings

In the current sample, the internal consistency of ratings of the ingroup and outgroup as measured by Cronbach’s alpha coefficients were both .80. To investigate hypothesis 1a, the positive and negative items for the anonymous ingroup member and the anonymous outgroup member, respectively, were summed into single scores by subtracting the total negative trait-rating score from the total positive trait-rating score to form a composite score for each target. The difference between the ingroup composite score and the outgroup composite score was calculated for each participant and used as the dependent variable of ingroup favoritism on the trait ratings, with higher scores indicating greater ingroup favoritism. The mean score for ratings of the ingroup was 15.46, sd = 10.85, while the mean score for ratings of the outgroup was 10.60, sd = 9.20. Results indicate that, overall, participants displayed ingroup favoritism on the trait-rating task, \( t(306) = 7.41, p < .001 \), confirming hypothesis 1a.

Resource Allocation Task

To test hypothesis 1b, “pull” scores, or the difference in ranks between the strategies-opposed and strategies-together versions of the same matrix type, were calculated for each participant. A detailed scoring example is provided in Appendix D. Ranks represent the number of columns away from the zero point of the matrix that the participant has indicated as the chosen allocation. The zero point is that combination of points which gives the ingroup member the maximum possible points.
on the matrix.

Two pulls are calculated from each matrix type. Since there are two versions of each matrix type, a total of six matrix distribution strategy pulls can be obtained:

Matrix Type A: Pull of FAV on MJP (strategies-opposed)
Pull of MJP on FAV (strategies-together)

Matrix Type B: Pull of MD on MIP + MJP (strategies-opposed)
Pull of MIP + MJP on MD (strategies-together)

Matrix Type C: Pull of P on FAV (strategies-opposed)
Pull of FAV on P (strategies-together)

Pulls range from −12 to +12. To determine which resource allocation strategies participants used, the mean pull scores of each matrix type were calculated for each participant. Table 1 presents the mean “pulls” of each strategy for each condition in the study which were tested for significance using the Wilcoxon matched-pairs tests. The test was performed on the difference in mean scores between the opposed and together rank scores of each matrix type (see Bourhis et. al., 1994). As shown in Table 1, there was a significant pull of FAV on MJP in each condition, indicating a tendency for all groups to display ingroup favoritism. In the case of the majority and minority conditions, the pull of MJP on FAV was not significant, indicating that participants in these conditions did not use the strategy of MJP. All groups displayed significant pulls of MD on MIP + MJP, clearly discriminating against one another. However, the pull of MIP+MJP on MD is apparently larger. As seen in Table 1, by far
Table 1

Mean “pulls” of subject’s matrix distribution strategies

<table>
<thead>
<tr>
<th>Matrix Strategy</th>
<th>Neutral</th>
<th>Majority</th>
<th>Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Pull of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAV on MJP</td>
<td>.79*</td>
<td>2.03*</td>
<td>1.90*</td>
</tr>
<tr>
<td>MJP on FAV</td>
<td>.75*</td>
<td>.26</td>
<td>.12</td>
</tr>
<tr>
<td>B: Pull of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD on MIP+MJP</td>
<td>.69*</td>
<td>1.06*</td>
<td>1.44*</td>
</tr>
<tr>
<td>MIP+MJP on MD</td>
<td>2.22*</td>
<td>2.14*</td>
<td>2.41*</td>
</tr>
<tr>
<td>C: Pull of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P on FAV</td>
<td>8.63*</td>
<td>8.00*</td>
<td>8.09*</td>
</tr>
<tr>
<td>FAV on P</td>
<td>1.20*</td>
<td>1.24*</td>
<td>1.10*</td>
</tr>
</tbody>
</table>

*p < .01
the most significant strategy favored by participants in all groups was parity (P on FAV). While hypothesis 1b was supported in this sample, equality was the strongest and apparently the most common strategy used by participants.

**Authoritarianism and Social Dominance**

In order to examine hypothesis 2, authoritarianism, group size, and authoritarianism by group size were entered in regression analyses as predictors of ingroup favoritism on the trait-rating composite score and pull scores of each strategy type. Authoritarianism did not predict ingroup favoritism on the trait ratings, nor were there any interactions with group size.

When the pull scores of each strategy were used as dependent variables, neither the authoritarianism main effect nor the interaction of authoritarianism by group size affected pull scores on Matrix A (FAV vs. MJP and MJP vs. FAV) or Matrix B (MD vs. MIP+MJP and MIP+MJP vs. MD). There was a main effect for authoritarianism on the Matrix C (P vs. FAV) strategies-together pull scores, $\beta_1 = -.19$, $p < .001$, (higher scores on authoritarianism led to less pull toward parity) but not a significant effect of authoritarianism on the FAV vs. P. strategy. Therefore, since the use of ingroup favoritism by those higher in authoritarianism was confirmed on only one of six tests, and only slightly at that, evidence for hypothesis 2 is weak at best. It may be said that authoritarianism does predict one will be less likely to engage in parity, with tendency toward ingroup favoritism.

Hypothesis 3 was tested by entering social dominance, group size, and social
dominance by group size in regression analyses as predictors of ingroup favoritism on the trait-rating composite score and pull scores of each strategy type. No significant results occurred when the trait-rating score was used as the dependent variable. With regard to the resource allocation task, no effects were found on Matrix A. An interaction occurred between social dominance and group size on Matrix B strategies-opposed (MIP+MJP vs. MD). In this case, SDO in the neutral condition led to pulls toward MIP+MJP, $\beta = .542$, $p < .02$. There was an interaction of social dominance by group size on Matrix C strategies-together (P vs. FAV) pull scores: Social dominance orientation in the neutral condition predicted less parity, $\beta = -.55$, $p < .02$, while SDO in the majority predicted greater parity, $\beta = .56$, $p < .02$.

**Ingroup Identification As Mediator**

Reliability analysis indicated items 1 ("I was placed in the correct group") and 2 ("I identified with my group") were sufficient to accurately ascertain the degree of identification with the ingroup, $\alpha = .72$. Inclusion of the two remaining items lowered the alpha. In testing hypothesis 4, two-block stepwise regressions were used in each instance where social dominance significantly affected a pull score to determine if ingroup identification mediated the relationship. Ingroup identification was entered in the first step and SDO was entered in the second step. If the effect of SDO is mediated by ingroup identification, it should not enter into the regression in the second step.

In the neutral condition, ingroup identification was uncorrelated, $r = -.15$, *ns*, with
the Matrix B strategies-opposed score (MIP+MJP vs. MD) and therefore seemed unlikely to mediate the effects of social dominance. In the regression analysis, ingroup identification did not enter in step one, but social dominance entered in step 2, $R = .41$, $p < .001$.

Social dominance also affected the pull of Matrix C: strategies-together pull score (P vs. FAV) in the neutral condition. In this instance, the correlation of ingroup identification with the pull of parity on ingroup favoritism was significant, $r = .21$, $p < .05$. Ingroup identification entered in step one of the two-step regression, $R = .21$, and SDO entered in step two, for a multiple-$R$ of, $R = .34$, $p < .01$. The zero-order correlation of SDO with the pull score of P vs. FAV of $r = .31$ was reduced only to .28. Therefore, ingroup identification did not mediate the effect of SDO on P vs. FAV.

In the majority condition, the correlation of ingroup identification with the pull score of Matrix C: strategies-together (P vs. FAV) was not significant, $p = -.09$. In the regression, ingroup identification did not enter in step one.

While not hypothesized, a test was also conducted to see if the effects of authoritarianism on the Matrix C: strategies-together pull score (P vs. FAV) was mediated by ingroup identification for all subjects. Because the correlation between this pull score and ingroup identification was not significant, $r = .03$, it seemed unlikely that it would mediate the effects of authoritarianism. In the two-step regression, only authoritarianism entered, $R = .20$, $p < .001$. Therefore, ingroup identification did not
serve as a mediator between authoritarianism and P vs. FAV.

**Additional analyses**

Post-session scores on the State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991) were significantly larger than pre-session scores on the SSES, $M = 51.9$, $M = 50.53$, respectively ($t = -1.39, p < .001$). In an attempt to replicate McFarland and Ageyev’s (1992) finding that only high authoritarians used ingroup favoritism for the purposes of self-esteem enhancement, correlations were calculated between the change in SSES score (pretest – posttest), trait ratings, and pull scores for low (1 sd below the mean for this sample), middle (between $+\text{-} 1$ sd) and high (1sd above the mean for this sample) authoritarians. None of the correlations were significant, indicating that neither high authoritarians nor any other subgroup used ingroup favoritism for purposes of self-esteem enhancement in this sample. Correlations were also calculated between the SSES change score, trait ratings, and pull scores for low, middle, and high social dominants. Again, none of the correlations were significant.

Gender did not prove to be a significant factor on the trait ratings or the resource allocation task. And when either trait ratings or pull scores of the resource allocation task were used as the dependent variable, there were no significant task order effects.
Chapter Three

Discussion

The purpose of this study was to examine how authoritarianism and social dominance affect discrimination in a minimal group setting and to examine whether or not group size interacts with these constructs to influence discrimination. The first hypothesis, that participants would display ingroup favoritism, was confirmed on both trait ratings (Thompson & Crocker, 1990) and Tajfel’s (1979) resource allocation task (although parity was the strongest strategy used of all those available on the Tajfel (1978) matrices).

Second, it was hypothesized that those higher in authoritarianism would display greater ingroup favoritism than those lower in authoritarianism, regardless of group size. However, neither authoritarianism nor any interaction between authoritarianism and group size significantly affected trait ratings. As for ingroup favoritism on the resource allocation task, authoritarianism led to a pull toward favoritism on only one of the six matrices and did not interact with group size on any of the tasks.

The third hypothesis, that social dominance would interact with group size and enhance ingroup favoritism and outgroup discrimination for individuals in the majority group but lead to reduced levels of ingroup favoritism and outgroup discrimination in the minority group size condition, was not supported. Neither social dominance nor
its interaction with group size affected trait ratings. With regard to the Tajfel (1978) matrices, social dominance led those in the neutral condition to display ingroup favoritism and to maximize profit. Contrary to the hypothesis, individuals higher in SDO in the majority group size condition engaged in greater parity than favoritism, while SDO had no effect upon discrimination in minority groups.

Finally, it was hypothesized that identification with the ingroup would mediate the relationship between SDO and ingroup favoritism in the minority group condition, leading those individuals high in SDO to exhibit less identification with the ingroup and display less favoritism toward the ingroup. Overall, ingroup identification did not mediate the relationship between social dominance and ingroup favoritism on the trait ratings or pull scores of the resource allocation task. Within each condition, contrary to hypothesis 4, ingroup identification did not mediate the relationship between SDO, RWA, and ingroup favoritism on either the trait ratings or the pull scores of the resource allocation task.

The results of this study do not replicate the findings of McFarland and Ageyev (1992). Authoritarianism did not lead to greater ingroup favoritism on either task and there were no effects as regards self-esteem enhancement. McFarland and Ageyev (1992) found that task order was a significant factor in predicting the degree of ingroup favoritism displayed by authoritarians, but no such effect was evident in this sample. Finally, there were no significant effects of gender or task order.

Several other minimal group studies report that participants were more likely to
use the strategy of parity rather than that of relative gain (Gagnon & Bourhis, 1996; Tajfel et al., 1971; Tajfel & Billig, 1974). The fact that participants in this study predominantly displayed ingroup favoritism on the trait ratings and parity on the resource allocations is perhaps due to the different nature of the tasks. McFarland and Ageyev (1992) reported the correlations between trait ratings and both the Tajfel (1978) and Brewer and Silver (1978) allocation tasks were only .15 and .05, respectively, in their study. In the present study, none of the correlations between the trait ratings and the pull scores were significant. Therefore, it seems reasonable to assume that participants view the two tasks very differently. In a study by Jones, Wood, and Quattrone (1981) concerning perceived group homogeneity, participants perceived the outgroup as more homogenous yet attributed more positive characteristics to the ingroup. They suggested that while individuals are more attune to the variability within their own group, they nevertheless “prefer” their group and thus rate ingroup members more favorably as a whole. It seems likely ingroup favoritism on the trait ratings reflects this preference for one’s own group and the desire to attribute positive characteristics to oneself.

Participants’ greater tendency to award points based on the strategy of parity on the Tajfel (1978) matrices may have been due to the timing and methods of recruitment. Participants were enrolled in the second semester of the school year and thus had ample opportunity to have formed acquaintances and friendships with other classmates. Therefore, the competition for resources which typically manifests itself
when participants are assigned different group designations in the minimal group paradigm may have been overridden by the desire to reward not only themselves but also their friends. Participants were allowed to select the most convenient time for them to attend experimental sessions at the time of recruitment rather than being randomly assigned to a session by the experimenter. Groups of friends may have selected times to come together, thus making it more likely that they would attempt to avoid favoritism for one group over another.

The resource allocation task is a more impersonal measure of ingroup favoritism. Consequently, individuals can display greater equality without implying anything about their own or other's personal characteristics. To date, only this study and McFarland and Ageyev (1992) have compared discrimination on the two types of measures. Studies that examine how participants think about these two measures may answer this question.

The limited significant results with regard to the hypotheses are by no means discouraging, especially in light of a study by Pratto, Shih, and Orton, (1997). These researchers found no significant SDO differences in group discrimination using the resource allocation measures of Brewer and Silver (1978) when the group context was ambiguous or when there was a group threat that drew attention away from the minimal group distinctions. In these situations, participants allocated points using the joint gain or equality strategies more than the strategy of maximum ingroup gain. It wasn’t until the minimal group distinction was made highly salient or a group threat
that drew attention to group distinctions was introduced that people high in SDO responded with greater discrimination.

The only distinction made in the present study was group size. It was thought individuals higher in SDO’s might be sensitive to the implied difference in status that results from being in a majority vs. minority. Apparently, group size alone does not provide enough intergroup context to affect the responses of high SDO’s. Future studies that incorporate a threat to the group’s image or power differences between the groups, in addition to differences in group size, may result in greater differences in ingroup favoritism vs. outgroup discrimination between those high or low in social dominance. In fact, Sidanius and Pratto, (1999) and Pratto et al. (1997) have now illustrated that it is the combination of SDO with conditions of group membership salience or group threat, beliefs that provide individuals with moral and intellectual justification for either hierarchy-enhancing or hierarchy-attenuating practices (called legitimizing myths, see Sidanidius & Pratto, 1999), and/or social roles, that “work in concert as a system to sustain group inequality (p. 36”).

Likewise, a stronger group context may be necessary for identification with the ingroup to influence high SDO’s in minority groups to identify less with their own group and display favoritism to the majority outgroup. For example, among the real groups in Levin and Sidanius’ (1999) study the variables of culture, history, how long the status differences have existed, and religious background no doubt impact the
strength of identification with the ingroup. Studies that make distinctions like these salient in a minimal group setting would only serve to further our knowledge of the importance of identification with the ingroup to displays of ingroup or outgroup favoritism.

It has been established that authoritarianism and social dominance are two independent, major predictors of ethnocentrism, though these results are correlational, drawn almost entirely from questionnaire studies. As such, they cannot show that authoritarianism and social dominance actually cause prejudice rather than being merely related to it. In addition, the questionnaire studies do little to explain how each of these induce prejudice or discrimination. The beauty of the minimal group paradigm is the way it permits a closer examination of the factors influencing discrimination, enabling us to discern who discriminates, under what conditions discrimination occurs, and how prejudice is manifested. Clearly, discrimination between real groups is influenced by individual differences and situational components. The minimal group paradigm is a useful tool in social psychology’s attempt to understand the nature and manifestation of prejudice.
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Appendix A

A Survey of Attitudes and Beliefs

The following questions ask for your opinions on a wide range of issues. Your participation is voluntary, and your responses will be kept private. This study is being conducted by Suzanne J. Hillin and Dr. Sam McFarland of the Department of Psychology, Western Kentucky University.

In completing the questionnaire, it is important that you:

-- **Make no marks on the questionnaire.** These will be reused.

-- **Write the last four digits of your social security number (not your name) on the space marked “Name” on the scantron sheets.** This will enable us to keep your responses on all tasks together.

-- **Respond to every question.** If you change an answer, erase cleanly.

-- **Mark your answers darkly with a pencil on the scantron sheets.**

Please read each statement and rate your agreement or disagreement. Please mark the appropriate letter on the answer sheet using the following scale:

- A = I strongly disagree with this statement.
- B = I generally disagree with this statement.
- C = I am undecided or neutral toward this statement.
- D = I generally agree with this statement.
- E = I strongly agree with this statement.

1. Some groups of people are simply inferior to other groups.
2. In getting what you want, it is sometimes necessary to use force against other groups.
3. It’s OK if some groups have more of a chance in life than others.
4. To get ahead in life, it is sometimes necessary to step on other groups.
5. If certain groups stayed in their place, we would have fewer problems.
6. It’s probably a good thing that certain groups are at the top and other groups are at the bottom.
7. Inferior groups should stay in their place.
8. Sometimes other groups must be kept in their place.
9. It would be good if groups could be equal.
10. Group equality should be our ideal.
11. All groups should be given an equal chance in life.
12. We should do what we can do to equalize conditions for different groups.
13. I support increased social equality.
Appendix A, con’t.

A = I strongly disagree with this statement.
B = I generally disagree with this statement.
C = I am undecided or neutral toward this statement.
D = I generally agree with this statement.
E = I strongly agree with this statement.

14. We would have fewer problems if we treated people more equally.
15. We should strive to make incomes as equal as possible.
16. No one group should dominate society.
17. It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people's minds.
18. It would be best for everyone if the proper authorities censored magazines and movies to keep trashy material away from the youth.
19. There is nothing wrong with premarital sexual intercourse.
20. The facts on crime, sexual immorality, and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers if we are going to save our moral standards and preserve law and order.
21. There is nothing immoral or sick about somebody's being a homosexual.
22. Some of the worst people in our country nowadays are those who do not respect our flag, our leaders, and the normal way things are supposed to be done.
23. In these troubled times laws have to be enforced without mercy, especially when dealing with the agitators and revolutionaries who are stirring things up.
24. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.
25. There is absolutely nothing wrong with nudist camps.
26. The real keys to the "good life" are obedience, discipline, and sticking to the straight and narrow.
27. It is best to treat dissenters with leniency and an open mind, since new ideas are the lifeblood of progressive change.
28. The biggest threat to our freedom comes from the Communists and their kind, who are out to destroy religion, ridicule patriotism, corrupt the youth, and in general undermine our whole way of life.
29. If we don't watch out, Asians will control our economy and we will be their cheap workers.
30. We should take in more refugees (Asians, Africans, Bosnians, etc.) fleeing from repressive governments.
31. Arabs are too emotional, and they don't fit well into our country.
Appendix A, con’t.

A = I strongly disagree with this statement.
B = I generally disagree with this statement.
C = I am undecided or neutral toward this statement.
D = I generally agree with this statement.
E = I strongly agree with this statement

32. It is good to live in a country where there are a growing number of minorities, such as Blacks, Asians and Hispanics.
33. “Foreign” religions like Buddhism, Hinduism, and Islam are just as good as Christianity, all things considered.
34. The Japanese are still sly and untrustworthy, just as they were before the war.
35. As a group, Indians are naturally lazy, dishonest, and lawless.
36. It is simply a waste of time to train some races for good jobs; they simply don’t have the drive and determination it takes to learn a complicated skill.
37. There is nothing wrong with intermarriage among the races.
38. It is a sad fact that many minorities have been persecuted in our country, and some are still treated very unfairly.
39. The more we can let people from all over the world into our country, the better.
40. It is probably still in the nature of Russians to want to expand and dominate.
41. I often have tender, concerned feelings for people less fortunate than me.
42. I sometimes find it difficult to see things from the “other guy’s” point of view.
43. Sometimes I don’t feel very sorry for other people when they are having problems.
44. I try to look at everybody’s side of a disagreement before I make a decision.
45. When I see someone being taken advantage of, I feel protective towards them.
46. I sometimes try to understand my friends better by imagining how things look from their perspective.
47. Other people’s misfortunes do not usually disturb me a great deal.
48. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments.
49. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.
50. I am often quite touched by things that I see happen.
51. I believe that there are two sides to every question and try to look at them both.
52. I would describe myself as a pretty soft-hearted person.
53. When I’m upset at someone, I usually try to “put myself in his shoes” for a while.
Appendix A, con’t.

A = I strongly disagree with this statement.
B = I generally disagree with this statement.
C = I am undecided or neutral toward this statement.
D = I generally agree with this statement.
E = I strongly agree with this statement

54. Before criticizing somebody, I try to imagine how I would feel if I were in their place.
55. I feel confident about my abilities.
56. I am worried about whether I am regarded as a success or failure.
57. I feel frustrated or rattled about my performance.
58. I feel that I am having trouble understanding things that I read.
59. I feel self-conscious.
60. I feel as smart as others.
61. I feel displeased with myself.
62. I am worried about what other people think of me.
63. I feel confident that I understand things.
64. I feel inferior to others at this moment.
65. I feel concerned about the impression I am making.
66. I feel that I have less scholastic ability right now than others.
67. I feel like I’m not doing well.
68. I am worried about looking foolish.

69. My ethnic group is:

70. My gender is:
   a. male  b. female
In the following sets of tables, please circle the set of two numbers (one over the other) that you would like to give to the person in your group (either overestimator or underestimator) and the person in the other group. When you have made your choice, confirm it by writing the numbers you allotted to each person in the blanks below. The numbers represent the number of points that each person will gain.

For example:

<table>
<thead>
<tr>
<th>Member 8244 of Overestimators</th>
<th>1 2 4 6 8 10 12 14 16 18 20 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member 2219 of Underestimators</td>
<td>22 20 18 16 14 12 10 8 6 4 2 1</td>
</tr>
</tbody>
</table>

Member 8244 of Overestimators:  
Member 2219 of Underestimators:  

**Matrix Type A strategies together:**

<table>
<thead>
<tr>
<th>Member 9488 of Overestimators</th>
<th>25 23 21 19 17 15 13 11 9 7 5 3 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member 2405 of Underestimators</td>
<td>7 8 9 10 11 12 13 14 15 16 17 18 19</td>
</tr>
</tbody>
</table>

Member 9488 of Overestimators  
Member 2405 of Underestimators  

**Matrix Type A strategies opposed:**

<table>
<thead>
<tr>
<th>Member 1924 of Underestimators</th>
<th>1 3 5 7 9 11 13 15 17 19 21 23 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member 2422 of Overestimators</td>
<td>19 18 17 16 15 14 13 12 11 10 9 8 7</td>
</tr>
</tbody>
</table>

Member 1924 of Underestimators:  
Member 2422 of Overestimators:
Appendix B, con’t.

**Matrix Type B strategies together:**

<table>
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<tr>
<th>Member 2205</th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>7</th>
<th>9</th>
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<th>13</th>
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<th>17</th>
<th>19</th>
<th>21</th>
<th>23</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member 3622</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
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<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
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</table>

Member 2205 of Overestimators: 
Member 3622 of Underestimators: 

**Matrix Type B strategies opposed:**

<table>
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<tr>
<th>Member 6651</th>
<th>19</th>
<th>18</th>
<th>17</th>
<th>16</th>
<th>15</th>
<th>14</th>
<th>13</th>
<th>12</th>
<th>11</th>
<th>10</th>
<th>9</th>
<th>8</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>Member 2298</td>
<td>25</td>
<td>23</td>
<td>21</td>
<td>19</td>
<td>17</td>
<td>15</td>
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<td>11</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Member 6651 of Overestimators: 
Member 2298 of Underestimators: 

**Matrix Type C strategies together:**

<table>
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<tr>
<th>Member 2340</th>
<th>28</th>
<th>27</th>
<th>26</th>
<th>25</th>
<th>24</th>
<th>23</th>
<th>22</th>
<th>21</th>
<th>20</th>
<th>19</th>
<th>18</th>
<th>17</th>
<th>16</th>
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</thead>
<tbody>
<tr>
<td>Member 3165</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
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<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
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</table>

Member 2340 of Underestimators: 
Member 3165 of Overestimators: 

**Matrix Type C strategies opposed**

<table>
<thead>
<tr>
<th>Member 2429</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
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<th>24</th>
<th>25</th>
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<th>27</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member 3935</td>
<td>16</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12</td>
<td>11</td>
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<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Member 2429 of Overestimators: 
Member 3935 of Underestimators: 
Appendix C

Post-Session Questionnaire

These questions are asked for the purpose of assessing your experience in the session. Your responses will be kept private and anonymous. In completing the questionnaire, it is important that you:

♦ Write the last four digits of your social security number on the space marked “Name” on the scantron sheet. This will enable us to keep your responses on all tasks together.

♦ Respond to every question. Mark your answers clearly. Please erase cleanly.

You are asked to read each statement and rate your agreement or disagreement. Please mark the appropriate letter on the scantron sheet using the following scale:

A = I strongly disagree with this statement.
B = I generally disagree with this statement.
C = I am undecided or neutral toward this statement.
D = I generally agree with this statement.
E = I strongly agree with this statement.

1. I was placed in the correct group.
2. I identified with my group.
3. I am not like other members of my group.
4. I identified with the other group.
5. I feel confident about my abilities.
6. I am worried about whether I am regarded as a success or failure.
7. I feel frustrated or rattled about my performance.
8. I feel that I am having trouble understanding things that I read.
10. I feel as smart as others.
11. I feel displeased with myself.
12. I am worried about what other people think of me.
13. I feel confident that I understand things.
14. I feel inferior to others at this moment.
15. I feel concerned about the impression I am making.
16. I feel that I have less scholastic ability right now than others.
17. I feel like I'm not doing well.
18. I am worried about looking foolish.
19. I tried to award equal points to both groups.
20. I tried to give more points to the member of my group than the member of the other group.
21. I tried to give more points to the member of the other group than the member of my group.
22. I tried to maximize the number of points for both groups.
Appendix D
Scoring Sheet for Calculating Pull Scores from the Tajfel Matrices

Matrix Choices Completed by a Member of Overestimators (OV)

(adapted from Bourhis, et. al., 1994)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Matrix Type</th>
<th>Strategies Together (T)</th>
<th>Strategies Opposed (O)</th>
<th>Pull Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pull of FAV on MJP</td>
<td>Pull of FAV on MJP</td>
<td>Pull of FAV on MJP: 4</td>
</tr>
<tr>
<td>Type A:</td>
<td>FAV(MIP+MD) vs. MJP</td>
<td>Group OV: 25...1</td>
<td>Group OV: 19...7</td>
<td>O - T =</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Group UE: 7 19</td>
<td>Group UE: 1 25</td>
<td>8 - 4 = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Zero point at 25/7</td>
<td>*Zero point at 7/25</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matrix chosen: 17/11</td>
<td>Matrix chosen: 15/9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rank score (T) = 4</td>
<td>Rank score (O) = 8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type B:</td>
<td>MD vs. MIP + MJP</td>
<td>Group OV: 1...25</td>
<td>Group OV: 19...7</td>
<td>O - T =</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Group UE: 7 19</td>
<td>Group UE: 25 1</td>
<td>11 - 2 = 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Zero point at 25/19</td>
<td>*Zero point at 19/25</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matrix chosen: 21/17</td>
<td>Matrix chosen: 8/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rank score (T) = 2</td>
<td>Rank score (O) = 11</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type C:</td>
<td>P vs. FAV(MIP + MD)</td>
<td>Group OV: 4...16</td>
<td>Group OV: 16...28</td>
<td>O - T =</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Group UE: 28 16</td>
<td>Group UE: 16 4</td>
<td>7 - 0 = 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Zero point at 16/16</td>
<td>*Zero point at 28/4</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Matrix chosen: 16/16</td>
<td>Matrix chosen: 21/11</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rank score (T) = 0</td>
<td>Rank score (O) = 7</td>
<td></td>
</tr>
</tbody>
</table>

Note: OV=overestimators  UE=underestimators

*The zero points identified for each of the strategies presented on this table are only relevant for the particular format presentation of the Tajfel matrices used in this experiment. Other combinations of matrices (right-to-left and/or top-to-bottom reversals of rows and columns result in different zero points reflecting new configurations of strategies-together and strategies-opposed combinations.