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Active Minorities and Social Influence

Gail Susan Russ

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ACTIVE MINORITIES AND SOCIAL INFLUENCE

A Thesis

Presented to

The Faculty of the Department of Psychology
The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree of
Master of Arts

by

Gail Susan Russ

1987

APPROVAL SHEET

This thesis is submitted in partial fulfillment of
the requirements for the degree of

Master of Arts

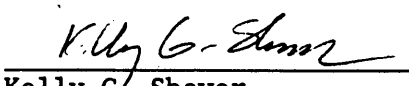


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Approved, March 1988



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DEDICATION

This thesis is dedicated to my mother, Celeste Price Russ, whose encouragement helped me to undertake such a task, and to my husband, Gerald Raymond Ferris, whose encouragement helped me to complete it.

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Finally, I thank Ms. Phyllis Washburn for her secretarial assistance and for her cheerful reassurances throughout the final stages.

We did it!

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ABSTRACT

The purpose of this study is to examine the effects of decision rule, minority discrepancy from the majority, minority sex, and group-member sex on the minority's ability to influence group members in a mock-jury deliberation of a monetary award in a civil negligence case.

The mixed-sex groups deliberated under either a unanimous or majority decision rule, and were composed of 4 or 5 naive group members and a confederate (either male or female), who expressed a minority opinion that was either high or low in discrepancy from other group members.

The results showed that a minority's influence is related to the interactive effects of decision rule and minority's discrepancy from the majority, such that minority influence was greatest under the combined conditions of a unanimous decision rule and low minority-majority discrepancy, and least under a non-unanimous decision rule and low discrepancy. High discrepancy, regardless of decision rule, was associated with intermediate levels of minority influence.

Although group members were influenced equally by male and female minorities, group members of both sexes perceived the female minority as less influential than the male minority.

Implications for the legal and social influence literatures are discussed.

ACTIVE MINORITIES AND SOCIAL INFLUENCE

CHAPTER I

INTRODUCTION

Social influence has been a widely studied phenomenon in social psychology. Beginning with Sherif's (1936) study of autokinetic effects and Asch's (1951) experiments with line-length estimation, the study of social influence has dealt primarily with a group's ability to induce an individual to conform. Less attention has been paid to minorities who resist the influence of the group and try to induce the majority to accept their position (Moscovici & Faucheux, 1972; Nemeth, 1977). Asch (1956) pointed out that it is incorrect to assume that social influence is completely explained by a theory of conformity to group norms.

This paper presents an overview of the minority influence literature, and then discusses some issues that have not been fully examined in this area. The primary focus is on factors affecting minority influence in jury deliberations. Within the last 30 years many states have passed legislation allowing for majority decision rules in jury deliberations instead of the traditional unanimous rule. Concern has been expressed for the effect of majority decision rules on the quality of jury deliberations, especially in situations where a minority of jurors believe the defendant to be innocent. This paper addresses the issue of the effect of decision rule on the minority's ability to influence other group members.

Secondly, this study addresses the effect of the extremeness of the minority's position on their ability to influence the majority, and whether the decision rule interacts with the minority's discrepancy from the majority to affect differentially the majority's reaction to the minority. Finally, the implications of the minority influence person's sex, as well as the sex of the target, are discussed. Although sex differences in influenceability and persuasibility have been studied extensively in other social influence frameworks, this topic has not received much attention in the minority influence literature.

Majority Influence

Without question, majorities exert powerful influences, as shown by an early study by Sherif (1936). Subjects made perceptual judgments privately, then publicly, and then again privately. Subjects converged their judgments of the autokinetic effect during the public trials to form a group norm, and maintained this norm during the second phase of private judgments. Sherif's findings indicated that in an ambiguous situation people will publicly comply with the group norm, and also internalize that norm.

Asch (1951) had individual male subjects, in the presence of confederates who gave incorrect answers, state their choices for which of three lines was equal in length to a standard line. Thirty-three percent of the subjects conformed to the majority judgment on at least half of the critical trials. Further, almost 75 percent of the subjects gave the group's answer on at least one trial. Cartwright and Zander (1968) noted:

In this experiment the critical subject is unacquainted with the other participants and ... they make no overt effort to influence his behavior. His judgments, moreover, concern matters having little intrinsic importance to him, to his future relations with the others, and to the fate of those in the room. Nevertheless, there are clearly strong pressures on him to conform. One would surely expect these pressures to be even stronger in more natural settings and with respect to matters having greater significance for the participants. (pp. 139-140)

Schachter (1951) found that majorities exerted strong pressure by initially increasing communication to the deviate and then following with rejection if the deviate did not yield. Until recently, anyone reviewing the literature would have had to conclude that there existed only two courses open to a minority: conformity to the group norm or rejection by the group.

Majority Influence: A Different Interpretation

As noted by several researchers (e.g., Moscovici, 1985; Moscovici & Faucheux, 1972; Moscovici & Nemeth, 1974), minorities exert influence. In contrast to the influence of the majority are innovations in such fields as politics, science, business, and art, usually originating and succeeding through the determined efforts of minorities. Moscovici and Faucheux (1972) interpreted some of the classic conformity research from the perspective of the minority's

influence on group opinion. Findings from the Asch (1951) procedure are often attributed to the naive subject's acceptance of the majority judgment as defining social reality. Moscovici and Faucheux (1972) pointed out, however, that subjects already have a general norm of perceptual judgment that has developed prior to their participation in a laboratory experiment; that is, their experience in the world has already defined social and physical reality for them before they enter the experimental situation. In the Asch procedure, subjects are confronted with confederates who adhere to a different norm--a norm that is a minority norm in the eyes of the subject. Following this approach, Moscovici and Faucheux (1972) suggested that the group of confederates really constitute a minority that is able to influence a majority member. They compared the naive subjects' situation to that of a captive audience (e.g., prisoners of war) and concluded that "the Asch experiments show that a consistent minority can modify, under certain circumstances, the predominant norm" (p. 153).

According to Moscovici and Faucheux (1972), the same type of reasoning can be applied to the Jacobs and Campbell (1961) study that used the autokinetic effect to study the transmission of norms in groups of four. Subjects made public judgments for 30 trials, and then one experienced subject was replaced by a naive subject. In the experimental condition, the initial group consisted of three confederates, who gave extreme judgments, and one naive subject. At the end of the first block of 30 trials, a confederate was replaced with a naive subject. This replacement continued every 30 trials, so that all confederates were eventually withdrawn and replaced by naive subjects. The transmission of the arbitrary norm to replacement

subjects continued through the seventh block of 30 trials. That is, even though the members of the original experimental group had all been replaced by the fourth block of trials, the judgments of replacement members continued to be more extreme than those of control subjects until the seventh trial block. Moscovici and Faucheux pointed out that the norm transmitted through several subject generations was found to decrease in extremity as each replacement subject joined the group until the group's norm was not significantly different from that of the control group. So it is possible to consider each naive subject as exerting a minority influence on the group's judgments.

The tendency to focus on the minority's conformity to the majority, the conformity bias (Nemeth, 1977), is apparent even in definitions of social influence and related concepts such as public compliance and private acceptance. Deutsch and Gerard (1955) have referred to social pressure that results in public compliance as "normative social influence". In this situation, the group is able to obtain compliance by exerting norms and by using sanctions against nonconformers. "Informational social influence" refers to the type of social influence that leads to private acceptance by supplying the individual with information relevant to the issue. Social sanctions are not necessary as the information itself is sufficient to produce the desired change. In both cases, the minority is being influenced by the majority. As Nemeth (1977) pointed out, the majority's basis for influence is the minority's dependence on the majority for approval (normative influence) and information about social reality (informational influence). A minority, on the other hand, clearly

lacks the numbers to impose either type of influence, leaving other factors to be explored for their contribution to the influence of a minority.

Basis of Minority Influence: Behavioral Style

Moscovici and Nemeth (1974) hypothesized that the behavioral style of the minority, facilitated by the attention focused toward the minority, is responsible for the minority influence found in their, and their associates', research (e.g., Moscovici & Faucheux, 1972; Moscovici, Lage, & Naffrechoux, 1969; Moscovici & Nemeth, 1974; Nemeth, Swedlund, & Kanki, 1974; Nemeth & Wachtler, 1983). Specifically, behavioral consistency over time seems to be critical to minority influence (Moscovici, Lage, & Naffrechoux, 1969), with consistent patterning, rather than rigid consistency, being a more effective strategy (Nemeth, Swedlund, & Kanki, 1974). The minority's consistency should follow a pattern that agrees with variations in the situation and not maintain a rigid position. This flexibility creates an impression of confidence and certainty, while minimizing the ability of the group to reject the minority on the basis of idiosyncratic behavior. Rejection of an individual deviate is the initial response of most group members, as demonstrated in an early Asch (1952) study. An individual confederate who made inaccurate judgments in the presence of 16 naive subjects was laughed at or ignored, whereas two confederates who gave inaccurate responses were not laughed at, and Asch (1952) reported that they were taken much more seriously.

The importance of consistency over time to minority influence was examined by Moscovici, Lage and Naffrechoux (1969). Subjects made

judgments about the color and brightness of slides, prepared so that the intensity of the light passing through the slide varied but was always within the blue wavelength scale. In one condition, two confederates reported that they saw green on each of the 36 trials. In the other condition the two confederates randomly (but always agreeing with each other) called the stimulus "green" on two-thirds of the trials and "blue" on the remaining trials. Naive subjects in the consistent condition called the stimulus "green" 8.42 percent of the time, which was significantly different from subjects in the control condition who considered the stimulus green only 0.25 percent of the time. In the inconsistent condition, naive subjects reported "green" only 1.25 percent of the time and were not significantly different from the control subjects. The minority exerted influence only when it was consistent over time.

The second part of this study also provided evidence for minority influence. Moscovici, Lage and Naffrechoux (1969) believed that the subjects might maintain the majority position even though influenced by the minority, and they wanted to see whether the subjects exposed to the consistent minority would show signs of this influence in a subsequent blue-green designation threshold task. Subjects were shown 16 discs, 3 of which were unambiguously blue, 3 unambiguously green and 10 which might have appeared ambiguous. Thirty-seven of the 40 subjects called the blue stimuli "green" more often than the control subjects, indicating a modification in their judgments that was consistent with the position of the minority in the first part of the study.

In another study, Moscovici and Faucheux (1972) had subjects in groups of four or five publicly state and privately record their preferences for either the size, color, shape or line variations in a series of drawings. In the experimental group, a confederate consistently gave "color" as his answer. Color was chosen significantly more often in the experimental group than in the control group. The consistent behavior of the minority was credited with producing this effect.

In a later experiment, the salience of the minority's consistency was increased by having an assistant record each person's responses on a large board. Moscovici and Faucheux (1972) made the following assumptions about this procedure: (1) subjects could see which people were answering the same as others; (2) subjects were in the position of making highly public commitment; (3) subjects could see that the minority person was never influenced by anyone else, and; (4) the consistent behavior of the minority appeared unrelated to reality. Comparison of the first half of 64 trials with the second half showed a significant decrease in responses of "color", indicating rejection of the minority. The researchers pointed out that Cohen (1963) found extreme majority answers in the Asch paradigm yielded greater conformity in the earlier trials with a gradual shift to the more accurate answers. So there seems to be a limit to the influence phenomenon: Individuals (or groups) cease to be influential when their position clearly appears unrelated to reality.

Nemeth, Swedlund, and Kanki (1974) posited that the perception of realistic consistency on the part of the minority could be maintained through consistent patterning of responses. They hypothesized that

the majority's perception that the minority has a firmly-held position is necessary for minority influence, and further, that the minority's position will still be seen as consistent when it modifies its position in response to changes in the situation or stimulus. The experiment which tested this hypothesis used a paradigm very much like the one used by Moscovici, Lage, and Naffrechoux (1969). Each experimental group consisted of two confederates and four naive subjects. The slides were blue, but varied in brightness. In one experimental condition, the confederates said they saw the color as "green" on 50% of the trials, and "green-blue" on the other trials in a predetermined random order (random condition). Two brightness-color correlated conditions were used: In one, the confederates assigned "green-blue" to 14 slides that were brightest and "green" to the 14 least bright slides, and in the other condition "green-blue" was assigned to the least bright slides and "green" to the brightest. Two straight repetition conditions were included in which the confederates consistently said "green" on each trial (straight green condition), or "green-blue" on every trial (straight green-blue condition).

The two brightness-color correlated conditions yielded the greatest amount of minority influence and were significantly more effective than the random and straight green conditions (although the correlated conditions were not significantly different from the straight green-blue condition). The confederates in the brightness-color correlated conditions were considered more organized, more trusted, and more confident in their judgments. Nemeth et al concluded that the patterning of the confederate judgments and the perceptions produced by such patterns may be the foundation for

minority influence. Even though there was variation in the minority's position, they were at least as effective as the consistent green-blue confederates. The variations in the minority's position were tied to reality by being correlated with changes in brightness of the slides.

Recently researchers have attempted to integrate conceptualizations of minority and majority influence. Latané (1981; Latané & Wolf, 1981) suggested that social impact (either minority or majority influence) is a multiplicative function of the strength (e.g., status, power, and knowledge), immediacy (proximity in space and time), and number of group members (such that the first person has the strongest impact, with each additional person having a marginally decreasing impact). As discussed by Maass and Clark (1984), social impact theory's implications for minority influence is twofold: (1) The first minority member will have the greatest influence, with each additional minority member having marginally less impact; and (2) there is no basic difference between the underlying mechanisms of minority and majority influence. The majority, then, will usually exert greater influence due to its greater number. A minority can only overcome this effect by greater consistency (equated with "strength" in this model).

Tanford and Penrod (1984) have refined Latané's model, but still suggest that "influence is predominantly a function of the number of targets and sources of influence," with "the consistency of the influence source ... also an important predictor of influence" (p. 189). Thus, recent theoretical work has sought to explain why majority influence is more common than minority influence.

In summary, although a majority is predisposed to reject the deviate, under certain conditions (e.g., when the minority maintains a confident, realistic, and consistent position) minority influence occurs. The main purpose of this paper was to define further the effects of decision rule and the minority's discrepancy from the group on the minority's ability to influence the majority in a mock-jury deliberation.

Effect of Decision Rule and Minority Discrepancy

Decision rule. The emphasis of previous minority influence research has been on perceptual judgments. The effect of a minority in group decision-making on social or opinion topics has not been examined thoroughly. Minority influence processes are particularly salient in jury deliberations, and are assumed by Supreme Court Justices (Johnson v. Louisiana, 1972) to ensure that final verdicts are just. Historically, juries in the United States have been required to reach unanimous decisions, but within the last 30 years the trend has been to allow majority rule, where a verdict can be decided by a 10 to 2, or even a 9 to 3, vote. Nemeth (1981) pointed out the importance of examining the effects of jury decision rules (i.e., unanimity versus majority) on minorities' influence of majorities' decisions to convict or to acquit defendants.

There are several aspects to this issue. First, there is concern that a majority will not consider the arguments of a minority whose votes are not needed for conviction, that is, where the majority is large enough to satisfy the decision rule. Although Kalven and Zeisel (1966) found that 5.6% of cases result in hung juries (i.e., nonunanimous verdicts) under unanimity requirements, Saks and Hastie

(1978) found that 25% of verdicts are not reached by consensus in those states that allow for nonunanimous decisions. Nemeth (1977) found that mock-juries didn't stop deliberating when a 2/3 majority rule was met, but that they did not continue until full consensus was reached. Further, the 2/3 majority rule groups stopped significantly short of consensus compared to groups under a unanimity decision rule. The Nemeth (1977) and Saks and Hastie (1978) findings support the idea that a majority may be more likely to disregard a minority's arguments when a group is not required to reach a unanimous decision.

A second issue concerns the effects of decision rules on the nature of the deliberation process and the possibility that discussion under a unanimity rule might be more robust than under majority rule. Nemeth (1977) found that unanimity groups not only required more deliberation time compared to majority groups, but also gave more information and opinions during the discussion. Unanimity group members reported experiencing more conflict than did majority-rule group members. This is of particular note in light of the Supreme Court's assumption (e.g., Apodaca, Cooper and Madden v. Oregon, 1972; Johnson v. Louisiana, 1972) that a majority would not stop discussion and outvote a minority as long as the minority had persuasive reasons to support their arguments. (Nemeth (1981) noted the irony of that assumption, given that the Court was split 5 to 4 in those decisions. The minority Justices obviously felt that they had persuasive reasons to argue against majority decision rules, which they expressed in dissenting opinions.)

A third concern is the effects of decision rules on how confident society is that justice has been done. The concern here is that

justice must not only be preserved, but the perception of justice must be protected as well. In this sense, a majority decision rule would be considered harmful if it eroded public confidence in the judicial system, even if empirical data showed that no differences were found between decision rules. To exemplify the potential for negative social perceptions of a majority decision rule, Nemeth (1981) used the hypothetical example of a 9 to 3 split on convicting a black defendant, where the majority jurors were white and the dissenting jurors were black.

Confidence and satisfaction with the group decision can vary with decision rule even for the decision makers (Kerr, Atkin, Stasser, Meek, Holt, & Davis, 1976; Nemeth, 1977). Unanimity group members believe that justice is better served than those who deliberate under a majority decision rule. Minorities in the 2/3 majority rule groups are the most dissatisfied. Although it is not clear whether this effect can be generalized to the community, it is still of importance that those who participate as decision makers in the judicial system believe that the process is fair.

One explanation for the differences between unanimity and majority decision rules is that decision rule may affect group interdependence. Unanimity decision rule groups may be more likely to perceive themselves as working towards a goal than groups who are not required to reach unanimity. Studies on interdependence of groups and majority influence have usually found that interdependent groups are more conforming than independent ones. Deutsch and Gerard (1955) told subjects in an interdependent condition that the five groups which made the fewest errors would receive a valued reward. More

conformity was found in the interdependent groups than in the independent groups. This effect was so strong, in fact, that the subjects were conforming to the incorrect judgments of confederates, even though winning was contingent on being one of the five most accurate groups.

Much of the controversy on decision rules has focused on their effect on verdicts in murder and rape cases (e.g., Nemeth, 1977). Considerably less attention has been paid to the effect of decision rule on the outcome of civil cases. It is not known to what extent findings from cases where a defendant stands to lose either life or liberty can be generalized to cases where the jury is asked to assess liability or to make monetary awards. This issue is important for a society whose court system is unable to meet the increasing demands placed upon it. If it could be demonstrated that there was no difference in outcome due to decision rule, and outcomes could be reached more quickly (and therefore less expensively) by a majority rule, then one solution to the over-crowded court system could be to allow majority decision rule for civil cases, reserving the more costly unanimity rule for criminal cases. On the other hand, such an innovation would be inadvisable if it were found that the perception of justice was negatively affected by use of a majority rule. To date, the implications of different decision rules for civil cases have not been addressed.

The present study involved a mock-jury deliberation of a civil negligence case, where the jurors were required to determine a monetary award. This decision task, originated by Nemeth and Wachtler (1974), has also been used by Arbuthnot and Wayner (1982), and Wolf

(1985). None of these studies addressed the issue of decision rule. Nemeth and Wachtler (1974) used a unanimity rule for all experimental conditions, and found that the minority individual was successful in influencing the majority only when he chose the head seat at the deliberation table (as opposed to being assigned to it, or sitting in a side seat). Nemeth and Wachtler believed that the limited minority influence was due to the extremity of the minority's opinion (discussed in more detail below). The case was chosen for this study for its suitability as a civil case where the decision rule could be manipulated easily, and for the potential to generalize to other studies which have used the same case. The latter reason seemed particularly compelling in an area where so little research has been published. The mock-juries were composed of a minority individual (who was a confederate) and a majority of four or five naive subjects.

Following from Nemeth's (1977) findings, it was expected that a minority would be more influential under a unanimity decision rule than under a majority decision rule. Under majority rule group members would be less motivated to listen to the minority's arguments when it was possible for them to reach an acceptable verdict without the minority's approval.

Further, it was expected that the majority group members would be more satisfied with the group discussion under a unanimous decision rule than under a non-unanimous decision rule. This was expected even though the minority (confederate) would not conform to the group's position, and would probably result in the group being unable to reach a unanimous decision in the time allowed. Kerr et al (1976) and

Nemeth (1977) found that unanimity group members had a stronger sense of serving justice than did majority decision rule group members.

Discrepancy from the group. The effect of extremity of position on influence has not been clearly established. Tuddenham (1961) found that increased discrepancy between false group consensus and control group consensus produced increased conformity. In contrast, Whittacker (1964) found a curvilinear relationship in an autokinetic effect study. Moderately discrepant norms produced more change than those that were largely or slightly discrepant. Inconsistent results have been found by other research involving norm extremity and objective stimuli (e.g., Asch, 1956; Olmstead & Blake, 1955; Schroder & Hunt, 1958). Goldberg (1954) suggested that subjects working with objective stimuli begin to suspect the experimental procedure when the norm is too extreme.

Objective reality is not as clear-cut when dealing with opinion issues, however. Helson, Blake, and Mouton (1958) found that conformity on opinion items increased with extremeness of the norm and then reached a plateau, a finding inconsistent with research on minority influence which has shown that the group prefers to reject the deviate when possible (e.g., Asch, 1952; Moscovici & Faucheax, 1972; Nemeth, Swedlund, & Kanki, 1974; Schachter, 1951). Groups might dismiss individuals who take extreme positions if they can interpret their actions as being due to some idiosyncratic difference, such as being generally unreasonable.

A study by Nemeth and Wachtler (1974) is relevant. They found that an individual only exerted influence when he chose to sit in the head seat; confederates who were assigned to the head seat, or who

either chose or were assigned to a side seat, exerted no minority influence. They interpreted their results as indicating that the majority perceived the confederate who chose the head seat as very confident, and this led to the ability to influence the group. The lack of any minority influence in the other conditions was surprising, however, considering the findings from other studies. Nemeth and Wachtler suggested that minority influence might have occurred in all conditions if the minority position had been less extreme. This seems likely, given the emotional nature of the experimental discussion sessions, as reported by Nemeth and Wachtler. Since the present study used the same case, this point will be elaborated.

Nemeth and Wachtler (1974) noted that the naive subjects were very committed to their position. The groups' task was to reach an unanimous decision on how much money to award a washing machine repairman who broke his leg at a customer's home due to the customer's negligence. His insurance had reimbursed him for wage losses and hospitalization, but he was suing for "the past and present pain and suffering and the worry and grief which he has undergone as a result of this accident." The average initial judgment by the subjects was \$14,670, with no one giving less than \$8,000. The confederate's position was that the repairman should only get \$3,000. Nemeth and Wachtler reported that subjects were abusive to the confederates, even to the point where one subject offered to break the confederate's leg after the session "to demonstrate the pain and suffering of such an injury" (p. 69). Thus, unlike subjects in other studies who were asked to identify color slides, subjects in this experiment were vehement in maintaining their positions. It is noteworthy that the

minority exerted influence in any condition, considering how much the group members disliked the confederate.

Nemeth and Wachtler (1974) suggested that minority influence might have occurred (in varying degrees) in all the experimental conditions if the minority position had been less extreme, i.e., if the confederate had chosen an amount closer to the majority's position. Given the inconclusive nature of the research that exists on this topic, an examination of the effect of position extremity on minority influence is needed.

Based on previous research, it was expected that minorities who expressed an opinion highly discrepant from the group would be less influential than those minorities whose opinions were closer to the group norm. Nemeth and Wachtler (1974) believed that in the case used in the present study, the small minority influence effect which they found was due to the extremity of the minority's position. Further, majorities are more likely to reject a deviant minority when the minority is highly discrepant from the group norm. It was expected that minorities who expressed an opinion highly discrepant from the group norm would be judged more negatively by the group than those whose opinions were closer to the group norm.

Sex Differences

Sex differences in exerting influence. A review by Eagly (1978) of the persuasion research (i.e., where individuals stated their positions and provided supporting arguments) and conformity research (i.e., where the opinion of a source person is given without supporting arguments) indicates that the existing literature on sex differences in exerting influence shows a very inconsistent pattern.

Although many of the studies found no effect of communicator sex (e.g., Johnson & MacDonnell, 1974; Meyers & Arenson, 1968; Miller & McReynolds, 1973), other studies found sex differences in direct conflict with other published studies. For instance, Knower (1935) found that cross-sex combinations of influencing agent and target led to greater opinion change, whereas Crano (1970) found that same-sex combinations were more effective. Meade and Barnard (1973, 1975) found that males were more effective with both male and female targets, whereas Luchins (1955) found that females were more effective than males with male targets. Finally, Sistrunk and McDavid (1971) reported that females were more effective with female targets on masculine items, in contrast to Goldberg's (1975) finding that males were more influential on masculine items.

Eagly (1978) suggested that these conflicting results should be considered in light of the target's goals. Following from Deutsch and Gerard's (1955) distinction between informational and normative influence, Eagly suggested that targets who are primarily concerned with getting valid information may be more likely to be influenced by a male, given that males are generally perceived to be more competent than females. When the target's goal is more interpersonal, the relationship between the sex of the target and communicator will depend on the specific goal. For instance, when learning role-specific behavior is the goal, same-sex combinations may lead to greater influence, whereas when sexual attraction is seen as the salient goal, cross-sex combinations might lead to greater influence. Eagly (1978) also noted that when normative pressures are salient (presumably when they outweigh the need for informational validity),

sex stereotypical behavior may occur. Studies in which there is high normative pressures in mixed-sex groups might show greater public compliance on the part of males in response to a female versus male communicator (i.e., following the norm of chivalry), whereas females who follow the norm of deferring to male authority might show more public compliance to males than to females. Hence, Eagly distinguished between the public and private influence that one might expect from informational influence.

In a later analysis of sex differences in social influence, Eagly (1983) suggested that laboratory findings of greater influence by men (and greater influenceability of women) were due to males' higher social status, even when status was controlled within the experimental setting. Eagly (1983) hypothesized that individuals have implicit theories of influence based on stereotypic sex differences that men are dominant and women are submissive (Eagly & Wood, 1982). Eagly (1983) argued that although subjects believe that men and women have equal influence when they have equal status (as when the equality of status was explicitly stated in Eagly and Wood, 1982), individuals in real organizations and groups have little opportunity to observe such equal status situations. The stereotypic implicit theory of influence therefore, remains unchallenged, and unaltered, by everyday experience, leading people to behave in ways that confirm their expectations (Berger, Cohen, & Zelditch, 1972; Berger, Fisek, Norman, & Zelditch, 1977; Berger, Rosenholtz, & Zelditch, 1980; Meeker & Weitzel-O'Neill, 1977). This argument was supported by group-interaction studies that show an overall tendency for males to exert more influence than females (Brown, 1979), whereas the persuasion and

conformity studies (where there is no group interaction) show no consistent male superiority in exerting influence (Eagly, 1978, 1983).

Two mock-jury studies by Nemeth, Endicott, and Wachtler (1976) examined the nature of interaction during the deliberations, and potential sex differences in verdicts, persuasibility, and participants' perceptions of the deliberations. No differences were found in either study between the sexes on verdict and influence exerted. In the first study, in which evidence was made available in written form, male jurors offered more information, opinions, and suggestions than female jurors. Males were more likely to take the head seat during deliberation and were the target of more communications than females.

In the second study, jurors witnessed a two hour trial rather than receiving the evidence in written form. None of the sex differences found in study #1 were found in study #2. Nemeth et al suggested that jurors who witness a trial and do not have a written account of the evidence may be more likely to accept and offer information to recollect the facts of the case. Nemeth et al also proposed that jurors are more committed after witnessing a two-hour trial, and are less reticent about expressing their views. An important finding was that males in both studies were perceived as more influential, rational, independent, confident, strong, aggressive, and as more of a leader than were females, in spite of the lack of differences between the sexes (in the second study) on verdict, participation, style, or actual effectiveness. The authors concluded that their findings do not support the lawyers' folklore that women are more persuadable, submissive, dependent, and passive,

but show that male and female participants perceive women as more persuadable, dependent, passive, and non-influential.

Nemeth, Endicott, and Wachtler's (1976) study supports the notion of an implicit theory of stereotypic influence, but it is interesting that there was no sex difference for the actual influence of participants. Perhaps in a jury deliberation (even a mock one) the need for valid information in part dissipates the normative influence pressures, so that males and females are considered equal sources of input. Of course, the perception that men are more influential, even when they are not, points to the pervasiveness of the stereotypic norms.

What are the implications of these findings for minority influence, especially when the minority is a single individual who is trying to exert influence? This has been a largely overlooked issue in the minority influence literature. Most of the studies have used perceptual tasks, where there was no group interaction, and where the subjects and confederates were all males (e.g., Nemeth, Swedlund, & Kanki, 1974; Nemeth & Wachtler, 1983) or all females (e.g., Nemeth, Wachtler, & Endicott, 1977). None of the previously cited studies by Moscovici or Nemeth compared the effectiveness of males and females.

Three published studies have used the decision task (a mock-jury deliberation to determine the amount of award in a civil negligence case) that was employed in the present study (Arbuthnot & Wayner, 1982; Nemeth & Wachtler, 1974; Wolf, 1985). Of these, one used only males (Nemeth & Wachtler, 1974), and one only females (Wolf, 1985, a simulated, not face-to-face, discussion). Only Arbuthnot and Wayner (1982) investigated the effect of sex of the minority source person.

They found that there was no difference between the amount of influence exerted by male and female minorities. However, Arbuthnot and Wayner reported that female minority confederates who chose to sit at the head of the table (which had previously been found by Nemeth & Wachtler, 1974, to increase male confederates' influence) were considered more active (active-passive, progressive-regressive, calm-excitabile, stable-changeable) and more potent (hard-soft, cautious-rash, strong-weak, severe-lenient) than were the males in the same condition. The authors suggested that female minorities, unlike male minorities, violated traditional sex role norms, and therefore they were perceived as more potent and active because their behavior was discrepant from the majority's expectations.

Arbuthnot and Wayner reported that the female minority confederates were not liked less (or more) than males, in spite of their non-traditional behavior, and concluded that women in real-life problem-solving group situations should not be afraid to assume an active role, but that they should not expect to exert more influence in proportion to their more active role (as compared to men). Arbuthnot and Wayner noted that "apparently, as is unfortunately typical in such situations, the female needs to exhibit more of a given attribute than the male in order to achieve the same outcome" (p. 293). Certainly that sentiment is supported by their findings that in the control condition (that is, where no minority influence attempts were made by confederates), women at the head of the table were perceived as less able to lead the group and as having guided the discussion less than males in the same condition. Arbuthnot and Wayner suggested that only the more assertive women (i.e., the female

confederates who supported a minority opinion) were able to overcome the stereotypic, negative evaluation. The findings from this study are certainly provocative, but since it is the only study of its type, replication is warranted. Further, the authors did not examine the relative persuasibility of the male and female subjects.

Sex differences in influenceability. Considerably more research has been done on sex differences in persuasibility than on sex differences in exerting influence. In general, this research has found that women are more persuasible than men, although the effect size is generally small, and women are more conforming than men in group pressure situations, especially when under the surveillance of the influence source (Cooper, 1979; Eagly, 1983; Eagly & Carli, 1981).

In a review of 47 studies published between 1958 and 1974, Maccoby and Jacklin (1974) concluded that although there were inconsistent findings of sex differences in influenceability, the overall tendency was for no difference, except that women tend to be more conforming in face-to-face situations which require open disagreement with others (i.e., as in the Asch design).

Eagly (1978) supported these conclusions in her more extensive review of the literature on persuasion and conformity. Of the 62 persuasion studies reviewed, Eagly found that 51 (82%) showed no sex difference, with only 10 (16%) reporting significant greater female persuasibility. In 22 conformity studies not involving group pressure, 86% showed no difference, and 9% showed greater female conformity. In 61 studies of group pressure conformity, 62% found no difference, and 34% reported significantly greater conformity among females. Eagly concluded that the usual finding was for no

difference, but that a substantial minority of studies demonstrated greater female conformity in group pressure situations. She suggested that this latter trend reflected women's desire to promote harmony and positive social relationships in group settings, rather than any real change in their private opinions.

Two meta-analyses have been performed on sex differences in influenceability. Cooper (1979) analyzed 38 of the 47 studies reviewed earlier by Maccoby and Jacklin (1974). Unlike previous reviewers, Cooper concluded that there was sufficient evidence to indicate greater conformity of women, with 89 uncovered studies being needed to reverse that conclusion. Cooper (1979) agreed with Maccoby and Jacklin that women conform more than males in face-to-face settings, but disagreed by concluding that there was consistency in these findings. Finally, Cooper agreed with Maccoby and Jacklin that the reviewed studies of persuasion experiments and conformity experiments using fictitious group norms showed no differences.

In a more recent meta-analysis, Eagly and Carli (1981) criticized Cooper's (1979) sample by pointing out that his conclusion that women are more conforming than men was based on retrieved quantitative information from only 18 studies, and the null findings for persuasion studies and studies using fictitious group norms were based on retrieved data from 2 and 4 studies, respectively. Eagly and Carli's (1981) meta-analysis was conducted on 61 persuasion studies, 64 conformity studies involving group pressure, and 23 conformity studies not involving group pressure. The studies all had subjects of high school age or older, and appeared in psychology journals between 1949 and 1977. The results showed an overall tendency, in all three

categories, for women to be more conforming than men. When analyzed by year of publication, however, it was found that earlier studies were more likely to find greater female influenceability, supporting Eagly's (1978) earlier suggestion that social changes were modifying this tendency. The authors also examined the magnitude of the sex difference, and found the mean effect to be between .16 (which was the value obtained by including studies assumed to have no sex effect) and .26 (found by including only studies which gave effect size estimates). Eagly and Carli (1981) pointed out that Cohen (1977) suggested that .20 indicates a small effect and .50 a medium effect, so they interpreted the entire sample as demonstrating a small sex difference in influenceability.

Eagly and Carli (1981) also contrasted the mean effect size of group pressure experiments with persuasion studies and other conformity studies not involving group pressure, in order to determine support for the previously suggested (Cooper, 1979; Eagly, 1978; Maccoby & Jacklin, 1974) tendency for women to be more conforming in that situation. They found that the group pressure mean effect size was larger than that for the persuasion studies, but not for other types of conformity studies. However, the authors considered those findings only suggestive, in part due to the low sample size of the non-group pressure studies. Later work by Eagly (1983; Eagly, Wood, & Fishbaugh, 1981) supported the notion that women are more conforming than men in mixed-sex group pressure situations which involve surveillance by the influencing agent.

In summary, then, in the traditional majority-influence literature a consistent, but small, effect for greater conformity of

women is found, especially in group pressure situations where the subjects are observed by the influence source.

What has not been addressed is whether or not there is a sex difference in influenceability in the minority influence paradigm. That is, will women be somewhat more influenced than men by a minority source? Perhaps of even greater interest is the question of a possible interaction between sex of minority and sex of group member. Eagly (1978) suggested that men, following the norm of chivalry, might publicly agree with a woman, and that women, following the norm of deferring to a man, might publicly agree with a man. The underlying basis for this supposition (i.e., public adherence to social norms) leaves the possibility that the expressed public opinions might be different from private opinions.

In contrast, it has also been suggested that male sources have more credibility (Eagly, 1978). This suggests that a male minority would have more influence with male and female group members alike. Since this second suggestion is based on the concept of informational influence (Deutsch & Gerard, 1955), there should be no differences in public and private opinions. Although Arbuthnot and Wayner (1982) examined the effect of male and female minorities (as discussed in the previous section on sex differences in influenceability), they did not report on any sex differences in influenceability, nor did they consider any interaction effects. Clearly such an examination is needed.

Previous research suggests that there should be no sex effects for influence of the minority person. Although the literature shows support for an overall tendency for males to be more influential than

females, previous research using mock jury deliberations (i.e., Nemeth, Endicott, & Wachtler, 1976; Arbuthnot & Wayner, 1982) found no differences for males and females in amount of influence exerted. This lack of a sex effect may be due to informational needs, rather than normative concerns, being more salient in a mock jury discussion.

Further, previous research suggests that female minorities are considered less influential than male minorities. Although no sex differences are hypothesized for actual amount of influence exerted, it is expected that the female minority should be perceived as less influential than the male minority, consistent with previous findings (Nemeth, Endicott, & Wachtler, 1976).

Finally, female group members should be more influenced by the minority than should male group members, although the effect size should be small. Recent reviews (Eagly & Carli, 1981; Eagly, 1983; Eagly, Wood, & Fishbaugh, 1981) concluded that women are more influenceable than men, particularly in the type of experimental setting used in the present study (i.e., mixed-sex group pressure situation involving surveillance by the influence agent). The effect size, however, was found to be small. Further, the trend of less persuasibility of women in more recent studies (Eagly & Carli, 1981) should contribute to the small effect size.

In summary, the current study examined the effects of decision rule, minority discrepancy, minority sex, and group-member sex on the minority's ability to influence group members in a mock-jury deliberation of a monetary award in a civil negligence case. The mixed-sex groups deliberated under either a unanimous or majority decision rule, and were composed of 4 or 5 naive group members and a

confederate (either male or female), who expressed a minority opinion that was either high or low in discrepancy from the other group members. It was expected that minorities would be more influential when they were not highly discrepant from the group norm, and when the group was deliberating under a unanimous decision rule. It was expected that female minorities would be considered less influential than their male counterparts, although equally influential. It also was expected that female group members would be more influenceable than male group members.

CHAPTER II

METHOD

Subjects

The subjects were 110 students (53 females and 57 males) from introductory psychology classes at the College of William and Mary in Virginia. These individuals, who volunteered to participate in a study described as "a research project on the decision-making process of a group", were chosen from a slightly larger group who completed the first phase of the experiment, as described in the next section.

Procedure

Volunteers were scheduled for experimental sessions such that one to three deliberation groups could be conducted simultaneously. Upon arrival, participants and confederates were read a description of the experiment (see Appendix A for full instructions) and were assigned an identification number that was used for encoding all data. Each person was given a copy of the case history of a Robert Smith (see Appendix B). Mr. Smith was a washing-machine repairman who was injured at a customer's house and who was suing the homeowner, Mr. Davis, for "the past and present pain and suffering and the worry and grief which he has undergone as a result of this accident" and "the irrevocable loss to him of an important aspect of his life, his ability to participate in the game of bowling." The case history stated "it was established during the course of the trial that Mr. Davis and his insurance company are indeed responsible to Mr. Smith

and should indeed reimburse him for his losses." This amount would be in addition to the amount Mr. Smith's insurance company had paid, and would continue to pay, for his hospital bills and loss of wages.

After reading this case summary, participants completed a questionnaire (see Appendix C) which asked for the amount they thought Mr. Smith should receive, as well as the highest and lowest amounts they would be willing to agree to "for the sake of a group agreement." As the volunteers completed reading the case history and answering the questionnaire, their written responses were collected. Individuals who gave an answer less than \$9000 in response to the first question were eliminated from the experiment, but were not told this until the other participants had adjourned to separate deliberation rooms. This resulted in a very small proportion of the larger sample being excluded. Those who met the requirement (i.e., whose answer to the first question was equal to or greater than \$9000) were assigned to groups such that there were approximately equal numbers of men and women in each group (16 of the 24 groups had three men and three women, including the confederates). Groups consisted of one confederate and four or five naive subjects. Identification numbers were called to designate juries, and participants were asked whether they knew any of their fellow jurors. There were only a few affirmatives, and substitutions were made. Students who only knew each other only by sight were allowed to remain in the same group, but even this was infrequent.

Jurors were led to a deliberation room and sat around a six-sided table, so there were no head or side positions. Confederates had been

instructed previously to sit in a different seat each time without drawing attention to their seating preference.

According to the decision rule to be employed (either unanimous or non-unanimous), the experimenter read the instructions and left the jurors to discuss the case for thirty minutes (see Appendix D for complete instructions). Although no specific rule (e.g., 2/3 majority) was given in the non-unanimous condition, a majority rule was implicit, given the expectations of jury deliberation and the experimenter's instruction that they did not have to reach a unanimous decision. During the discussion period the confederate initially expressed one of two discrepancy positions: Mr. Smith should receive only \$3000 (high discrepancy) or Mr. Smith should receive only \$7000 (low discrepancy). At some point 5 to 10 minutes into the discussion, the confederate increased his/her initial amount by \$1000, in order to demonstrate some flexibility and to reduce the likelihood that the group would become suspicious. The confederates defended their position with memorized arguments (see Appendix E). They were allowed to paraphrase these arguments in response to questions, but not to elaborate or give other reasons for their position.

At the end of the discussion interval the experimenter returned and asked each juror for his/her final (public) vote on the amount Mr. Smith should receive. Participants' identification number, group number, and final public vote were noted on a questionnaire booklet (Appendix F), which was then given to the individual. This questionnaire asked for their final personal opinion of how much Mr. Smith should be awarded, since "in the interest of reaching a compromise in the group you may have agreed to an amount greater or

lesser than the amount you really think Mr. Smith should receive." Other measures were included to ascertain the individual's satisfaction with the group discussion and outcome, topic importance, and perceived similarity to other group members. Then each participant rated each group member on 17 characteristics: Consistency, independence, level of activity, cooperativeness, centrality to the discussion, warmth, strength of will, perceptiveness, leadership, fairness, confidence, reasonableness, ability to make the participant reassess his/her opinion, likeability, admirability, similarity to the participant in life philosophy, and similarity to the participant in philosophy on the specific case.

After all booklets were completed and collected, an extensive debriefing session was held. No subject expressed any suspicions of the confederate, even when asked whether they had any doubts about the sincerity of any of their fellow jurors. However, one male participant responded that at one point early in the discussion session he had wondered whether or not another juror (not a confederate) was "working with" the experimenter. Even when told that there was a confederate in the group, the participants were still unable to identify him/her. That the participants were genuinely involved with the discussion topic was demonstrated by the fact that in almost all cases, the jurors' initial response to having the confederate identified was to ask for his/her real opinion on the case. The rationale for the study and the necessity of having a confederate was explained.

To summarize, mixed groups consisting of four or five participants and one male or female confederate deliberated for 30

minutes on the amount which should be awarded to a Mr. Smith for "the pain and suffering" incurred as a result of an accident (i.e., the dependent variable). The confederate maintained either a high-discrepancy position (\$3000 - \$4000) or a low-discrepancy position (\$7000 - \$8000) from the group members, all of whom initially wanted to award an amount between \$9000 and \$35,000. The final manipulated variable was decision rule (unanimous or non-unanimous). The resulting experimental design was a 2 (male-female subject sex) X 2 (male-female minority/confederate sex) X 2 (unanimous-nonunanimous decision rule) X 2 (high-low discrepancy) between subjects factorial design.

Data Analyses

The dependent measures fall into two categories: monetary awards and perceptions of group members. The monetary measures were analyzed with 2 X 2 X 2 X 2 (Sex of Majority X Sex of Minority X Discrepancy from Group X Decision Rule) Analysis of Variance (ANOVAs) with repeated measures for initial and final public awards. The 17 perception variables were analyzed with 2 X 2 X 2 X 2 ANOVAs (Sex of Majority X Sex of Minority X Discrepancy from Group X Decision Rule), with repeated measures of two scores: (1) the individual's rating of the confederate on the variable and (2) the mean of that individual's ratings of the other majority members on that variable. That is, the person's perceptions of the minority were compared with that person's average perception of the other group members. For all 17 variables, a score of 1 denoted that the variable applied not at all to the ratee and 9 indicated that the variable applied very much.

CHAPTER III

RESULTS

Preliminary Analyses

An analysis to determine whether the initial final public judgments were different from the final private judgments demonstrated that the mean final public award (\$16,795) was not significantly different from the mean final private award (\$17,177), $F(1,94) = 2.5$, $p > .10$. In the interest of brevity, only analyses with the final public judgment are reported, as the pattern for the final private judgments are virtually identical.

Participants were asked whether they (or relatives or close friends) had ever been involved in a similar accident, as it seemed possible that one's views could be influenced by personal exposure to such a case. Of the 110 participants, only 17 indicated that they, or someone they knew, had been involved in a similar situation. An analysis performed on the change from initial judgment to final public judgment with involvement as the only independent variable showed no significant difference as a result of involvement, $F(1,108) = 1.10$, $p > .29$.

The importance of the topic to the participant was used as a covariate in a $2 \times 2 \times 2 \times 2$ ANOVA for initial and final public judgments. The covariate was not significant, $F(1,93) = 1.8$, $p > .17$, indicating that the results were not influenced by the subject's assessment of the topic's importance.

General Findings

The monetary data were first analyzed to determine whether there was a significant decrease in final judgment from the initial award judgment. The 2 X 2 X 2 X 2 ANOVA with repeated measures for initial and final private judgments showed an overall decrease, $F(1,94) = 34.5$, $p \leq .01$, with the mean initial award (\$21,636) significantly different from the mean final judgment (\$17,177). However, given the lack of appropriate control condition, it cannot be determined definitely that minority influence is the explanation for this effect. Alternate explanations, such as regression to the mean, cannot be ruled out.

The perceptual data, which contrasted each group member's perceptions of the minority with his/her averaged perceptions of the other group members, are summarized in Table 1. The data showed that, overall, group majority members, when compared to the minority, were considered more cooperative, $F(1,94) = 133.6$, $p \leq .01$, more perceptive, $F(1,94) = 10.7$, $p \leq .01$, more reasonable, $F(1,94) = 75.3$, $p \leq .01$, more likeable, $F(1,94) = 8.2$, $p \leq .01$, more similar to the subject in life philosophy, $F(1,94) = 12.0$, $p \leq .01$, more similar to the subject on the discussed case, $F(1,94) = 48.8$, $p \leq .01$, warmer, $F(1,94) = 13.1$, $p \leq .01$, and fairer, $F(1,94) = 63.3$, $p \leq .01$.

On the other hand, the minority confederate, as compared to the other group members, was considered to be more consistent, $F(1,94) = 41.1$, $p \leq .01$, more confident, $F(1,94) = 14.4$, $p \leq .01$, more of a leader, $F(1,94) = 7.6$, $p \leq .01$, more independent, $F(1,94) = 133.6$, $p \leq .01$, more central to the discussion, $F(1,94) = 23.8$, $p \leq .01$, more

strong-willed, $F(1,94) = 142.9$, $p \leq .01$, and more active, $F(1,94) = 68.5$, $p \leq .01$.

In addition, minorities were seen as making individuals reassess their opinions more than other group members, $F(1,94) = 3.5$, $p = .06$. There was no difference between minority and majority group members on only one of the 17 perception variables. No difference was seen between the minorities and the other group members in terms of how admirable they were, $F(1,94) = .61$, $p > .43$.

Decision Rule and Discrepancy Effects

The analysis of the change from initial to final public award yielded an interaction between decision rule and discrepancy that approached accepted levels of significance, $F(1,94) = 3.58$, $p = .06$. As can be seen in Table 2, the greatest changes from initial to final award occurred in the unanimous, low discrepancy and the non-unanimous, high discrepancy conditions, while the least change occurred in the non-unanimous, low discrepancy condition. This same pattern was repeated in the analysis of change from initial to final private award, where the decision rule X discrepancy interaction was significant, $F(1,94) = 6.02$, $p \leq .05$.

As shown in Table 3, two of the 17 perception variables demonstrated a decision rule effect for repeated measures on perceptions of minority and majority group members. The minority was considered more consistent than the majority $F(1,94) = 8.67$, $p \leq .01$, and less cooperative $F(1,94) = 7.15$, $p \leq .01$ in the unanimous than in the non-unanimous condition.

Two significant effects were found for the discrepancy variable, shown in Table 4. The minority in the low discrepancy condition was

liked less, $F(1,94) = 4.67$, $p \leq .05$, and was seen as less like the subjects in life philosophy, $F(1,94) = 4.33$, $p \leq .05$, than the high-discrepancy minority.

Two significant two-way interactions were found for decision rule and discrepancy, depicted in Table 5. Subjects saw the greatest difference between majority members and the minority's cooperativeness in the unanimous, low discrepancy condition, $F(1,94) = 4.50$, $p \leq .05$. In the low discrepancy condition, the minority was considered more confident than the majority when a unanimous decision rule rather than a non-unanimous one was used, whereas the reverse was true in the high discrepancy condition, $F(1,94) = 11.17$, $p \leq .01$.

Three two-way interactions were found for Sex of Minority and Decision Rule, shown in Table 6. Female minorities in the unanimous condition were considered as strong-willed as male minorities when compared to majority members, whereas females in the non-unanimous condition were not, $F(1,94) = 4.98$, $p \leq .05$. The greater difference between the perception of the minority and majority in terms of leadership occurred in the unanimous condition for male minorities, whereas the least difference occurred for female minorities in the non-unanimous condition, $F(1,94) = 4.78$, $p \leq .05$. The least difference in perceived fairness occurred in the unanimous condition for male minorities, and the greatest difference for female minorities under that same decision rule, $F(1,94) = 5.21$, $p \leq .05$.

In summary, these three interactions indicate that female minorities are particularly negatively evaluated in terms of their leadership and strength of will under a non-unanimous decision rule. Male minorities, on the other hand, are especially perceived as

leaders under a unanimous decision rule. Finally, in marked contrast to male minorities, female minorities are judged as unfair under a unanimous decision rule.

Finally, group members in the non-unanimous condition were more satisfied with the group discussion ($\bar{M} = 7.06$) than those in the unanimous condition ($\bar{M} = 6.36$), $F(1,94) = 4.10$, $p \leq .05$. Those in the non-unanimous condition were also more satisfied with the group's final decision ($\bar{M} = 5.69$) than those in the unanimous condition ($\bar{M} = 4.60$), $F(1,94) = 6.55$, $p \leq .05$.

Sex Differences

There were no sex effects for any of the monetary measures, indicating that (1) there were no significant differences in amount of minority influence due to the sex of the minority, and (2) male and female group members were not differentially influenced.

Seven of the 17 perception measures yielded main effects for sex of minority, and these effects demonstrate a consistent pattern: On five variables male minorities were assessed more positively than other group members or than female minorities, whereas female confederates were rated less favorably than male minorities or other group members on two variables. As Table 7 shows, male minorities were considered more of a leader, $F(1,94) = 15.64$, $p \leq .01$, more active, $F(1,94) = 7.0$, $p \leq .01$, central to the discussion $F(1,94) = 4.62$, $p \leq .05$, more confident, $F(1,94) = 4.45$, $p \leq .05$, and were credited more with making the subjects reassess their opinions, $F(1,94) = 12.58$, $p \leq .01$. Female minorities, as compared to male minorities and majority group members, were considered least

perceptive, $F(1,94) = 5.21$, $p \leq .05$, and least fair, $F(1,94) = 7.14$, $p \leq .01$).

There were no main effects for sex of majority group member, however, there were two significant two-way interactions (with repeated measures on perceptions of minority versus majority group members) between sex of minority and majority (see Table 8). Male and female majority members felt that a male minority, when compared to the majority, made them reassess their opinions, with this effect being especially pronounced for the female majority members, who also indicated that a female minority was less influential in this regard than other group members, $F(1,94) = 3.86$, $p \leq .05$. Male majority members found male minority members to be very admirable, compared to the overall group, whereas female majority members saw little difference, $F(1,94) = 3.80$, $p \leq .05$. However, (and, again, unlike the male majority), the female majority considered the female minority less admirable than the other group members. The overall pattern indicates that male minorities were positively evaluated by males and females alike, whereas female group members were particularly censorious of female minorities.

Finally, group members with a male minority were more satisfied with the group discussion ($M = 7.05$) than those with a female minority ($M = 6.37$), $F(1,94) = 3.84$, $p \leq .05$.

CHAPTER IV

DISCUSSION

The present study examined the effects of decision rule (i.e., unanimous or non-unanimous), minority-majority discrepancy, minority sex, and majority group member sex on the minority's ability to influence group members. The experimental setting was a mock-jury deliberation of a monetary award in a civil negligence case. The results showed that a minority's influence is related to the interactive effects of decision rule and minority's discrepancy from the majority. Consistent with previous findings, the minority group member was considered less likeable, but was more influential, than other group members. Although group members were influenced equally by male and female minorities (as measured by the change in initial to final compensatory judgments), group members of both sexes perceived the female minority as less influential than the male minority.

Monetary Measures

Previous research has suggested that minorities are more influential under a unanimous decision rule, and when they are not very discrepant from the majority. Law scholars and other individuals concerned with civil liberties have argued that majority rule weakens the judicial system by allowing jurors to disregard dissenting, and possibly valid, opinions. Social influence researchers have found that minorities who express opinions that are in strong contrast to

those of the majority are usually ostracized and dismissed as deviates.

The present study, however, failed to find these simple effects on a minority's ability to exert influence. Instead, decision rule and minority-majority discrepancy interacted, such that minority influence was greatest under the combined conditions of a unanimous decision rule and low minority-majority discrepancy, and least under a non-unanimous decision rule and low discrepancy. That is, the groups with the greatest and least amount of change differed only on the decision rule. High discrepancy, regardless of decision rule, was associated with intermediate levels of minority influence.

Apparently, the minority stating a low discrepancy opinion is tolerated, but is relatively ineffectual in the absence of pressure to reach a unanimous decision. Conversely, when individuals are instructed to reach a unanimous decision, a low discrepant minority is the most influential, perhaps because the minority is close enough to the majority opinion to avoid being dismissed as a deviate. Whereas in the non-unanimous condition the majority may simply accept the minority's view without feeling any external pressure to modify their own opinion, under a unanimous decision rule the majority is faced with one "hold out" who really isn't that different from the group.

It appears from this study that jurors who are in mild disagreement are far more likely to be influenced by a minority when they are deliberating under a unanimous decision rule, while it is easier to agree to disagree under a majority rule. On the other hand, greater disagreement seems to lead to an intermediate level of influence by the minority regardless of decision rule. The level of

disagreement is sufficient in itself to generate discussion, argument and modification of opinions.

The current study used a civil case rather than a criminal case. It seems likely that civil cases, at least where the deliberation concern monetary awards, are more likely than criminal cases to have minorities who disagree with the majority only mildly. Criminal cases, where a forced-choice decision is required, are more likely to be characterized by high levels of discrepancy (i.e., guilty or innocent) between minorities and majorities. The implication is that a unanimous decision rule may actually have a greater effect on minority influence in civil cases than in criminal ones, but only in situations where there isn't too much difference between the jurors anyway. Given the costs associated with the judicial system, it may be that unanimity decision rules are not cost effective for civil cases. Further, given that minority influence is not affected by decision rule when there is high discrepancy, it may be that unanimous decision rules are less necessary in criminal cases than previously thought. Obviously these findings are only suggestive, but they do indicate that future research should consider a more complex interplay of factors, rather than a narrow focus on only one variable affecting the issue.

Implications for the legal literature need to be qualified, given that no explicit majority rule was stated for the non-unanimous groups. Subjects were only told that they were not required to reach a unanimous decision. Given conventional knowledge of jury deliberations, it seems reasonable to assume that the participants were operating under an implicit majority rule. Future research,

however, should indicate an explicit majority rule (e.g., a 2/3 majority rule).

Contrary to findings by Nemeth (1977), members of the unanimous decision groups were less satisfied than non-unanimous group members with the group's final decision. Nemeth found, however, that unanimous decision group members were less comfortable during the discussion. Indeed, in the present study those under the unanimous rule were less satisfied with the group's discussion than those under the non-unanimous rule. Why only a partial replication of Nemeth's findings? Possibly because no unanimous-rule groups ever reached a unanimous decision, unlike Nemeth's groups which deliberated until they reached consensus. In the present study, the unanimous decision rule groups failed to reach their goal, whereas non-unanimous rule groups had no external goal imposed on them at all. Hence, it seems reasonable that those in the unanimous decision rule groups would indeed be less satisfied with both the discussion and the group's final decision.

Previous research (e.g., Brown, 1979) has found a general tendency in group interactions for males to be more influential than females. In contrast, the literature on mock-jury deliberations (e.g., Nemeth et al, 1976) suggests that there should be no difference in the amount of influence exerted by males or females. Further, the single study which has looked at sex differences in minority influence in mock-jury deliberations (Arbuthnot & Wagner, 1982) found no evidence of superior male influence. The present study supported the previous mock-jury research, and found no difference in the ability of male and female minorities to influence group members.

The present study also addressed the previously unexplored issue of sex differences in influenceability in response to minority influence attempts. Previous research (e.g., Eagly & Carli, 1981; Eagly et al., 1981; Eagly, 1983) has suggested that women are more influenced than men in group pressure situations, although the effect size is usually small. As with minority sex, this study found no difference in the influenceability of male and female majority members. Further, there was no interaction between sex of minority and sex of majority. No differences were found in public versus private judgments, indicating that majority members did not publicly follow social norms (i.e., men publicly agreeing with a woman, and women publicly agreeing with a man), while holding discrepant private opinions.

Instead, the findings support Nemeth, Endicott, and Wachtler's (1976) conclusion that women (at least in a mock-jury situation) are not really different from men in their ability to influence, nor in their tendency to be influenced, but are perceived by both men and women to be less influential and more persuadable than men. These normative expectations may explain, in part, the finding that the majority (both males and females) expressed greater satisfaction with the group discussion when the minority was male rather than female. This explanation gains credibility when the majority's perceptions of the minority are considered.

Perceptions of the Minority

Main effects. Earlier research (Nemeth & Wachtler, 1974) has shown that a minority is considered more consistent, independent, active, central, strong-willed, confident, more of a leader and is

believed by the majority to have made them reassess their opinions more than others in the group. Further, the majority is less liked and considered less fair, reasonable, perspective, warm, cooperative, admired, and wanted than others. These findings were replicated in the present study. Although the main effect for "admirable" was not significant, an interaction between sex of minority and sex of majority on this variable, discussed below, accounts for this. In addition, the minority was considered less similar to the majority in the case they discussed (verifying the perception of the confederate as a minority), and also less similar to the majority in life philosophy. The latter points out an interesting generalization on the part of the majority. It can be seen that the main effects for the perceptions of the minority support previous research and emphasize that the minority's influence is not dependent on how much they are liked, or how similar they are seen to be.

Rule and discrepancy effects. In addition to affecting the amount of influence exerted by the minority, decision rule and minority-majority discrepancy also affected the majority's assessment of the minority. Past research has suggested that the perception of consistency and confidence are important for successful minority influence. The present study found that a minority is considered more consistent under a unanimous decision rule, and that minority influence was at either high or intermediate levels under a unanimous rule. Nemeth and Wachtler (1974) found that choosing to sit at the head of a table apparently increases the impression of confidence, and leads to greater minority influence. The present study found that the interactive effects of minority-majority discrepancy and decision rule

also vary the impression of the minority's confidence. Minorities expressing a low discrepant opinion under a unanimous decision rule, or a high discrepant opinion under a non-unanimous decision rule, were considered more confident than other group members, and exerted high and intermediate levels of minority influence, respectively.

These results support the previous research, and they indicate the particular importance of the combination of perceived consistency and confidence. The greatest amount of minority influence occurred in the unanimous, low discrepancy condition, where the minority was seen as both consistent and confident. Whereas in the two intermediate conditions only one factor was salient: The minority was considered more confident than the majority in one case (non-unanimous, high discrepancy) and more consistent in the other (unanimous decision, high discrepancy). The least amount of minority influence occurred where the minority was not seen as different from the majority either in terms of consistency or of confidence.

The present study also verifies Nemeth and Wachtler's interpretation of their findings. They used confidence as an implied variable; that is, they had the minority person either choose or be assigned to the head seat at the discussion table, and they assumed that the majority members interpreted the choosing of the head chair as a sign of confidence. By allowing group members in the present study to rate the minority and majority members on confidence, we have gained verification that the majority considers the effective minority member more confident.

The minority who took a low discrepancy position under a unanimous decision rule was considered particularly uncooperative

compared to other group members. Perhaps the group members found it especially frustrating that someone would refuse to go along with the group when there wasn't very much difference in their positions and there was the pressure to reach unanimity. This finding is interesting given that the greatest amount of minority influence occurred in this condition, again pointing out that minority influence is not dependent on positive personal attributions from the majority.

Decision rule also differentially affected perceptions of male and female minorities, but these findings will be considered in the next section.

Sex differences. Of the 17 dependent measures of majority perceptions of the minority versus the majority, only four (independence, warmth, reasonableness, and similarity to respondent in life philosophy) failed to have a sex of minority or sex of majority effect. Overall, the data support the findings of Nemeth and Wachtler (1974) that a female minority is viewed less favorably and considered less of a leader than a male minority. Majority members of both sexes usually agreed on their view of the female minority's inferiority.

In comparison to other group members, male minorities, more than female minorities, were considered more a leader, as well as more confident, more active, more central to the discussion, and more responsible for making group members reassess their opinions.

Decision rule also affected perceptions of male and female minorities. Male minorities under either decision rule and female minorities under a unanimous rule were considered stronger willed than the majority, whereas considerably less difference was seen between the group and a female minority under a non-unanimous decision rule.

The same general pattern held for perceptions of leadership, although male minorities were particularly seen as more of leaders compared to the group under a unanimous decision rule. Finally, the least difference in terms of fairness between minority and majority occurred for male minorities under a unanimous decision rule, whereas the greatest difference occurred for female minorities under that same rule.

Arbuthnot and Wagner (1982) found that only women who chose the head seat and took a minority position were able to overcome negative stereotypic assessments of being less able to lead and to influence the group. They interpreted these findings as support for the notion that women must display "more of a given attribute than the male in order to achieve the same outcome" (p. 293). In the present study, women expressing a minority opinion under a non-unanimous decision rule were not seen to be leaders or strong-willed. Perhaps the non-unanimous decision rule, with its lack of external pressure for the group to reach consensus, creates a weak situation for female minorities, just as does a situation where the minority is unable to choose the head seat. That is, the lack of external pressure, in combination with stereotypic expectations for female behavior, may create a situation where the female minority's discrepant behavior can be more easily overlooked. The unanimous decision rule, which was found to increase the perception of the minority's consistency, may serve to emphasize the female minority's "unusual" behavior. The group, in effect, has to notice that she is disagreeing with them. That female minorities are considered particularly unfair in this

condition indicates that their behavior is not judged positively by the group.

This explanation of stereotypic expectations would also account for the enhanced perception of the male minority as a leader and as fair under the unanimous decision rule. The unanimous decision rule, by increasing the pressure on the group, may essentially serve to highlight the behavior of the minority. Although the majority may still find the minority irritating, they may grudgingly agree that the behavior is appropriate for males--but not for females!

When the sexes disagreed on their assessment of the minority, women were the ones who were more censorious of the female minority. Male group members considered male minorities more admirable than other group members, whereas there was little difference between their admiration for female minorities and other group members. Female majority members, however, expressed little difference in admiration for male minorities and the majority, but found a female minority less admirable than the rest of their group. Both male and female majority members felt that the male minority, in comparison to other group members, made them reassess their opinions, with this effect being particularly strong for female majority members. But whereas male majority members saw little difference between the group and a female minority, the female majority members said that a female minority was less able to make them reassess their opinions.

Conclusions

In summary, the present study extends previous findings and suggests directions for future research. Two different streams of research were integrated: One dealing with the effect of decision

rules on jury deliberation and the other with the effect of minority-majority discrepancy on minority influence. Of interest to judicial scholars is the finding that the decision rule issue is influenced by the minority's discrepancy from the group's norm. A low-discrepancy minority exerted greatest influence under a unanimity decision rule, and least under a non-unanimity decision rule. It appears that for deliberations where there is relatively less disagreement between the minority and majority, the decision rule is critical in affecting the minority's ability to influence the majority. Where disagreement is great, however, decision rule is irrelevant, in that an intermediate level of minority influence occurred under both unanimity and non-unanimity decision rules. It was suggested that civil cases (or, at least, the process of deciding upon monetary awards) would be more likely to be characterized by lesser minority-majority discrepancy, whereas criminal cases (which necessitate a forced choice between guilt and innocence) would be more likely to have greater discrepancy. If those assumptions are valid, it follows that a unanimity decision rule is more important in civil than criminal cases, but only when there is little discrepancy between the minority and majority anyway. The implications for the judicial system could be very important if the less-costly majority decision rule could be substituted for the unanimous decision rule. Future research should focus on verifying the present findings, as well as determining whether the important issue of public confidence in the judicial system would be harmed by moving away from unanimous decision rules. Most importantly, the present research illustrates the need to consider how other factors

interact with decision rules to facilitate or hinder a minority's ability to influence the majority.

Of interest to minority and social influence researchers is the finding that situational variables can affect a minority's ability to exert influence. Decision rule determines whether a low-discrepancy minority exerts considerable influence (i.e., under a unanimous rule) or very little (i.e., under a non-unanimous rule). Further, it was found that high-discrepancy minorities were not ignored by the group, although it should be noted that they exerted less influence (under both decision rules) than a low-discrepancy minority under a unanimous decision rule. These findings qualify previous research regarding rejection of a deviate (at least in relative terms), but indicating that it is not the amount of discrepancy alone which determines the minority's ability to influence the majority. In general the minority was evaluated less favorably than other group members, but was still able to exert influence.

Finally, majority group members of both sexes were influenced equally by male and female minorities, but in spite of this, believed that the female minority was less influential than the male minority. This finding may reflect that changes in stereotypical expectations lag behind behavioral changes. That is, majority members may be equally influenced by males and females, as in the present case, but their expectations may still be that they will be more influenced by a male. Further, their evaluations of male versus female minorities confirm that they more highly value "deviant" behavior in males than females. Argumentative males are leaders, whereas argumentative females are a nuisance. It seems likely that 40 years ago a study of

this nature would have found that males were more influential, as well as perceived as more influential. Perhaps future research will find that stereotypic expectations and actual behaviors are again congruent, with minorities of either sex being regarded as leaders.

REFERENCES

- Apodaca, Cooper and Madden v. Oregon. 92 U.S. 1928, 1972.
- Arbuthnot, J., & Wayner, M. (1982). Minority influence: Effects of size, conversion, and sex. The Journal of Psychology, 111, 285-295.
- Asch, S. E. (1951). Effects of group pressure upon the modification and distortion of judgments. In H. Guetzkow (Ed.) Groups, leadership, and men. Pittsburgh, PA: Carnegie Press, 177-190.
- Asch, S. E. (1952). Social psychology. Englewood Cliffs, NJ: Prentice-Hall.
- Asch, S. E. (1956). Studies of independence and submission to group pressure: I. A minority of one against a unanimous majority. Psychological Monographs, 70, (9, Whole No. 416).
- Berger, J., Cohen, B. P., & Zelditch, M., Jr. (1972). Status characteristics and social interaction. American Sociological Review, 37, 241-255.
- Berger, J., Fisek, M. H., Norman, R. Z., & Zelditch, M., Jr. (1977). Status characteristics and social interaction: An expectation states approach. New York: American Elsevier.
- Berger, J., Rosenholtz, S. J., & Zelditch, M., Jr. (1980). Status organizing processes. In A. Inkeles, N. J. Smelser, & R. H. Turner (Eds.), Annual Review of Sociology, Vol. 6. Palo Alto: CA: Annual Reviews.
- Brown, L. K. (1979). Women and business management. Signs, 5, 266-288.
- Cartwright, D., & Zander, A. (1968). Group dynamics (3rd ed.) New York: Harper and Row.
- Cohen, B. P. (1963). Conflict and conformity. Cambridge, MA: M.I.T. Press.
- Cohen, J. (1977). Statistical power analysis for the behavior sciences (2nd ed.). New York: Academic Press.
- Cooper, H. M. (1979). Statistically combining independent studies: A meta-analysis of sex differences in conformity research. Journal of Personality and Social Psychology, 37, 131-146.

- Crano, W. D. (1970). Effects of sex, response order, and expertise in conformity: A dispositional approach. Sociometry, 33, 239-252.
- Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. Journal of Abnormal and Social Psychology, 51, 629-636.
- Eagly, A. H. (1978). Sex differences in influenceability. Psychological Bulletin, 85, 86-116.
- Eagly, A. H. (1983). Gender and social influence: A social psychological analysis. American Psychologist, 38, 971-981.
- Eagly, A. H., & Carli, L. L. (1981). Sex of researchers and sex-typed communications as determinants of sex differences in influenceability: A meta-analysis of social influence studies. Psychological Bulletin, 90, 1-20.
- Eagly, A. H., & Wood, W. (1982). Inferred sex differences in status as a determinant of gender stereotypes about social influence. Journal of Personality and Social Psychology, 43, 915-928.
- Eagly, A. H., Wood, W., & Fishbaugh, L. (1981). Sex differences in conformity: Surveillance by the group as a determinant of male nonconformity. Journal of Personality and Social Psychology, 40, 384-394.
- Goldberg, C. (1975). Conformity to majority type as a function of task and acceptance of sex-related stereotypes. Journal of Psychology, 89, 25-37.
- Goldberg, S. C. (1954). Three situational determinants of conformity to social norms. Journal of Abnormal and Social Psychology, 49, 325-329.
- Helson, H., Blake, R. R., & Mouton, J. S. (1958). An experimental investigation of the effectiveness of the "big lie" in shifting attitudes. Journal of Social Psychology, 48, 51-60.
- Jacobs, R. C., & Campbell, D. T. (1961). The perpetuation of an arbitrary tradition through several generations of a laboratory microculture. Journal of Abnormal and Social Psychology, 62, 649-658.
- Johnson v. Louisiana. 92 U.S. 1935, 1972.
- Johnson, R. W., & MacDonnell, J. (1974). The relationship between conformity and male and female attitudes toward women. Journal of Social Psychology, 94, 155-156.
- Kalven, H., Jr., & Zeisel, H. (1966). The American jury. Boston: Little, Brown.

- Kerr, N. L., Atkin, R. S., Stasser, G., Meek, D., Holt, R. W., & Davis, J. H. (1976). Guilt beyond a reasonable doubt: Effect of concept definition and assigned decision rule on the judgments of mock jurors. Journal of Personality and Social Psychology, 34, 282-295.
- Knower, F. H. (1935). Experimental studies of changes in attitudes: I. A study of the effect of oral argument on changes of attitude. Journal of Social Psychology, 6, 315-345.
- Latané, B. (1981). The psychology of social impact. American Psychologist, 36, 343-356.
- Latané, B., & Wolf, S. (1981). The social impact of majorities and minorities. Psychological Review, 88, 438-453.
- Luchins, A. S. (1955). A variational approach to social influences on perception. Journal of Social Psychology, 42, 113-119.
- Maass, A., & Clark, R. D., III. (1984). Hidden impact of minorities: Fifteen years of minority influence research. Psychological Bulletin, 95, 428-450.
- Maccoby, E. E., & Jacklin, C. N. (1974). The psychology of sex differences. Stanford, CA: Stanford University Press.
- Meade, R. D., & Barnard, W. A. (1973). Conformity and anticonformity among Americans and Chinese. Journal of Social Psychology, 89, 15-24.
- Meade, R. D., & Barnard, W. A. (1975). Group pressure effects on American and Chinese females. Journal of Social Psychology, 96, 137-138.
- Meeker, B. F., & Weitzel-O'Neill, P. A. (1977). Sex roles and interpersonal behavior in task-oriented groups. American Sociological Review, 42, 91-105.
- Meyers, D. G., & Arenson, S. J. (1968). Stimulus factors in conformity. Journal of Social Psychology, 76, 37-41.
- Miller, G. R., & McReynolds, W. (1973). Male chauvinism and source competence: A research note. Speech Monographs, 40, 154-155.
- Moscovici, S. (1985). Social influence and conformity. In G. Lindzey & E. Aronson (Eds.), Handbook of social psychology, Vol. II (3rd ed.). New York: Random House, 347-412.
- Moscovici, S., & Faucheux, C. (1972). Social influence, conformity bias and the study of active minorities. In L. Berkowitz (Ed.) Advances in experimental social psychology, Vol. 6. New York: Academic Press.

- Moscovici, S., Lage, E., & Naffrechoux, M. (1969). Influence of a consistent minority on the responses of a majority in a color perception task. Sociometry, 32, 365-379.
- Moscovici, S., & Nemeth, C. (1974). Social influence: II. Minority influence. In C. Nemeth (Ed.), Social psychology: Classic and contemporary integrations. Chicago: Rand McNally, 217-249.
- Nemeth, C. (1977). Interactions between jurors as a function of majority versus unanimity decision rules. Journal of Applied Social Psychology, 7, 38-56.
- Nemeth, C. (1981). Jury trials: Psychology and law. In L. Berkowitz (Ed.), Advances in experimental social psychology, Vol. 14, New York: Academic Press, 309-367.
- Nemeth, C., Endicott, J., & Wachtler, J. (1976). From the '50s to the '70s: Women in jury deliberations. Sociometry, 39, 293-304.
- Nemeth, C., Swedlund, M., & Kanki, B. (1974). Patterning of the minority's responses and their influence on the majority. European Journal of Social Psychology, 4, 53-64.
- Nemeth, C., & Wachtler, J. (1974). Creating the perceptions of consistency and confidence: A necessary condition for minority influence. Sociometry, 37, 529-540.
- Nemeth, C., & Wachtler, J. (1983). Creative problem solving as a result of majority versus minority influence. European Journal of Social Psychology, 13, 45-55.
- Olmstead, J. A., & Blake, R. R. (1955). The use of simulated groups to produce modifications in judgment. Journal of Personality, 23, 335-345.
- Saks, M. J., & Hastie, R. (1978). Social psychology in court. New York: Van Nostrand-Reinhold.
- Schachter, S. (1951). Deviation, rejection, and communication. Journal of Abnormal and Social Psychology, 46, 190-207.
- Schroder, H. M., & Hunt, D. E. (1958). Dispositional effects upon conformity at different levels of discrepancy. Journal of Personality, 26, 243-258.
- Sherif, M. (1936). The psychology of social norms. New York: Harper and Row.
- Sistrunk, F., & McDavid, J. W. (1971). Sex variable in conformity behavior. Journal of Personality and Social Psychology, 17, 200-207.

- Tanford, S., & Penrod, S. (1984). Social influence model: A formal integration of research on majority and minority influence processes. Psychological Bulletin, 95, 189-225.
- Tuddenham, R. D. (1958). The influence of a distorted group norm upon individual judgment. Journal of Psychology, 46, 227-241.
- Whittacker, J. O. (1964). Parameters of social influence in the autokinetic situation. Sociometry, 27, 88-95.
- Wolf, S. (1985). Manifest and latent influence of majorities and minorities. Journal of Personality and Social Psychology, 48, 899-908.

TABLE 1

GENERAL FINDINGS:
 CONTRASTS OF EACH GROUP MEMBERS' PERCEPTIONS OF THE MINORITY
 WITH THEIR AVERAGED PERCEPTIONS OF THE OTHER GROUP MEMBERS

	<u>MEANS</u>		<u>F(1,94)</u>
	Minority Group Member	Majority Group Member	
Cooperative	4.34	6.48	133.6
Reasonable	4.82	6.58	75.3
Fair	4.99	6.56	63.3
Similar to rater on discussed case	3.54	5.80	48.8
Warm	5.57	6.33	13.1
Similar to rater on life philosophy	4.55	5.45	12.0
Perceptive	5.60	6.36	10.7
Likeable	6.20	6.73	8.2
Strong-willed	7.97	6.26	142.9
Independent	8.24	6.57	133.6
Active	7.74	6.58	68.5
Consistent	7.90	6.69	41.1
Central to the discussion	7.16	6.30	23.8
Confident	7.14	6.58	14.4
Leader	6.04	5.72	7.6
Made raters reassess their opinions	4.82	4.42	3.5*

*p = .06; all other p-values \leq .01

Note: A score of 1 denotes that the variable applied not at all to the ratee and 9 indicates the variable applied very much.

TABLE 2
 INTERACTIVE EFFECTS OF DECISION RULE AND
 MINORITY-MAJORITY DISCREPANCY ON MINORITY INFLUENCE

<u>Decision Rule</u>	<u>Minority-Majority Discrepancy</u>	<u>Initial</u>	<u>Final (Public)</u>	<u>Minority Influence: Difference*</u>	<u>F(1,94)</u>
Unanimous	Low	21,531	14,875	6,656	3.58**
	High	21,778	17,008	4,770	
Non-unanimous	Low	21,863	19,921	1,942	
	High	20,829	15,535	5,294	

<u>Decision Rule</u>	<u>Discrepancy</u>	<u>Initial</u>	<u>Final (Private)</u>	<u>Difference</u>	<u>F(1,94)</u>
Unanimous	Low	21,531	15,084	6,447	6.02***
	High	21,778	18,516	3,262	
Non-unanimous	Low	21,863	20,256	1,607	
	High	20,829	15,410	5,419	

* Repeated measures on initial versus final judgment.
 ** $p = .06$
 *** $p \leq .05$

Note: A score of 1 denotes that the variable applied not at all to the ratee and 9 indicates the variable applied very much.

TABLE 3
DIFFERENCES IN PERCEPTUAL VARIABLES AS A FUNCTION OF DECISION RULE

<u>Variable</u>	<u>Decision Rule</u>	<u>Majority's Mean Perception of</u>		<u>Difference*</u>	<u>F(1,94)</u>
		<u>Minority</u>	<u>Majority</u>		
Consistent	Unanimous	8.29	6.65	1.64	8.67**
	Non-unanimous	7.45	6.84	.61	
Cooperative	Unanimous	4.12	6.75	-2.63	7.15**
	Non-unanimous	4.85	6.33	-1.48	

*Repeated measures on the majority's perception of the minority vs. their averaged perception of the other majority group members.
** $p \leq .01$

Note: A score of 1 denotes that the variable applied not at all to the ratee and 9 indicates the variable applied very much.

TABLE 4
 DIFFERENCES IN PERCEPTUAL VARIABLES AS A FUNCTION
 OF MINORITY-MAJORITY DISCREPANCY

<u>Variable</u>	<u>Minority- Majority Discrepancy</u>	<u>Majority's Mean Perception of</u>		<u>Difference*</u>	<u>F(1,94)</u>
		<u>Minority</u>	<u>Majority</u>		
Liking for this person	Low	6.05	6.97	-.92	4.67**
	High	6.47	6.60	.13	
Similar to rater in life philosophy	Low	4.35	5.69	-1.34	4.33**
	High	4.94	5.31	-.37	

*Repeated measures on the majority's perception of the minority vs.
 their averaged perception of the other majority group members.
 ** $p \leq .05$

Note: A score of 1 denotes that the variable applied not at all to the
 ratee and 9 indicates the variable applied very much.

TABLE 5
 INTERACTIVE EFFECTS OF DECISION RULE AND
 MINORITY-MAJORITY DISCREPANCY ON PERCEPTUAL VARIABLES

<u>Variable</u>	<u>Decision Rule</u>	<u>Minority-Majority Discrepancy</u>	<u>Majority's Mean Perception of</u>		<u>Difference*</u>	<u>F(1,94)</u>
			<u>Minority</u>	<u>Majority</u>		
Cooperative	Unanimous	Low	3.67	7.07	-3.40	4.50**
		High	4.57	5.93	-1.36	
	Non-unanimous	Low	5.02	6.36	-1.34	
		High	4.67	6.31	-1.64	
Confidence	Unanimous	Low	7.54	6.62	.92	11.17***
		High	7.02	6.73	.29	
	Non-unanimous	Low	6.80	6.95	-.15	
		High	7.46	6.20	1.26	

*Repeated measures on majority's perception of the minority vs. their averaged perception of the other majority group members.

** $p \leq .05$

*** $p \leq .01$

Note: A score of 1 denotes that the variable applied not at all to the ratee and 9 indicates the variable applied very much.

TABLE 6
 INTERACTIVE EFFECTS OF DECISION RULE AND SEX OF
 MINORITY ON PERCEPTUAL VARIABLES

Variable	Decision Rule	Sex of Minority	Majority's Mean Perception of		Difference*	F(1,94)
			Minority	Majority		
Strong-willed	Unanimous	Male	8.32	6.41	1.91	4.98**
		Female	8.24	6.22	2.02	
	Non-unanimous	Male	8.05	6.03	2.02	
		Female	7.35	6.50	.85	
Leader	Unanimous	Male	7.34	5.78	1.56	4.78**
		Female	6.20	5.67	.53	
	Non-unanimous	Male	6.24	5.60	.64	
		Female	6.04	5.97	.07	
Fairness	Unanimous	Male	6.10	6.90	-.80	5.21**
		Female	3.88	6.49	-2.61	
	Non-unanimous	Male	5.31	6.43	-1.12	
		Female	5.27	6.53	-1.26	

*Repeated measures on majority's perception of the minority vs. their averaged perception of the other majority group members.

** $p \leq .05$

Note: A score of 1 denotes that the variable applied not at all to the ratee and 9 indicates the variable applied very much.

TABLE 7
DIFFERENCES IN PERCEPTUAL VARIABLES AS A
FUNCTION OF THE SEX OF THE MINORITY

<u>Variable</u>	<u>Minority's Sex</u>	<u>Majority's Mean Perception of</u>		<u>Difference*</u>	<u>F(1,94)</u>
		<u>Minority</u>	<u>Majority</u>		
Leader	Male	6.79	5.68	1.11	15.64***
	Female	6.12	5.82	.30	
Active	Male	8.14	6.56	1.58	7.00***
	Female	7.49	6.67	.82	
Central to the discus- sion	Male	7.55	6.31	1.24	4.62**
	Female	6.87	6.39	.48	
Confident	Male	7.49	6.59	.90	4.45**
	Female	6.92	6.66	.26	
Reassess opinion	Male	5.90	4.69	1.21	12.58***
	Female	3.98	4.36	-.38	
Fair	Male	5.70	6.67	-.97	7.14***
	Female	4.58	6.51	-1.93	
Perceptive	Male	6.29	6.49	-.20	5.21**
	Female	5.20	6.31	-1.11	

*Repeated measures on perception of minority versus averaged perceptions of other majority members.

** $p \leq .05$

*** $p \leq .01$

Note: A score of 1 denotes that the variable applied not at all to the ratee and 9 indicates the variable applied very much.

TABLE 8
 INTERACTIVE EFFECTS OF SEX OF MAJORITY AND
 SEX OF MINORITY ON PERCEPTUAL VARIABLES

<u>Variable</u>	<u>Sex of Majority</u>	<u>Sex of Minority</u>	<u>Mean Perception of</u>		<u>Difference*</u>	<u>F(1,94)</u>
			<u>Minority</u>	<u>Majority</u>		
Reassess opinion	Male	Male	5.50	4.60	.90	3.86**
		Female	3.78	3.59	.19	
	Female	Male	6.31	4.78	1.53	
		Female	4.19	5.13	-.94	
Admirable	Male	Male	7.54	6.43	1.11	3.80**
		Female	6.57	6.35	.22	
	Female	Male	6.07	5.91	.16	
		Female	5.98	6.56	-.58	

* Repeated measures on majority's perception of the minority vs. their averaged perception of the other majority group members.
 ** $p \leq .05$

Note: A score of 1 denotes that the variable applied not at all to the ratee and 9 indicates the variable applied very much.

APPENDIX A

INSTRUCTIONS

Please check your name on this list so that we'll know who has participated. Note the number next to your name... This is your subject number and will be used to identify your data sheets. Make sure you put this number on all of your materials, except for the case history booklet. You have all volunteered to participate in this study and as volunteers you may leave the experiment at any time. Of course, we would prefer for you to stay, because if one person leaves, none of the data from that group can be used.

This is a study of group processes--particularly the group process of decision making. You will be asked to read a case history, make an initial judgment and then, as jury members, adjourn to deliberation rooms to discuss the case with fellow jurors. I'm going to give each one of you a copy of the case history now. It is very important, because of our paper shortage, that you not mark on these case history booklets. We'll be re-using them several times.

(Pass out booklets. As people begin to finish, pass out 1st questionnaire.)

I am now handing out a very brief questionnaire. Please write your subject number where it says "Name." Do not write your name. When you have finished the questionnaire, I'll pick it up.

APPENDIX B

SMITH vs. BEAUCANNON INSURANCE CO.
(District Court, Boulder, Colorado)

Action was taken by Robert Smith against the Beaucannon Insurance Company and Mr. Ralph Davis for recovery of damages for personal injuries and expenses resulting from a fall down a stairs.

On the morning of April 7, 1976, Robert Smith, age 40, arrived at the house of Ralph Davis in Boulder, Colorado in response to a call placed the day before asking him to repair a washing machine in the basement of the Davis' home. On arrival, he was greeted by Mrs. Davis, who directed him to the door to the basement stairs. Since it was an old house recently acquired by Mr. Davis, there was no light in the stairway; consequently, the passage was very dark. On proceeding down the stairs, Mr. Smith tripped on a basket of dirty laundry that had been left by Mrs. Davis on the landing of the stairs. His consequent fall caused the injuries complained of.

During the trial Mr. Smith offered evidence to prove that his injuries included bruises about the face and head, a broken leg, and severely torn cartilage in his knee, that as a result of these and other injuries he received, he was unable to return to his employment for ten weeks, that he thereafter worked only three or four hours per day for eight to ten weeks more and was unable to resume full and normal work activities for four or five months following the accident, that his knee was not normal for a year in that it chronically swelled and pained him, that his knee does not function normally, causing him to walk with a slight limp, and has slipped out of joint on at least two occasions, causing severe pain. In fact, it was shown that only a week before trial his knee had dislocated while he was at work, causing him two days of severe pain and loss of those two days' wages. A doctor had stated that the cartilage would remain stretched and weakened and that there would always be a possibility that his knee would slip out of joint if sudden pressure was applied.

Mr. Smith also showed that, as the sole proprietor of and workman in his repair shop, his only income before the accident was about \$225 per week, and that as proprietor he had insurance on his hospital costs. This same insurance paid him an adequate amount in loss of wages and will continue to reimburse him for future pecuniary losses resulting from this accident.

It was also established that Mr. Smith's sole recreation and enjoyment had been bowling and that he was a member of a league within which his finesse had caused him to have popularity and notice. Mr. Smith stated that the lingering pain in his leg and his uncertainty

about whether his knee would slip out of joint now prevents him from bowling and will keep him from bowling ever again.

Mr. Smith is asking for 35 thousand dollars compensation (after lawyer's fees), which he knows to be the full amount of personal injury coverage (again after lawyer's fees) in Mr. Davis' insurance policy. This amount, he contends, is to reimburse him for the past and present pain and suffering and the worry and grief which he has undergone as a result of this accident, and, as his lawyer stated, "the irrevocable loss to him of an important aspect of his life, his ability to participate in the game of bowling, or any other activity which may cause his knee to painfully separate."

It was established during the course of the trial that Mr. Davis and his insurance company are indeed responsible to Mr. Smith and should indeed reimburse him for his losses. However, it is left to you, the jury, to decide the amount of damages to be rewarded. The judge turns to you and instructs you that "you will consider, in reaching the amount of your verdict, how much you should award in order to fairly and justly compensate the plaintiff for the pain and suffering, worry and grief, and humiliation that has been endured and will hereafter be suffered. You will take all these matters into consideration and, using your best judgment and experience in human affairs, award such a sum that you consider should be awarded to fairly and justly compensate the plaintiff for the injuries received."

With that, you retire to your meeting room to decide how much money should be awarded to Mr. Smith.

In summary: Mr. Smith's insurance company has paid and will continue to pay, should the need arise in the future, for Mr. Smith's hospital bills and loss of wages resulting from this accident. Mr. Smith has made his case that the injury to his knee has caused him great pain and will prevent him from participating in active sports in the future, although he is capable of full time employment. He anticipates pain, inconvenience, and a change in his life style in the future. It is up to you, the jury, to decide how much to give Mr. Smith (after lawyer's fees) for the "pain and suffering, worry and grief, and humiliation" that he has undergone and will continue to undergo as a result of this accident.

APPENDIX C

POST-CASE QUESTIONNAIRE

- A. Now that you have just read the case, we would like to have your first impressions on how much should be given to Mr. Smith for his pain and suffering. Remember that \$35,000 is the maximum amount that can be awarded.

\$ _____

Now that you have given your own opinion on what you feel Mr. Smith should be given, we would like you to put down what you feel would be the highest and lowest amounts that you could go to in order to reach a group agreement.

- B. The highest you would go for the sake of a group agreement:

\$ _____

- C. The lowest you would go for the sake of a group agreement:

\$ _____

APPENDIX D

PRE-DISCUSSION SESSION INSTRUCTIONS

[For unanimous decision]

You, as jury members, are to discuss this case and reach a unanimous decision as to how much should be awarded to Mr. Smith. You will have 1/2 hour to make your decision. Again, please do not mark on the case history booklets. Let me give you an idea of where the other jurors stand by telling you what each person here thinks Mr. Smith should receive.

(Do so.)

Are there any questions?

[For non-unanimous decisions]

You, as jury members, are to discuss this case and decide how much you each think should be awarded to Mr. Smith. You will have 1/2 hour to discuss the case and then I will return to get your individual opinions. Again, please do not mark on the case history booklets. Let me give you an idea of where the other jurors stand by telling you what each person here thinks Mr. Smith should receive.

(Do so.)

Are there are any questions?

APPENDIX E

MINORITY'S (CONFEDERATE'S) ARGUMENTS

- I. I feel sorry for this guy. He has suffered a leg injury which is quite painful and which will be a source of aggravation and inconvenience for him in the future. Besides that, he'll have to change his life style--he won't be able to go out bowling with the boys anymore. I think we need to compensate him for these things and so I said I thought we should given him \$4,000 and let him buy something really nice for himself.
- II. I think you have to consider the seriousness of a broken leg in comparison to how badly he might have been injured. I'm not saying a broken leg doesn't hurt or anything like that, but after all, it could have been a lot worse. I could see giving him \$35,000 for a more serious injury.
- III. I think people have a tendency to give less consideration than they might to how much compensation they are willing to award in cases like this just because some insurance company is paying for it. By supporting large claims you encourage other people to file for large claims, which means that the insurance companies will increase insurance premiums. Besides, just because an insurance company is paying for this shouldn't cause us to give away any more than we'd otherwise consider fair.
- IV. We all have sympathy for this guy and after all he deserves it. That's a painful injury and it's unfortunate that it happened. But our sympathy has to be tempered by reality. Just because we can award \$35,000, that shouldn't interfere with an agreement on what's fair.
- V. We can't speculate about how much this is really worth to this guy because nobody is going to go out and break his leg for \$35,000 or even \$50,000. But once an accident has happened who wouldn't want as much as they could get? The point is, this was an accident and accidents do happen. I don't think that we can necessarily say more money means more fair.
- VI. There's no way we can put a dollar figure on pain because there's no way we can measure it. All we can really do is help Mr. Smith find something to replace his bowling. I figured it out that \$4,000 is around \$15 a week for the next five years, which should be plenty for him to use to find himself a new hobby.

APPENDIX F

POST-DISCUSSION QUESTIONNAIRE BOOKLET

Name _____

Letter _____

Date _____

Time _____

Amount \$ _____

We would like for you to answer some questions about the group discussion. As the format of some of the questions may not be familiar to you, here is an example to illustrate how you should indicate your answer.

How exciting is life at William and Mary?

Not at all exciting 1 2 3 4 5 6 7 8 9 Very exciting

If you thought life at William and Mary was not at all exciting, you would CIRCLE the 1. If you thought it was very exciting you would circle the 9. (Note: You do not circle the words.) If you thought life at William and Mary was moderately dull you would circle the 3 or 4, depending on how strongly you felt.

To make sure you understand this procedure, please circle one of the numbers that corresponds with your opinion.

Do you have any questions?

1. Now that you have discussed the case, we would like to have your final impression on how much should be given to Mr. Smith for his pain and suffering. In the interest of reaching a compromise in the group you may have agreed to an amount greater than or lesser than the amount you really think Mr. Smith should receive. We would like to know your final personal opinion of how much should be awarded.

\$ _____

2. Assume that the maximum allowable compensation had been \$50,000 instead of \$35,000. How much should be given to Mr. Smith?

\$ _____

3. Assume the original case situation (\$35,000 maximum). However, rather than being a jury member, you are the judge and you alone decide the amount of damages to award. How much would you award to Mr. Smith?

\$ _____

4. How satisfied are you with the group's final decision?

Not at all satisfied 1 2 3 4 5 6 7 8 9 Very satisfied

5. How satisfied are you with the group discussion?

Not at all satisfied 1 2 3 4 5 6 7 8 9 Very satisfied

6. How important is this topic to you?

Not at all important 1 2 3 4 5 6 7 8 9 Very important

7. Considering the group as a whole (excluding yourself), how similar are the other group members to you?

Not at all similar 1 2 3 4 5 6 7 8 9 Very similar

8. Have you, or has any member of your family or close friend of yours been involved in a court action to decide how much to award someone who has been injured? If yes, briefly describe. Continue on back, if necessary.

In order to understand the group process better, we would like to have your perceptions of the other group members. BE SURE TO INDICATE (BY USING THE LETTER ASSIGNED TO THAT PERSON) WHICH GROUP MEMBER YOU ARE DESCRIBING.

(Booklet included one for each group member.)

	GROUP MEMBER _____										
1.	Not at all consistent	1	2	3	4	5	6	7	8	9	Very consistent
2.	Not at all independent	1	2	3	4	5	6	7	8	9	Very independent
3.	Not at all active	1	2	3	4	5	6	7	8	9	Very active
4.	Not at all cooperative	1	2	3	4	5	6	7	8	9	Very cooperative
5.	Not at all central to the discussion	1	2	3	4	5	6	7	8	9	Very central to the discussion
6.	Not at all warm	1	2	3	4	5	6	7	8	9	Very warm
7.	Not at all strong- willed	1	2	3	4	5	6	7	8	9	Very strong- willed
8.	Not at all perceptive	1	2	3	4	5	6	7	8	9	Very perceptive
9.	Not at all a leader	1	2	3	4	5	6	7	8	9	Very much a leader
10.	Not at all fair	1	2	3	4	5	6	7	8	9	Very fair
11.	Not at all confident	1	2	3	4	5	6	7	8	9	Very confident
12.	Not at all reasonable	1	2	3	4	5	6	7	8	9	Very reasonable
13.	Did not make me reassess my opinions	1	2	3	4	5	6	7	8	9	Made me reassess my opinions
14.	Not at all likable	1	2	3	4	5	6	7	8	9	Very likable
15.	Not at all admirable	1	2	3	4	5	6	7	8	9	Very admirable
16.	Not at all similar to me in life philosophy	1	2	3	4	5	6	7	8	9	Very similar to me in life philosophy
17.	Not at all similar to me on this specific case	1	2	3	4	5	6	7	8	9	Very similar to me on this specific case

VITA

Gail Susan Russ

Born at Camp LeJeune, North Carolina, June 2, 1952. Graduated from New Hanover High School, Wilmington, North Carolina, June 1970, B.A. with Honors in Psychology, University of North Carolina at Wilmington, June 1976. Entered the College of William and Mary in September 1976 as a M.A. candidate and completed the coursework, but not the thesis, in May 1978. Attended the University of Rochester's graduate program in social psychology, 1978-1979. Worked in private industries, 1979-1984. Entered the Department of Management, Texas A&M University, January 1985 and advanced to Ph.D. candidacy upon completion of preliminary exams in July 1987.