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THE IMPACT OF VARYING ARGUMENT QUALITY AND MINORITY SIZE ON MINORITY INFLUENCE AND PERCEPTIONS OF THE MINORITY

By

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ABSTRACT

THE IMPACT OF VARYING ARGUMENT QUALITY AND MINORITY SIZE ON MINORITY INFLUENCE AND PERCEPTIONS OF THE MINORITY

By

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Past majority/minority influence research has found that consistency of a minority subgroup's position, number of minority subgroup members, and argument quality, greatly affect the likelihood of that minority subgroup being able to influence the majority subgroup. Research regarding minority size and argument quality and how it affects minority influence and perceptions of the minority has been limited and is addressed in this study. Confederates were used to vary argument quality and the size of the minority subgroup while keeping consistency of presenting the minority's side of the issue constant. Groups discussed a topic and relevant measures were used to assess the amount of influence, perceived competence, perceived correctness, and how much the minority was liked. Results indicated argument quality and minority size were important when attempting minority influence and that the perceptions fostered by the minority were a function of an argument quality by group size interaction.

Dedicated to my best friend and wife, Sarah,
and to my Mom and Dad

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The completion of a dissertation is rarely, if ever, the sole accomplishment of one individual. The completion of this dissertation is not any different. The people who have helped me complete this dissertation have helped me to reach a place in my life that I thought I would never be. To them, I am very grateful.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

The purpose of this study is twofold: to identify what affect varying argument quality and minority subgroup size has on minority influence and the perceptions of the minority. The arguments used in this study are either strong or weak and the perceptions of being competent, correct, and liked are examined. In the following sections, behavioral consistency and its contribution to minority influence research will be discussed, as will past research that investigated minority size and argument quality. After the review of pertinent research, hypotheses that are tested in this study are presented. The method for testing the hypotheses is explained and the results of this study are discussed.

LITERATURE REVIEW

Minority Influence

Recently, a resurgence in the study of minority influence in small groups has occurred (i.e., Gebhardt & Meyers, 1994; Meyers, Brashers, & Jerzak, 1998; Thameling & Andrews, 1992, 1999). The reason for renewed interest can be credited to small group researchers desire to identify the different kinds of communication that help the minority subgroup to influence the majority subgroup as well as the perceptions different kinds of communication foster.[1] For example, Gebhardt and Meyers (1995) demonstrated that a minority gives the perception of being consistent and more influential when they use statements that show they support their fellow subgroup member. Thameling and Andrews (1999) demonstrated that a minority using evidence along with their opinions were perceived as more interpersonally and task attractive.

Much of the research investigating how a minority influences a majority has been conducted using the minority influence paradigm (Moscovici, 1976). The minority influence paradigm is founded on the belief that minorities are not just targets of influence, but that they are active agents of influence capable of influencing a group's opinion (Moscovici, 1976). Whereas once minorities were seen as receivers of influence, this paradigm sees them "as potential influence emitters and norm originators" (Moscovici, 1976, p. 67). The minority influence paradigm also suggests that the behavioral styles of the minority affect how they are perceived as well as their ability to influence the majority. The way in which

the minority behaves informs the majority about the minority's motivation, certainty, competence, and so on. In sum, the minority influence paradigm asserts that the minority is an active agent of influence and that certain behaviors aid the minority in influencing and fostering certain perceptions.

As already noted, the kind of communication used by a minority has been found to have an impact on how the minority is perceived and how influential they are. Nonetheless, much of the minority influence research has concentrated on two variables: behavioral consistency and minority subgroup size. One purpose of this paper is to identify how varying a form of argumentative communication, specifically argument quality, as well as varying the minority subgroup's size, affects minority influence. A second purpose of this investigation is to identify the perceptions the majority has of the minority as a result of the minority's arguments and size. In so doing, a better understanding of minority influence will be gained.

Consistency

Moscovici and colleagues are typically cited as providing the first indications that a minority subgroup is capable of influencing a majority subgroup (Moscovici, & Faucheux, 1972; Moscovici & Lage, 1976; Moscovici, Lage, & Faucheux, 1969). They argued that an important determinant of influence by a subgroup was consistency of presentation. Consistency can be defined as "the maintenance of a given position in interaction by subgroup members" (Gebhardt & Meyers, 1995, p.151). Of all the behavioral styles that have been investigated, consistency has received the most attention. Indeed, consistency has evolved

as the cornerstone of minority influence and is considered to be a necessary, but not sufficient, component of the influencing process (Maas & Clark, 1984). Seminal minority influence research by Moscovici and colleagues demonstrated that a minority subgroup could influence a majority subgroup to agree with some of their opinions as long as the minority was consistent in their stance (Moscovici, & Faucheux, 1972; Moscovici & Lage, 1976; Moscovici, Lage, & Faucheux, 1969). Groups that were inconsistent had little, if any chance at all, of influencing the majority.

Subsequent minority influence research investigating the effect a consistent minority has upon the majority has continually demonstrated that when a minority is consistent, they can influence the majority (e.g. Arbuthnot & Wayner, 1982; Gebhardt & Meyers, 1995; Nemeth & Wachtler, 1974; Nemeth, Wachtler, & Endicott, 1977). Meyers and colleagues identified some specific communicative behaviors used for minority influence (Gebhardt & Meyers, 1994; Meyers, Brashers, & Jerzak, 1998). Using decision-making groups, they demonstrated that consistent subgroups, whether a majority or minority, were more influential than inconsistent subgroups (Gebhardt & Meyers, 1995). Further, Meyers et al. (1998) found that winning subgroups, subgroups that had their ideas adopted as the final decision, used more convergence-seeking statements, messages that are characterized by one's own subgroup members as agreement and acknowledgement statements. Hence, members of all winning subgroups tended to state that they agreed with or acknowledged a point by their own subgroup member, demonstrating that consistently supporting the

stance of fellow subgroup members helps to influence other subgroups. Finally, Meyers, Seibold, and Brashers (1991) found that agreement statements were used by group members to reinforce one another's position and to adapt and adopt a chosen stance by group members.

The act of consistently supporting other group members is important for minority influence. Nonetheless, as noted above, consistency is a necessary, but not sufficient component for influencing the majority. The size of the minority subgroup has been identified as another mechanism for increasing minority influence.

Number of Minority Subgroup Members and Perceptions

A second finding from the minority influence literature is that it typically takes at least two minority members to be influential (e.g., Moscovici & Lage, 1976; Moscovici, Lage, & Faucheux, 1969; Morris & Miller, 1975; Tanford & Penrod, 1984; Nemeth, Wachtler, & Endicott, 1977). For example, Moscovici (1976) demonstrated that when trying to influence the majority, having only one member as the minority trying to influence a majority of three did not produce significantly more influence compared to the control group whereas a minority of two trying to influence a majority of four produced significantly more influence compared to both the control group and the minority of one. A number of different reviews, both qualitative (Maas & Clark, 1984) and quantitative (Tanford and Penrod, 1984; Wood, Lundgren, Ouelette, Busceme, & Blackstone, 1994), concluded that as a minority subgroup increases in size, it tends to be more influential. To help explain minority influence effects Tanford and Penrod (1984)

developed the Social Influence Model (SIM) using computer simulations. The SIM asserts that the two most important components in achieving minority influence are the size of the minority and consistency of presentation. Although size is important, the SIM dictates that the minority's ability to influence the majority levels off at three or four members, thus adding minority members beyond three or four does not increase the likelihood of influencing the majority[2].

As previously noted, the minority influence paradigm maintains that the behavioral style of the minority subgroup affects how the minority is perceived, and that the perceptions fostered by using a particular behavioral style aid the minority with influencing the majority. Surprisingly, past research has concentrated on identifying the perceptions a minority creates as a result of employing a particular behavioral style, and not how those perceptions help the minority to influence the majority (for a review, see Maas & Clark, 1984). A notable exception was a study by Nemeth et al. (1977) where they employed the behavioral style of consistency and varied the size of the minority subgroup, having anywhere from one to four members trying to influence a majority subgroup with majority size held constant at six. Findings indicated that three members were more influential than one or two, but not significantly more influential than four members in the minority. Additionally, a linear trend was identified such that as the minority's group size increased, so did the perceptions of them being competent, correct, and liked. These perceptions were also found to help the minority with influencing the majority.

In the Nemeth et al. (1977) study, that the minority subgroup fostered perceptions of competence, correctness and being liked, and that those perceptions aided the minority with influencing the majority is consistent with predictions from the minority influence paradigm. What is striking about these findings is that not only did the behavioral style of consistency contribute to these perceptions, but the size of the minority greatly affected these perceptions as well. Hence, a minority subgroup that is consistent in presenting their issue and larger as opposed to smaller can foster the perceptions of being competent, correct, and liked, which in turn helps them to influence the majority subgroup.

In conclusion, the importance of consistency of presentation and the size of the minority have been well established when the minority subgroup is trying to influence the majority subgroup. Further, increasing minority size also helps with fostering perceptions that can help the minority to influence the majority. Nonetheless, to a lesser extent have been investigations examining the different kinds of communication a minority might use to influence the majority. Of concern for this study is argumentative communication, or more specifically, argument quality.

Argument Quality

Argument quality refers to the strength or weakness of an argument. The strength or weakness of an argument depends on the receiver's perception (Allen & Burrell, 1992). If a person finds the arguments compelling, then those arguments are defined as strong. If not, then the arguments are defined as weak. Equating strong arguments with those perceived as compelling, and weak

arguments as those perceived as not compelling might be seen as circular. Nevertheless, defining argument strength in this manner does not imply circularity of effect. Strong arguments are not always found to be more persuasive than weak arguments, for example[3] (Petty, Cacioppo, & Goldman, 1981).

Boster and Mayer (1984) examined the impact of argument quality on majority and minority subgroups. They had participants read a fictitious script of a group discussion pertaining to which of two jobs, one that had high risk associated with it or one that was more cautious, a recent college graduate should take. Their results indicated that the majority subgroup influenced the perception of argument quality such that both the strong and weak arguments used by the majority were seen as more influential compared to any of the arguments used by the minority subgroup. Put another way, regardless of whether the majority used strong or weak arguments, they were always seen as more influential than the minority. Subsequent research by Garlick and Mongeau (1993) found similar results.

A different study by Garlick and Mongeau (1992) using the same methods as the previous two studies reported a different finding than the two previous studies. For this study, arguments intended to be strong were perceived as strong and arguments intended to be weak were perceived as weak, regardless whether the minority or majority was using them. Consequently, strong arguments employed by the minority tended to be more influential than when the minority used weak arguments.

The influential effects argument quality had in the Garlick and Mongeau (1992) study were different than the non-influential effects obtained in the other two argument quality studies. One way this study differed from the other two studies was that rather than have only one member represent the minority viewpoint, they had an additional condition where there were three members in the minority subgroup. Conversely, previous studies had only one minority member. These data demonstrated that increasing the size of the minority subgroup attenuated the majority's effect concerning argument quality. Further, their data suggested that as the number of people in the minority subgroup increased, people began to pay more attention to the minority subgroups' arguments, diminishing the impact of the majority subgroup. When the minority subgroup increased in size, participants attended to the minority position and made it possible for the minority using strong arguments to enact influence.

It is not surprising that having more than one minority subgroup member helps with getting others to attend to the minority's message. When an individual stands against the majority, the view or arguments of the individual is often rejected and/or not considered (Moscovici, 1985; Moscovici & Lage, 1976). Having two or more minority members makes it more difficult for the majority to reject the minority outright. Further, a minority subgroup induces divergent thinking, which causes the majority to consider the position of the minority (Nemeth, 1986; Nemeth & Kwan, 1985; Nemeth, Mayseless, Sherman, & Brown, 1990). When divergent thinking occurs, majority subgroup members are motivated and willing to discuss with the minority their position and as a result,

strong arguments are more likely to be influential than weak arguments. This thinking is consistent with the heuristic-systematic model, which stipulates that when a person is willing and able to systematically process arguments, strong arguments will be more persuasive than weak arguments (Chaiken, 1987). Because divergent thinking motivates the majority to consider the position of the minority, systematic processing is likely to occur and hence, strong arguments are likely to be more influential than weak arguments.

Research Hypotheses

Past studies have tended not to investigate the different kinds of communication that could affect minority influence. As demonstrated previously, the kinds of communication used can impact both minority influence and perceptions of the minority. Persuasive messages are important in group decision-making and arguments voiced by group members are an important influencing factor for the final decision. To understand how argument quality affects minority influence, this study investigates argument quality by using actual group discussions.

For this study both argument quality and group size are varied to identify the impact they have on minority influence. This study is different from past studies in that it investigates argument quality and minority subgroup size holding constant the behavioral style of consistency. As discussed previously the importance of consistency in minority influence has been well established. Garlick and Mongeau (1992) demonstrated that minority size and argument quality can impact the minority's ability to influence, however, how behavioral

consistency works in conjunction with both variables is untested. More specifically, allowing groups to discuss a topic while varying argument quality and minority subgroup size, and allowing a minority subgroup to reinforce their position (consistency) through interaction, will increase our knowledge in this area.

A number of specific predictions are made for this study. A larger minority, compared to a smaller minority, will be more influential. Past research has demonstrated that larger minorities achieve more influence than smaller minorities and the same result is expected in this study (e.g., Maas & Clark, 1984; Nemeth et al., 1977; Tanford & Penrod, 1984). Furthermore, Nemeth et al. (1977) demonstrated that when holding consistency constant, as the size of the minority increased, the majority's perception of the minority being competent, correct and liked increased and these perceptions also helped them to influence the majority. Thus, for this study, a larger minority subgroup will be perceived as more competent, correct and liked compared to a smaller group and these perceptions will be positively associated with influence.

It was demonstrated that when the minority subgroup increased in size, people with a counterattitudinal view started to attend to the minority's arguments (Garlick & Mongeau, 1992). When there was only one in the minority subgroup, people with a counterattitudinal view did not pay much attention to the minority subgroup's arguments. Increasing the size of the minority beyond one increases the likelihood that the majority subgroup will consider their arguments. It follows then that a minority subgroup larger than one will motivate the majority subgroup

to consider the minority subgroups' arguments, and, as demonstrated by Garlick and Mongeau (1992), in the process of listening to the minority's arguments, stronger arguments will be more influential than weaker arguments.

Overall, strong arguments are expected to be more influential than weak arguments, however, the perceptions that a large consistent minority fosters can enhance their ability to influence the majority even when they are using weak arguments. Past research investigating minority size indicates that a larger minority (i.e. four members) subgroup tends to be more influential than a smaller minority subgroup (i.e. two members), relative to majority size. Moreover, the more widely an opinion is shared, the more likely it is viewed to be correct (Maas & Clark III, 1984). Nemeth et al. (1977) demonstrated that increasing the size of the minority helped to create the perception of being correct and certain and these perceptions aided the minority subgroup in influencing the majority subgroup. Thus, the larger minority subgroup, as long as they are consistent, have an advantage over the smaller minority subgroup because the larger minority is perceived as being more correct due to their larger numbers. In a discussion it may be easy to dismiss a few people who disagree with the majority, but when more people share an opinion, it might not be so easy to dismiss their point of view. Even though a large minority subgroup uses weak arguments, their size fosters the perception that they are correct. Thus, argument quality is important when the minority is small, however, when the minority subgroup is larger, the perception of them being correct will increase their ability to influence the majority subgroup, regardless of argument quality.

Put another way, the weak arguments from a large minority subgroup will be as influential as a large and small minority subgroup's strong arguments.

The preceding is the rationale for the present study. By designing this study to allow for a group discussion, it is possible to examine a static variable like group size in conjunction with a more dynamic variable like argumentative communication, or more specifically argument quality, and ascertain how each affects minority influence as well as perceptions of the minority subgroup. Particularly important is to examine how group size and argument quality interact to impact minority influence. For this investigation, groups will be comprised of participants and confederates with the confederates for this study serving as the minority subgroup and always arguing opposite of what the participants argue. Confederates will vary argument quality as well as group size.

The specific predictions for this study are that participants exposed to strong arguments from the minority will be more influenced than participants exposed to weak arguments and participants exposed to a larger minority of four will be more influenced than participants exposed to a smaller minority of two. It is also expected that a large minority's weak arguments will be as influential as minority's that use strong arguments. Finally, large minorities will foster a greater perception of competence, correctness, and being liked, compared to the smaller minority and that these perceptions will be positively associated with minority influence.

CHAPTER 2

METHOD

Participants

Participants (n=191) were undergraduates from a large Midwestern university. Participants received either extra-credit or fulfilled a course requirement for participating. The sample was comprised of 37% male and 63% female participants who had a mean age of twenty-years old (SD = 1.59). A total of 24 groups were used for this study with the group sizes ranging from five to eleven members.

Design

A 2 x 2 independent groups design with an offset control group was employed with argument quality (strong vs. weak) and minority size (two, small, or four, large) varied. The strong and weak arguments were identified from two pilot studies. The two and four member minority subgroups were comprised of trained confederates who were consistent in presenting the minority viewpoint.

An additional variable was created due to the range of group size. Past research has indicated that as the number of members in the majority increases, minority influence might decrease (Tanford & Penrod, 1984; Wood et al., 1994). Thus, minority subgroup size relative to total group size might impact the results for this study. Taking the number of minority subgroup members and dividing them by the total group size created a variable labeled percentage. The percentage variable was treated as a covariate in subsequent analyses.

Procedure

Two pilot studies were employed to identify strong and weak arguments. The first pilot study consisted of giving participants (n=6) the stimulus for this study (Appendix A) and having them list as many arguments as they could for the topic. The stimulus was an employment item that asked participants to indicate whether a recent college graduate should take a job with a new computer firm (Company A) with an uncertain future and high potential for growth or an older computer firm (Company B) with lower potential for growth but a certain future. Past studies employing a similar (Stoner, 1968) item have demonstrated that participants tend to prefer the new firm, and the stimulus was written so as to encourage participants to prefer the new firm. Thus, the confederates always argued for the older firm, the counterattitudinal position.

A total of 28 non-redundant arguments were generated by the first pilot study and were used for the second pilot study. Participants in the second pilot study (n=31) were given the stimulus to read, and asked to respond to each argument created in the first pilot study via four, five-point scales (strong-weak, convincing-unconvincing, persuasive-unpersuasive, reasonable-unreasonable). The six highest rated arguments (strong) and six lowest rated arguments (weak) were identified and used by the confederates when taking the minority subgroup stance (Appendix B)[4].

Seven different people served as confederates in this study, and each one of them participated in both the small and large minority conditions. Each confederate was given the arguments, told to memorize them, and tested for

recall of the arguments. Each confederate was able to recall successfully all of the arguments. They were then trained to argue consistently for the older, less risky firm by using only the arguments they were given. Training consisted of mock discussions of the employment item used as the stimulus for this study. The training lasted until all of the confederates could recall all of the arguments, and only the specific arguments, given to them for the group discussions.

After the confederates' training was complete, times were arranged for participants to report to a lab. Confederates reported to the lab and went through the same procedures as the participants so as not to arouse suspicion that they were part of the study, or that they might have status different from the participants. Once in the lab both the participants and confederates completed a consent form, read the employment item, and indicated their employment preference. The experimenter stepped outside of the room to identify participants that preferred Company B over Company A. Participants preferring Company A remained in the group with the confederates, and participants preferring Company B were escorted to another room where they were made part of another study. The remaining group members were then asked to raise their hand if they preferred Company A as their choice and the number of individuals who raised their hand was verbalized for the whole group to hear by the experimenter. Group members (confederates) who preferred Company B were then asked to raise their hands. The number of hands raised was also verbalized for all group members to hear, and participants were able to see who and how many preferred Company B. The groups were then instructed that they

had a maximum of twenty minutes to discuss to consensus their choice of employers. After answering any questions participants may have had the group discussion began.

After the groups had reached consensus, or time had elapsed, an experimenter would enter the room and ask for the final decision. Group members were then asked to raise their hands if they preferred Company A or if they preferred Company B as their final choice. Again, the number of people choosing either Company A or B was verbalized. Posttest measures were then distributed, the group members were then debriefed, pledged to silence regarding the nature of the study, and thanked for their time. The participants in the control group followed the exact same procedures as the experimental groups, except there were no confederates in the control groups. The prediscussion preference for all control group members was Company A.

Instruments

Posttest measures included an induction check to test if participants were aware of a minority subgroup arguing against them. Gauging how the majority subgroup perceived the minority subgroup was accomplished by having participants rate the minority subgroup using five-point bi-polar response scales that assessed the correctness of the minority's position, their competence, and how much they were liked. Identifying the differences between participants' initial and final decision for the two companies determined the minority subgroups' amount of influence. To indicate which company participants preferred and to what extent they preferred that company, a 10-point scale was used with a score

of 10 reflecting the strongest preference for Company A and a score of one reflecting the strongest preference for Company B.

CHAPTER 3

RESULTS

Induction checks

Induction checks were employed to test for the minority induction. Two separate questions asked participants if there was a person or persons who initially "disagreed" with their position and if there was a person or persons who initially "agreed" with their position before the group discussion began. Results indicated that 99.2% of the participants were very aware that there was a subgroup that initially disagreed with their position. The same result, 99.2%, was obtained for the participants being aware that there was a subgroup that initially agreed with their position. Only one person was unsure about a subgroup initially disagreeing and a subgroup agreeing with their stance.

Measures

The distribution of responses for the change in company preference was skewed positively with a mean of .95 and standard deviation of 3.4. Confirmatory factor analysis was used to test the dimensionality of the competence, correctness, and liked scales. Items that met the requirements of face validity, internal consistency, and parallelism were retained and summed to create indices (see Table 1). This procedure resulted in a competence scale consisting of four items with a distribution of responses that was slightly skewed negatively with a standardized item alpha of .84 (M = 18.90, SD = 3.95). The correctness scale consisted of seven items and had a distribution of responses that were

slightly skewed negatively with a standardized item alpha of .81 (M = 19.35, SD = 4.30). Finally, the liked scale consisted of five items and had a distribution of responses that were skewed negatively with a standardized item alpha of .90 (M = 17.85, SD = 4.87).

Minority Influence

Pretest scores were subtracted from posttest scores in order to calculate the degree to which participants were influenced. A positive mean indicates that participants shifted their preference toward Company B, the company the minority advocated, whereas a negative mean indicates that participants' preferences shifted toward Company A after group discussion. To identify differences between the control group and the experimental groups, a one-tailed Dunnett test was performed (Keppel, 1991). Results are presented in Table 2. There were statistically significant differences ($p < .05$) between the control group and both of the strong argument conditions. There were no statistically significant differences ($p. > .05$) between the control group and the weak argument conditions. Nonetheless, the probability for the weak arguments, large minority condition exceeded .05 but it was less than .10.

A number of issues arise concerning the analysis of these data. These data can be analyzed at both the individual and group level. The individual level data may be affected by a lack of independence among observations, a problem that can be addressed by averaging group members' scores to create a group level measure. Having only 24 groups with an average cell size of six presents issues concerning power at the group level while analyzing data from the

individual level provides a substantial increase in power with an average size of 30 per cell. Data for this study will be analyzed from both the individual and group level with careful attention to the pattern of the means. If the pattern of the means is similar for both the group and individual level analyses, then no violation of independence has occurred and it is warranted to draw conclusions based on the more powerful test.

A second issue to be addressed is the analysis of minority size as a raw number versus minority size relative to total group size. In other words, minority size as a raw number equals either two or four for this study, whereas minority size relative to total group size is the percentage of group members who are in the minority. This issue is pertinent because the percentage of minority subgroup members compared to total group size varied from group to group and there is some indication from past studies that this factor could affect the results (Maas & Clark, 1984; Tanford & Penrod, 1984). Data will first be analyzed using argument quality and minority size as factors from both the group and individual level followed by analyses treating the percentage of minority group members in each group as a covariate.

It was predicted that strong arguments would be more influential than weak arguments and a larger minority subgroup would be more influential than a smaller minority subgroup. Table 3 contains the cell means for the individual level analysis. Using a 2 X 2, argument quality by minority size, independent groups analysis of variance, the data were consistent with the two predicted main effects. There was a main effect for argument quality ($F(1,120) = 12.2$, $p = .001$,

r = .29) with strong arguments (M = 1.87) being more influential than weak arguments (M = -.061). Regarding minority size, there was a main effect ($F(1,120) = 8.30$, $p = .005$, $r = .24$) such that a larger minority subgroup (M = 1.72) was more influential compared to a smaller minority subgroup (M = .091). The interaction was not statistically significant ($F(1, 120) = <1$, $p > .05$, $r = .10$).

To identify if minority size relative to total group size also had an effect, the number of minority subgroup members was divided by the total group size. This transformation was done for each group and produced percentages for each minority subgroup. In an analysis of covariance (ANCOVA), argument quality was used as a fixed factor with the percentage of minority subgroup members as a covariate. At the individual level of analysis, results indicated that argument quality still affected influence such that strong arguments (M = 1.89) were more influential than weak arguments (M = -.09) ($F(1, 121) = 7.09$, $p < .05$, $r = .30$). The effect of the covariate was statistically significant as well ($F(1, 121) = 24.06$, $p < .05$, $r = .45$), indicating both argument quality and the percentage of minority subgroup members relative to total group size affect influence. Further, regressing the amount of influence onto the percentage of minority subgroup members for both the weak argument condition (b = .19) and the strong argument condition (b = .17) indicated no differences between the two conditions and thus, no evidence of an argument by minority size interaction.

Analyzing these data at the group level indicated a similar pattern. Table 4 contains the cell means for this group level analysis. The marginal means for weak arguments (M = .15) and strong arguments (M = 2.4) followed the same

pattern as the individual level marginal means, as did the pattern of the marginal means for the small minority condition (M = .46) and the large minority condition (M = 2.1). Although both the effects for argument quality ($F(1,20) = 4.00$, $p = .06$, $r = .38$) and minority size ($F(1,20) = 2.10$, $p > .05$, $r = .28$) were not statistically significant by conventional standards, this outcome was likely a result of low power (.47 & .28, respectively). Overall, strong arguments are more influential than weak arguments and larger minorities are more influential than smaller minorities. Again, the interaction was not statistically significant ($F(1, 20) = <1$, $p > .05$, $r = .20$).

Analyzing the data at the group level indicated that the covariate had a substantial effect on influence ($F(1, 21) = 8.06$, $p < .05$, $r = .57$) whereas there was not a statistically significant effect for argument quality ($F(1, 21) = 2.03$, $p > .05$, $r = .30$), however, this result is explained by the low power (.27) of the group level analysis. Further, regressing the amount of influence onto the percentage of minority subgroup members for both the weak argument condition (b = .23) and the strong argument condition (b = .21) at the group level indicated no differences between the two conditions and thus, no interaction.

Expanding on these analyses, one-sample t-tests (two-tailed) were employed. Individual level analysis indicated that weak arguments (M = -.09) were not statistically significantly different than zero ($t(59) = -.24$, $p > .05$) but that strong arguments (M = 1.89) were statistically significantly different than zero ($t(63) = 4.33$, $p < .05$). At the group level of analysis, weak arguments (M = .02) were not statistically significantly different than zero ($t(59) = -.03$, $p > .05$) but

strong arguments (M = 2.39) were statistically significant different from zero (t(63) = 2.83, $p < .05$). Thus, regardless of the level of analysis, strong arguments are more influential than weak arguments.

Inspection of the standard deviations in each cell of Table 3 identifies a seriously discrepant standard deviation (SD = 1.63) in the weak arguments, small minority condition. Indeed, using Levene's F-test a violation of homogeneity of variance was detected (F(3, 120) = 10.12, $p < .05$). This violation is explained by a basement effect. In this condition change was negative and there was little room on the scale for participants to move in a negative direction. In all other conditions change was positive, and there was ample room to change in that direction. Consistent with this thinking is a substantial positive correlation (r = .92) between the mean and variance across the four experimental conditions, indicating that the within condition variances decreased as the condition means decreased.

Inspection of the correlations in Table 5 among the amount of influence and the perceptions of competence, correctness and being liked indicate positive and substantial correlations, as hypothesized. At both the individual and group level these findings are statistically significant. Thus, the perceptions fostered by the minority subgroup help them with influencing the majority. Moreover, as can be seen in Table 5, the correlations among the perceptual variables are positive and relatively strong.

Perceptions of the Minority Subgroup

It was predicted that there would be a main effect for minority size on competence, correctness, and being liked. Table 6 contains the cell means for the competence measure at the individual level. For the competence measure there was no main effect for minority size ($F(1, 119) = 2.19$, $p > .05$, $r = .12$), however, there was a main effect for argument strength ($F(1, 119) = 10.9$, $p < .05$, $r = .28$). Using strong arguments ($M = 16.1$) helped the minority subgroup to be perceived as more competent than did weak arguments ($M = 14.1$). This effect was qualified by a statistically significant argument strength by minority size interaction ($F(1, 119) = 13.2$, $p < .05$, $r = .32$). Inspection of the cell means indicated that perceptions of the minority subgroup being competent were largest overall in the small minority, strong arguments cell ($M = 21.7$), equal in the large minority condition ($M = 18.4$ (strong), $M = 18.6$ (weak)) and smallest in the small minority, weak argument cell ($M = 16.9$). Thus, when the minority is small, making strong arguments produces higher ratings of competence than does making weak arguments. But, when the minority is relatively large argument strength has no impact on competence ratings.

ANCOVA was used with argument quality as a fixed factor and with the percentage of minority subgroup members as a covariate. At the individual level of analysis using competence as the dependent variable, results indicated that argument quality still affected perceptions of competence such that strong arguments ($M = 20.0$) fostered greater perceptions of competence than did weak arguments ($M = 17.8$) ($F(1, 121) = 10.4$, $p < .05$, $r = .28$). The percentage

covariate did not have a significant impact on perceptions of competence ($F(1, 121) = <1$, $p > .05$, $r = .03$). Thus, argument quality affected perceptions of influence whereas the percentage of minority subgroup members relative to total group size did not. Further, regressing perceptions of competence onto the percentage of minority subgroup members for both the weak argument condition ($b = .14$) and the strong argument condition ($b = -.16$) indicated differences between the two conditions. Constructing a confidence interval around $b = .14$ (95% CI = -.03 to .31) indicates that $b = -.16$ does not fit, which means that the two numbers are significantly different from one another and thus, that there is an interaction.

At the group level, similar results were obtained for the competence measure. Table 7 contains the cell means for this group level analysis. There was no main effect for minority size ($F(1, 20) = 1.74$, $p > .05$, $r = .20$), however, there was a main effect for argument strength ($F(1, 20) = 9.61$, $p < .05$, $r = .46$). Using strong arguments ($M = 20.1$) helped the minority subgroup to be perceived as more competent than did weak arguments ($M = 17.9$). This effect was qualified by a statistically significant argument strength by minority size interaction ($F(1, 20) = 12.8$, $p < .05$, $r = .54$) that had the same pattern of cell means as did the individual level analysis.

Analyzing the data at the group level using ANCOVA with competence as the dependent variable indicated that there was a statistically significant effect for argument quality ($F(1, 21) = 6.90$, $p < .05$, $r = .50$) with strong arguments ($M = 20.2$) fostering greater perceptions of competence compared to the weak

arguments condition (M = 17.8). The percentage covariate had no effect on perceptions of competence ($F(1, 21) = <1$, $p > .05$, $r = .06$). Thus, argument quality affected perceptions of influence where as the percentage of minority subgroup members relative to total group size did not. Further, regressing perceptions of competence onto the percentage of minority subgroup members for both the weak argument condition ($b = .13$) and the strong argument condition ($b = -.16$) indicated differences between the two conditions. Constructing a confidence interval around $b = .13$ (95% CI = -.26 to .52) indicates that $b = -.16$ does fit within the confidence interval, which means that the two numbers are not significantly different from one another, however, with the small sample size ($n = 24$), there is a lack of power. Regardless, the two numbers are different from one another.

Analysis of the correctness measure at the individual level identified no main effect regarding minority size ($F(1, 119) = <1.00$, $p > .05$,. $r = .00$). Table 8 contains the cell means for the correctness measure at the individual level. Analysis of variance identified a main effect for argument strength regarding correctness ($F(1, 119) = 8.39$, $p< .05$, $r = .25$) such that minority subgroups using weak arguments (M = 18.2) were perceived to be less correct in the group discussion than minority subgroups using strong arguments (M = 20.4). A statistically significant interaction ($F(1, 119) = 6.84$, $p < .05$, $r = .23$) for the correctness measure was discovered such that perceptions of the minority subgroup being correct are greatest overall in the small minority, strong arguments condition (M = 21.5), equal in the large minority condition (M's = 19.0

(weak arguments), 19.2 (strong arguments)), and smallest in the small minority, weak arguments condition (M = 17.4). Thus, when the minority is small, making strong arguments produces higher ratings of correctness than does making weak arguments. But, when the minority is relatively large argument strength has no impact on correctness ratings.

Using analysis of covariance, perceptions of being correct were used as the dependent variable with argument quality as a fixed factor and the percentage of minority subgroup members as a covariate. At the individual level of analysis using correctness as the dependent variable, results indicated that argument quality still affected perceptions of correctness such that strong arguments (M = 20.4) fostered greater perceptions of being correct than did weak arguments (M = 18.3) ($F(1, 120) = 6.78$, $p < .05$, $r = .24$). The percentage covariate did not have a significant impact on perceptions of correctness ($F(1, 120) = <1$, $p > .05$, $r = .10$). Thus, argument quality affected perceptions of being correct where as the percentage of minority subgroup members relative to total group size did not. Further, regressing the amount of influence onto the percentage of minority subgroup members for both the weak argument condition ($b = .16$) and the strong argument condition ($b = -.09$) indicated differences between the two conditions. Constructing a confidence interval around $b = .16$ (95% CI = -.01 to .33) indicates that $b = -.09$ does not fit, which means that the two numbers are significantly different than one another and that there is an interaction.

At the group level, a similar pattern of means was obtained. Table 9 contains the cell means for this group level analysis. The marginal means for minority size were alike in both the small minority (M = 19.7) and large minority (M = 19.0) conditions ($F(1, 20) = <1$, $p > .05$, $r = .14$). The marginal means for argument quality identified that strong arguments (M = 20.5) tended to foster higher perceptions of correctness compared to weak arguments (M = 18.2) ($F(1, 20) = 4.00$, $p = .06$, $r = .38$). The interaction between argument quality and minority size was not significant at the group level ($F(1, 20) = 2.70$, $p > .05$, $r = .31$), however, this was a result of low power (.34). Thus, both levels of analyses report the same pattern of means with different results being attributable to low power from the group level analysis.

Using analysis of covariance and analyzing the data at the group level using correctness as the dependent variable indicated that there was a strong effect for argument quality ($F(1, 21) = 3.62$, $p = .07$, $r = .40$) with strong arguments (M = 20.6) fostering greater perceptions of correctness compared to the weak arguments condition (M = 18.1). The percentage covariate had no effect on perceptions of correctness ($F(1, 21) = <1$, $p > .05$, $r = .15$). Thus, argument quality affected perceptions of correctness where as the percentage of minority subgroup members relative to total group size did not. Further, regressing perceived correctness onto the percentage of minority subgroup members for both the weak argument condition (b = .14) and the strong argument condition (b = -.07) indicated differences between the two conditions. Constructing a confidence interval around b = .14 (95% CI = -.26 to .54) indicates

that b = -.07 does fit within the confidence interval, which means that the two numbers are not significantly different than one another. As previously noted however, this is a result of low power

Analysis of the liked measure at the individual level identified no main effect regarding minority size ($F(1, 119) = <1.00$, $p > .05$, $r = .00$). Table 10 contains the cell means for the liked measure at the individual level. Analysis of variance identified a main effect for argument strength regarding how liked was the minority subgroup ($F(1, 119) = 5.50$, $p < .05$, $r = .20$) such that minority subgroups using strong arguments ($M = 18.9$) were more liked than minority subgroups using weak arguments ($M = 16.9$). A statistically significant interaction ($F(1, 119) = 14.32$, $p < .05$, $r = .32$) for the liked measure was discovered such that perceptions of the minority subgroup being liked are greatest overall in the small minority, strong arguments condition ($M = 20.5$), similar in the large minority condition (M's = 18.3 (weak arguments), 17.2 (strong arguments)), and smallest in the small minority, weak arguments condition ($M = 15.5$). Thus, when the minority is small, making strong arguments produces higher ratings of being liked than does making weak arguments. But, when the minority is relatively large argument strength has no impact on ratings of being liked.

Using ANCOVA, perceptions of being liked were used as the dependent variable with argument quality as a fixed factor and percentage as a covariate. At the individual level of analysis using liked as the dependent variable, results indicated that argument quality still affected perceptions of being liked such that

strong arguments (M = 18.8) fostered greater perceptions of competence than did weak arguments (M = 16.5) ($F(1, 120) = 4.35$, $p < .05$, $r = .19$). The covariate did not have a significant impact on perceptions of being liked ($F(1, 120) = <1$, $p > .05$, $r = .06$). Thus, argument quality affected perceptions of being liked where as the percentage of minority subgroup members relative to total group size did not. Further, regressing perceptions of being liked onto the percentage of minority subgroup members for both the weak argument condition ($b = .17$) and the strong argument condition ($b = -.15$) indicated differences between the two conditions. Constructing a confidence interval around $b = .17$ (95% CI = .00 to .34) indicates that $b = -.15$ does not fit, which means that the two numbers are significantly different than one another and that there is an interaction.

At the group level, similar results were obtained for the liked measure. Table 11 contains the cell means for this group level analysis. There was no main effect for minority size ($F(1, 20) = <1$, $p > .05$, $r = .01$), however, there was a main effect for argument strength ($F(1, 20) = 7.52$, $p < .05$, $r = .40$). Using strong arguments (M = 19.0) helped the minority subgroup to be perceived as more liked than did weak arguments (M = 16.5). This effect was qualified by a statistically significant argument strength by minority size interaction ($F(1, 20) = 18.9$, $p < .05$, $r = .64$) that had the same pattern of cell means as did the individual level analysis.

Using ANCOVA and analyzing the data at the group level using liked as the dependent variable indicated that there was a significant effect for argument quality ($F(1, 21) = 4.40$, $p < .05$, $r = .45$) with strong arguments (M = 19.1)

fostering greater perceptions of being liked compared to the weak arguments condition (M = 16.4). The covariate had no effect on perceptions of being liked ($F(1, 21) = <1$, $p > .05$, $r = .21$). Thus, argument quality affected perceptions of being liked where as the percentage of minority subgroup members relative to total group size did not. Further, regressing perceptions of being liked onto the percentage of minority subgroup members for both the weak argument condition ($b = .25$) and the strong argument condition ($b = -.14$) indicated differences between the two conditions. Constructing a confidence interval around $b = .25$ (95% CI = -.14 to .64) indicates that $b = -.07$ does fit within the confidence interval, which means that the two numbers are not significantly different than one another. As previously noted however, this is likely a result of low power.

In conclusion, analyzing data from both the individual and group level demonstrated the same pattern of means. Often the same conclusions were reached and in cases where they were not, differences were attributable to low power. Nonetheless, the same pattern of means for both analyses allows for the conclusion that independence was not violated. Further, treating percentage of minority subgroup members as a covariate identified that it affected the dependent variables in the same manner as minority size. Thus, both minority size and percentage are important issues to consider for minority influence.

CHAPTER 4

DISCUSSION

The purpose of this study was to extend the minority influence literature by investigating the effects of argument quality and group size on influence and perceptions fostered by the minority while holding behavioral consistency constant. Group size for this study varied and the number of minority subgroup members relative to total group size was examined for any effects it may have had or caused different from the argument quality and minority size effects. None were found. Additionally, these data were analyzed at both the individual and group levels. Regardless of how these data were analyzed, the same pattern in these data emerged. Because analyzing these data at the group level produced a less powerful test then analyzing these data at the individual level, conclusions were drawn from the more powerful test.

It was hypothesized that a minority subgroup using strong arguments would be more successful at influencing the majority subgroup than when they used weak arguments, and that a large minority would be more persuasive than a small minority. The data were consistent with both hypotheses. Both strong arguments and a large minority proved beneficial when a minority was attempting to influence the majority. Data were not consistent with the hypothesized interaction that a large minority and a minority using strong arguments are able to effect the same amount of influence with the majority.

That strong arguments were more influential than weak arguments was consistent with the hypothesized effect. Although some studies found that relative argument quality was more predictive of attitude change than induced argument quality, it was proposed that in those studies having only one member as part of the minority subgroup could have contributed to this effect. Garlick and Mongeau (1992) demonstrated that comprising a minority subgroup of more than one member attenuated the effect of relative argument quality, and found the predicted effects for induced argument quality. The present study used minority subgroups comprised of two and four members and demonstrated that strong arguments were more persuasive than weak arguments. Because the methods used for this study differed from the Garlick and Mongeau (1992) study (group discussion versus fictitious script), it would be interesting to investigate if the strong arguments used by one lone minority member in a group discussion, with the help of behavioral consistency, would be perceived as strong and influential.

The effect of group size proved to be interesting. Whereas the larger minority subgroup tended to be more influential than the smaller minority subgroup, using weak arguments in different size groups produced quite different results. The expected effect that the large minority using weak arguments would be as effective as the small and large minority using strong arguments was obtained. It appears that for a large minority size is advantageous when attempting to influence the majority. Although the arguments advanced by a large minority may be weak, the size of the larger minority compensates.

Because a number of other people share a different opinion, the majority may perceive that a large minority cannot be completely wrong or inaccurate.

Conversely, a small minority using weak arguments proved to be unproductive when trying to influence the majority. Majority group members tended to increase or strengthen their preference for their initial choice in this condition. If people enter group situations with the expectations that most people share their belief or perception (Maas & Clark, 1984), then a minority subgroup has violated the majority's expectations. In turn, a validation process ensues whereby the majority tries to understand the minority's position (Moscovici, 1980). When the minority uses strong arguments, a reasonable attempt at validating their position has been made. Likewise, when the minority is large, the larger group size might serve as a heuristic wherein the majority would not expect so many members of their group to support a bad position, causing them to think more about the minority's position. Thus, for large minorities, their size serves to help them in validating their position. The small minority that consistently uses weak arguments has neither size, nor reasonable support for their position. The arguments generated by the majority are countered with weak arguments by the minority. If the minority has failed to validate their stance and they consistently support it with weak arguments, the majority may not understand why these few people do not see their point of view. In the process of offering their own arguments that were responded to with weak arguments, majority subgroup members increased their belief in their position. Future investigations should study this issue.

The perceptions fostered by the minority subgroup did not differ based on minority size as hypothesized. Instead, main effects were found for argument quality but were qualified by a significant interaction. In all cases, competence, correctness and liked, were highest in the small minority, strong argument condition followed by the large minority condition whereas the small minority, weak argument condition reported the lowest ratings. Thus, the interaction for competence, correctness, and liked all took the same form. When the minority is small but using strong arguments, they produce higher ratings on all three variables than do minorities that are small using weak arguments. When the minority is large, argument strength has no impact on how the minority is perceived with these three variables.

Nemeth et al. (1977) found that as a behaviorally consistent minority increases in size, the perception of that minority being competent, correct, and liked increased positively and that these perceptions were positively associated with minority influence. The same results were obtained in this study. The results of this study demonstrate that both minority group size and how well the minority defends their position (argument quality) are important determinants of how they are perceived. As evidenced by the ratings received by the different minorities, larger minorities or minorities using strong arguments foster more positive perceptions. Groups using strong arguments provide good reasons in support of their stance, and thus, are perceived more positively, whereas larger groups, regardless of argument quality, are perceived more favorably because of their size. Although larger minorities gain favorable attributions because of their

size, smaller minorities, when they present their position in a compelling way (strong arguments) receive favorable attributions as well.

One reason suggested for the interaction effect could be that when two people comprise the minority it is easier to judge or evaluate them compared to four people. Having four people in the minority may dilute the majority's perceptions of the minority. Having only two people in the minority puts them more in the spotlight, or, since there are only two people their actions or behavior are highlighted more than when four people comprise the minority. Thus, if a minority of two presents their case well, they foster very positive perceptions whereas if they do not present their case well, favorable perceptions of them are not as strong. When there are more in the minority, in this case four, it is more difficult for the majority to focus on the minority because the added number of minority group members dilutes focus. As a result it is more difficult to judge the minority which leads to similar ratings regardless of how the minority presents its case.

Future Research & Limitations

Future research should investigate more communicative behavior to identify how majority group members actually respond to minority influence attempts. The long held assertion by Moscovici and colleagues (Moscovici, Lage, & Faucheux, 1969; Moscovici, & Faucheux, 1972; Moscovici & Lage, 1976) that the number in the minority subgroup and consistency lead to conformity needs to be amended by adding the quality of the communication by

the minority also matters. Thus, simply showing up as a large minority consistently supporting a position is not always enough.

Future research could be conducted to identify if other factors such as leadership or credibility affect minority influence. Leaders of a group may be able to enact more influence on a majority subgroup because of their status in the group as a whole. Depending on the topic, some group members may have more credibility than other group members because of some unique ability they possess or information that they may have. The knowledge a group member has on some topic could make them a credible or expert source in the group and if in the minority, could use that credibility to influence the majority.

Another avenue for research could be to investigate if a minority subgroup is more successful in different situations or contexts. For example, in a situation where the outcome or final decision can be a compromise between the majority and minority subgroups, it may be easier for the minority to influence the majority than it is to influence them to accept the minority's opposing categorical decision. Whatever the case, some situations may be easier or more difficult for the minority to achieve influence.

There were limitations to this study. Not everyone was influenced equally and regardless of condition, there was not total and complete influence. An explanation of this phenomenon should be examined in the future. Although differences of opinions existed in the groups, some of the participants may have not participated or put forth their point of view. They simply may have not taken the experiment seriously or did not care much for participating. Further, some

participants may have reported being influenced when in actuality they were not. The purpose for them doing so could have been so the experiment would end. Finally, the confederates may have exhibited some behavior not measured and it was this behavior that significantly contributed to them obtaining influence. Addressing these limitations in future research will help us to better understand minority influence in the group context.

Conclusion

Adding to the minority influence corpus, this study demonstrated that the way a minority presents its ideas and establishes its position on a topic can impact their chances of influencing a majority, as well as how they are perceived by the majority. Further, this study demonstrated the importance of argumentative communication when the minority is trying to influence the majority. Group members who comprise the minority would best be served by presenting their ideas with a united front, a large minority subgroup, and via messages known to be high in quality. Of course, the latter issue is somewhat mundane. Clearly, any group member would be likely to advocate a favored position with arguments as strong as could be amassed. Nevertheless, the effect of argument strength suggests that in order to be effective, members of minority subgroups might need to accumulate and practice strong arguments prior to group discussion.

In the absence of having available the information to accumulate and create persuasive arguments, garnering support from other group members might prove effective for influencing the majority. Presenting a unified front with

a large number of minority members can be as effective as having a few members in the minority subgroup using strong arguments. Of course, having as many members as possible in the minority subgroup and using strong arguments increases the minority's chance of influencing the majority.

APPENDIX

APPENDIX A

STIMULUS

Directions: Following is a description of a situation a college senior is going to face in the very near future. Please read the description and then mark what you think that person should do.

A college senior that is majoring in computer programming is going to be graduating this semester. Already, this college senior has been recruited by two organizations to come work for them and the time is coming near to decide between the two organizations. Following is a description of the differences between the two companies:

COMPANY A:
Company A has an uncertain future such that it is a new company and whether it will be around in the future has yet to be determined. However, if the college senior joins this organization, as the organization grows, the opportunity for advancement will be great; but there is a lot less job security compared to the other organization.

COMPANY B:
Company B is a well established company and it is very likely to be around in the near and distant future. However, if the college senior joins this organization, the opportunity for advancement is limited; but job security in this organization will be a lot higher compared to the other organization.

Based on the situation described above, circle the response that best reflects what you think the college senior should do. You can circle any number that you desire but please note that circling a number closer to "1" indicates that you believe the college senior should take the job with Company B and by circling a number closer to "10" indicates that you believe the college senior should take the job with Company A.

Take the job with Company B									Take the job with Company A
1	2	3	4	5	6	7	8	9	10

APPENDIX B

ARGUMENTS

Strong Arguments

1. Since Company B is an established organization, things like vacation time, work hours and benefits are likely to be more structured than Company A. (M = 16.3)

2. After graduating from college, a person probably does not have much savings and probably has some bills to pay. Company B will give a person just graduating a steady, reliable income to pay their bills and begin saving money. (M = 16.1)

3. Experience at a reputable company could provide opportunities at other companies. Thus, if a person works for Company B and they decide to leave it, they might have an easier time getting another job and advancing quicker in that new job. (M = 14.8)

4. Taking the job with Company B gives a person a job with an established company that 's gonna be around in the years to come, giving them peace of mind. They have job security with a company that's gonna last. (M = 14.6)

5. The college senior can always go to an upstart like Company A. By starting with Company B, the senior has a good job and is gaining valuable experience. (M = 14.5)

6. Taking the job with Company B would afford the college senior the opportunity to network for future jobs. With a stable company like B, there a number of contacts to be made in and out of work. (M = 13.4)

Weak Arguments

1. It seems like a much better decision to take a job with Company B. There will be less back stabbing if advancement opportunities are not available, so you'll have a better chance of developing friendly relationships with your co-workers. (M = 7.4)

2. Company A is too risky. If you are going to take a risk or gamble, you should start your own company. That way, you receive all the rewards and benefits. (M = 7.9)

3. Working for Company B can afford you the opportunity to diversify yourself in that you can work at different positions in the company. With Company A, you might be stuck doing just one thing. (M = 8.1)

4.The great thing about Company B is that it is secure and stable. As a result, you probably won't have to work as hard and you would experience a lot less job-related stress. (M = 8.2)

5. Working for Company B probably means that less dedication and less energy is required by an employee than if they worked for a new company, like Company A, that is trying to establish itself. Working for Company B would be a lot easier. (M = 8.3)

6. Company B offers a lot of job security and job security can be better than how much you get paid, your rank, or advancement. (M = 8.8)

Table 1

Confirmatory Factor Analysis for the Perception Variables

Measure and Variable	M	SD	F	N
Competence Scale:				
Competent-Incompetent	4.1	.88	.71	123
Effective-Ineffective	3.5	1.1	.75	123
Proficient-Not proficient	3.5	.99	.85	123
Intelligent-Unintelligent	4.0	.92	.68	123
Correctness Scale:				
Correct-Incorrect	2.6	.96	.54	123
Accurate-Inaccurate	2.7	.90	.71	123
Precise-Imprecise	3.1	.89	.56	123
Right-Not Right	3.0	.82	.55	123
Flawless-Flawed	2.7	.99	.71	123
Exact-Inexact	2.5	.83	.59	123
Expert-Not expert	2.8	.82	.68	123
Liked Scale:				
Likeable-Unlikable	3.5	1.1	.71	123
Friendly-Unfriendly	3.6	1.1	.91	123
Pleasant-Unpleasant	3.6	1.1	.95	123
Kind-Unkind	3.6	1.1	.88	123
Reasonable-Unreasonable	3.5	1.2	.58	123

Table 2

Mean Differences of Influence for Each Experimental Condition Compared to the Control group Using A One-tailed Dunnett Test

Condition	Condition Mean	Control Group Mean	Difference	N
Weak argument/ Small minority	-1.23	-.37	-.860	30
Strong Argument/ Small minority	1.32	-.37	1.69**	30
Weak argument/ Large minority	1.02	-.37	1.38*	31
Strong argument/ Large minority	2.42	-.37	2.79**	33

*p < .10. **p < .05

Table 3

Cell Means for the Amount of Influence Based on the Minority Size by Argument Quality Conditions at the Individual Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 1.02	M = 2.42
	SD= 3.50	SD = 3.55
	N = 31	N = 33
Small (2 in subgroup)	M = -1.20	M = 1.32
	SD = 1.63	SD = 3.39
	N = 30	N = 30

Control group: M = -.367, SD = .809, N = 30

Table 4

Cell Means for the Amount of Influence Based on the Minority Size by Argument Quality Conditions at the Group Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 1.56	M = 2.62
	SD= 3.08	SD = 3.24
	N = 5	N = 6
Small (2 in subgroup)	M = -1.27	M = 2.19
	SD = .834	SD = 3.10
	N = 6	N = 7

Control group: M = -.367, SD = .463, N = 6

Table 5

Correlations for Influence and Perceptions at the Individual Level of Analysis

	1	2	3	4
1. Influence	1.00			
2. Competence	.22	1.00		
3. Correctness	.39	.49	1.00	
4. Liked	.27	.60	.43	1.00

N=123

Correlations for Influence and Perceptions at the Group Level of Analysis

	1	2	3	4
1. Influence	1.00			
2. Competence	.56	1.00		
3. Correctness	.66	.60	1.00	
4. Liked	.64	.83	.70	1.00

N = 24

Table 6

Cell Means for the Perceived Competence of the Minority Subgroup Based on the Minority Size by Argument Quality Conditions at the Individual Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 18.6	M = 18.4
	SD= 4.31	SD = 3.85
	N = 31	N = 33
Small (2 in subgroup)	M = 16.9	M = 21.7
	SD = 3.48	SD = 2.61
	N = 29	N = 30

Table 7

Cell Means for Perceived Competence Based on the Minority Size by Argument Quality Conditions at the Group Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 18.7	M = 18.3
	SD= 1.44	SD = 2.00
	N = 5	N = 6
Small (2 in subgroup)	M = 17.1	M = 21.8
	SD = 2.03	SD = 1.33
	N = 6	N = 7

Table 8

Cell Means for the Perceived Correctness Based on the Minority Size by Argument Quality Conditions at the Individual Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 19.0	M = 19.2
	SD= 4.85	SD = 4.01
	N = 29	N = 30
Small (2 in subgroup)	M = 17.4	M = 21.5
	SD = 3.64	SD = 3.88
	N = 31	N = 33

Table 9

Cell Means for Perceived Correctness Based on the Minority Size by Argument Quality Conditions at the Group Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 18.7	M = 19.1
	SD= 3.30	SD = 2.40
	N = 5	N = 6
Small (2 in subgroup)	M = 17.7	M = 21.8
	SD = 2.48	SD = 2.00
	N = 6	N = 7

Table 10

Cell Means for how Liked was the Minority Subgroup Based on the Minority Size by Argument Quality Conditions at the Individual Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 18.3	M = 17.2
	SD= 4.84	SD = 5.47
	N = 29	N = 30
Small (2 in subgroup)	M = 15.51	M = 20.5
	SD = 3.30	SD = 4.14
	N = 31	N = 33

Table 11

Cell Means for how Liked was the Minority Subgroup Based on the Minority Size by Argument Quality Conditions at the Group Level of Analysis

	Argument Quality	
Minority Size	Weak	Strong
Large (4 in subgroup)	M = 18.4	M = 17.0
	SD= 2.60	SD = 2.33
	N = 5	N = 6
Small (2 in subgroup)	M = 14.7	M = 21.0
	SD = 2.20	SD = 2.21
	N = 6	N = 7

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Footnotes

[1]Throughout this manuscript, anytime the minority or majority is referred to, it represents a minority or majority subgroup.

[2]Although it is often reported that at three or four group members influence levels off, this number can be controversial.

[3]Argument strength could be defined employing an alternative criterion, logical soundness. On the other hand, because persons judge logical soundness poorly (Jacobs, Allen, Jackson, & Petral, 1985), this criterion proves less effective for varying experimentally argument strength.

[4]Originally, confederates were armed with only three arguments for both the strong and weak conditions. After running 4 groups, a decision was made to increase the number of arguments to 6 for each condition. Before using the arguments, confederates committed them to memory.