Perceptions of Entitativity and Attitude Change

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The current work explored the properties of groups that lead them to be persuasive and the processes through which such persuasion occurs. Because more entitative groups induce greater levels of information processing, their arguments should receive greater elaboration, leading to persuasion when members of groups present strong (vs. weak) counterattitudinal arguments. Experiment 1 explored these hypotheses by examining if idiosyncratic perceptions of group entitativity and manipulations of argument strength affect attitude change and argument elaboration. Experiment 2 experimentally manipulated group entitativity and argument strength independently to examine the causal relationship between entitativity, attitude change, and argument elaboration. In both experiments, it was found that groups greater in entitativity were more persuasive when presenting strong (vs. weak) arguments and induced greater argument elaboration. Implications for our understanding of entitativity, persuasion, and information processing about social groups are discussed.

Keywords: *entitativity; attitude change; argument elaboration; groups*

Entitativity has been defined as "the perception that an aggregate of individuals is bonded together in some way to constitute a group" (Hamilton, Sherman, & Castelli, 2002, p. 141), and groups are conceptualized as lying along a continuum ranging from groups that are highly entitative to groups that have little entitativity (Hamilton, Sherman, & Lickel, 1998). Indeed, lay perceivers describe groups as varying in entitativity, ranging from intimacy groups (e.g., families) who are seen as very entitative to loose associations (e.g., people standing at a bus stop) who are seen as very low in entitativity (Lickel et al., 2000; Lickel, Hamilton, & Sherman, 2001).

These differences in perceptions of entitativity may have important implications for how information about groups is processed. Hamilton and Sherman (1996) have argued that groups greater in entitativity are assumed to have more of a psychological essence, and it is this expectation that leads perceivers to devote more cognitive resources into processing and elaborating on information associated with them. That is, perceivers should invest greater effort into understanding a group's qualities, traits, and opinions if that group is seen as possessing sufficient coherence and consistency such that abstractions about it will be useful in understanding and predicting group members' behaviors and beliefs.

Research on person memory has shown that greater information processing is observed for more meaningful (i.e., more entitative) groups (e.g., Srull, 1981; Stern, Marrs, Millar, & Cole, 1984; for a review, see Srull & Wyer, 1989). In this literature, evidence of greater information processing is revealed by participants showing better recall for information that is inconsistent with an expectation held about the group, and it is assumed that better recall results from perceivers effortfully reconciling inconsistent behaviors with the expectation held about the group. For example, Srull, Lichtenstein, and Rothbart (1985) found that participants who were presented with an expectancy about group targets (e.g., their members are conscientious) showed better recall for expectancy-inconsistent behaviors (e.g., their nonconscientious acts), but only for more meaningful groups and not for less meaningful groups. Person memory findings such as these suggest that perceivers expend greater cognitive effort in understanding more entitative groups.[1]

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Other research has explored information processing about groups when entitativity is manipulated more directly than it has been in the person memory literature. For example, McConnell, Sherman, and Hamilton (1997) demonstrated that groups greater in entitativity induced more elaborative impression formation, whereas impressions of groups lower in entitativity were rendered in a less elaborative fashion (see also Johnson & Queller, 2003). Many other studies have concluded that greater entitativity results in more effortful and elaborative information processing of information associated with groups (e.g., Hamilton & Sherman, 1996; Johnson & Queller, 2003; McConnell et al., 1997; Pickett, 2001; Welbourne, 1999; Yzerbyt, Rogier, & Fiske, 1998). Based on this work, the current research explored the possibility that greater entitativity increases information processing about group members' arguments, which in turn affects their persuasiveness. Such an increase in elaborative processing would make highly entitative groups presenting strong arguments more persuasive than highly entitative groups presenting weak arguments. However, elaborative processing of group members' arguments might be less likely for groups lower in entitativity, resulting in less discrimination between strong and weak arguments. Although it has been shown that more extensive processing of impression-relevant information occurs for groups greater in entitativity (e.g., McConnell et al., 1997), it is an open question as to whether this more extensive processing occurs for arguments made by group members as well. We reasoned that entitativity-triggered elaborative processing might extend not only to group evaluations (e.g., McConnell et al., 1997) and rendering attributions about their traits (e.g., Yzerbyt et al., 1998) but that it might apply to understanding their opinions and beliefs as well. Thus, the current study assessed this possibility and collected data regarding the processes through which such outcomes should occur.

Indeed, the attitudes literature suggests clear implications for persuasion if the arguments of more entitative groups are processed more extensively. Highly elaborative processing involves integrating and abstracting the arguments presented and forming or changing an attitude based on the quality of the arguments. On the other hand, less elaborative processing involves the perceiver allocating less attention to the message and thus relying more on peripheral cues (Petty & Cacioppo, 1986; Petty & Wegener, 1998). The current work used the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986; Petty & Wegener, 1998), which posits that people evaluate persuasive arguments on a continuum ranging from highly elaborative (i.e., central route to persuasion) to less elaborative processing (i.e., peripheral route to persuasion) because it explains how information processing of persuasive arguments leads to attitude change. In general, strong arguments that are processed in a more elaborative fashion should have a greater impact on perceivers' beliefs (i.e., induce greater and longer lasting attitude change) than those that are not processed as extensively (Petty & Cacioppo, 1986).

When arguments are elaborated on more extensively (i.e., central route to persuasion), perceivers scrutinize the quality of those arguments and consider those persuasive appeals with respect to their own opinions and beliefs (Petty & Wegener, 1998). In cases where the arguments of others are strong and contrary to the position held by perceivers, greater elaboration leads perceivers to reconcile their own opinions with the content of the persuasive appeals, resulting in attitude change. We also know from the person memory literature (e.g., Hastie & Park, 1986; Srull et al., 1985; Srull & Wyer, 1989) that greater elaborative processing encourages perceivers to reconcile inconsistencies in social information associated with groups and beliefs held by perceivers (e.g., Hamilton & Sherman, 1996; Susskind, Maurer, Thakkar, Hamilton, & Sherman, 1999; Welbourne, 1999). Thus, because attitude change via the central route to persuasion relies on perceivers integrating and reconciling their opinions with persuasive appeals made by others, and because more entitative groups induce more elaborative information processing that leads people to reconcile inconsistencies in information associated with social groups and their group-related expectations, it seems that highly entitative groups should induce greater persuasion when they offer compelling, strong arguments.

Despite the research on entitativity, it is not clear that perceptions of greater entitativity must lead to more elaborative processing of a group's arguments. Although the impression formation literature has repeatedly found that impressions of individuals are processed more elaboratively than impressions of groups (Hamilton & Sherman, 1996), the multiple source effect has shown that arguments presented by several people are processed more elaboratively than several arguments from the same person (e.g., Harkins & Petty, 1987). More relevant to the current work, an extension of research on the multiple source effect has shown that groups composed of several dissimilar members (dissimilar groups) induce more elaborative processing of arguments than groups composed of several similar members (similar groups) and, thus, are relatively more influential (Harkins & Petty, 1987). Because similarity is one component of perceptions of entitativity (e.g., Campbell, 1958), these findings might suggest that less entitative groups would be more persuasive than groups greater in entitativity. Indeed, the findings for the multi-

ple source effect seem potentially contradictory with those examining entitativity more generally (Hamilton & Sherman, 1996).

However, the possibility of conflict between these positions may be illusory. Because entitativity is hypothesized to be a more complex, multifaceted construct than group similarity or group homogeneity (Hamilton, Sherman, & Rodgers, 2004), entitativity may have different effects on persuasion than homogeneity. Thus, the entitativity literature (Hamilton & Sherman, 1996) and extensions of the multiple source literature (Harkins & Petty, 1987) may not make contradictory predictions for persuasion (Hamilton et al., 2004). Of importance, both of these perspectives (i.e., entitativity and multiple source effect) predict that elaborative processing of strong arguments should lead to greater persuasion, although they suggest that different qualities of groups induce more extensive information processing. The current work not only assessed these predictions but also examined the underlying processes relevant to their claims.

Thus, it is an open question as to whether groups greater in entitativity will induce more elaborative processing of arguments than less entitative groups. Research from the entitativity literature (Hamilton & Sherman, 1996) suggests that the answer is yes, whereas research extending the multiple source effect literature (e.g., Harkins & Petty, 1987) might predict the opposite (cf. Hamilton et al., 2004). If members of more entitative groups induce more elaboration (e.g., McConnell et al., 1997), then we would expect greater elaborative information processing of their arguments, resulting in greater attitude change when their arguments are relatively strong. However, if less entitative groups induce greater elaboration of their arguments, the same mechanism (i.e., elaborative processing of group members' arguments) should account for attitude change, but with a different pattern of results (i.e., less entitative groups leading to greater elaboration and more persuasion when their arguments are relatively strong).

EXPERIMENT 1

To assess how group entitativity affects persuasion, Experiment 1 manipulated whether perceivers were given strong or weak counterattitudinal arguments and measured participants' perceptions of group entitativity. In this study, we were interested in observing how perceivers' natural and idiosyncratic perceptions of group entitativity related to the persuasiveness of group members' arguments (in Experiment 2, we manipulated group entitativity experimentally). If people show more attitude change when they are exposed to strong arguments than when they are exposed to weak arguments, it indicates that they followed the central route to persuasion by elaborating on the quality of the argument (Petty & Cacioppo, 1986). Because we wanted to examine the role of elaborative processing for perceived entitativity and attitude change, we examined only situations where the attitude of interest was not personally relevant. According to the ELM (Petty & Cacioppo, 1979), when messages are personally relevant, they should be subject to elaborative processing regardless of other factors, such as group characteristics (i.e., entitativity).

If highly entitative group members' arguments are processed in a relatively elaborative fashion, it would be expected that groups perceived to be greater in entitativity making strong arguments would be especially persuasive relative to groups making weak arguments, reflecting that the central route to persuasion was used. However, when the group was perceived to be low in entitativity, there should be little differentiation between strong and weak arguments. In addition to differences in attitude change, argument elaboration should vary as a function of perceptions of entitativity and argument strength (Petty & Cacioppo, 1986). That is, for those groups who are perceived to be greater in entitativity, strong arguments should invoke relatively more positive thoughts and weak arguments should invoke relatively more negative thoughts (Petty & Cacioppo, 1986). This pattern of results for thought positivity would offer converging evidence that greater perceptions of group entitativity induce elaborative processing of group arguments. For those groups perceived to be lower in entitativity, differences in persuasion as a function of strong and weak arguments should be diminished, indicating that the arguments of less entitative groups were not processed elaboratively.

Method

Participants. A sample of 55 Miami University undergraduates participated to fulfill a requirement for their introductory psychology course. They were randomly assigned to receive either strong or weak arguments.

Preexperiment opinions. Participants reported their level of agreement with 35 statements relevant to campus and national issues on a scale ranging from 1 (*completely disagree*) to 9 (*completely agree*). Embedded in this questionnaire was the attitude of interest for the present study, "I believe that Miami University should institute senior comprehensive exams (a cumulative exam in a student's major area that they must pass to graduate)." Participants rated their agreement with the statement, which was used as a baseline measure from which to assess subsequent attitude change.[2]

GROUP INTRODUCTION

Next, all participants were given instructions that indicated that the attitude of interest was low in personal relevance. More specifically, the participants' school was described as not interested in instituting senior comprehensive exams:

> In this study, you will be reading a series of statements that were given by members of a real group who participated in a round table discussion about how American universities should respond to requests to implement senior comprehensive exams. This round table discussion took place at the most recent meeting of the National Accrediting Board of Higher Education last May. Although Miami University is not considering implementing senior comprehensive exams in the future, we are interested in your opinions and reactions to the statements made about comprehensive exams by this group at this meeting. Senior comprehensive exams are exams taken after the class requirements for a degree have been met. The exams are degree specific, so a business major would be tested based on the information that a business major would have covered in business classes. A student must pass the exam to graduate. Today, you'll read opinions made by one group of people at the National Accrediting Board of Higher Education last May. To make things easy, we will refer to this group as Group A.

Argument strength. Argument strength was manipulated by presenting either five strong or five weak arguments for instituting senior comprehensive exams in a single, randomly determined order. These statements were taken from Petty and Cacioppo (1986, pp. 54-59). Participants read the arguments presented by the group at their own pace, and they were told to read each argument only once.

Postexperiment opinions. Participants indicated their posttest attitudes about instituting senior comprehensive exams on the same scales used to assess their pretest opinions. Pretest attitude responses were subtracted from posttest attitude responses to calculate attitude change such that larger, positive scores reflected more favorable attitudes toward comprehensive exams after reading the arguments.

Perceptions of group entitativity. Next, participants' perceptions of Group A's entitativity were assessed with a 16-item questionnaire, modeled after Lickel et al. (2000), that examined different dimensions of entitativity (see the appendix). Responses to these questions were provided on 9-point scales, with larger values indicating greater entitativity. The items were highly interrelated ($\alpha = .91$), and thus, a mean perceived entitativity score was calculated. In addition, participants rated Group A's likableness on a 9-point scale, with larger values indicating greater likability.[3]

Thought listing. Finally, participants were given 3.5 min to list the thoughts they had while reading the group's arguments, and they assigned each thought a valence rating while listing their thoughts: positive (i.e., favorable toward comprehensive exams), negative (i.e., opposed to comprehensive exams), or neutral (see Petty & Cacioppo, 1986). Thought positivity was calculated by subtracting the number of negative thoughts listed from the number of positive thoughts listed. Thus, greater thought positivity indicated that participants generated a relatively larger number of thoughts supportive of instituting comprehensive exams while reading Group A's arguments.

Results

Attitude change and thought positivity. Because an interaction between the manipulation of argument strength and perceptions of group entitativity was predicted for both attitude change and thought positivity, two multiple regression analyses were conducted. Centered ratings of perceived group entitativity, the manipulation of argument strength (comparing strong arguments, coded +1, and weak arguments, coded –1), and the interaction of the centered perceptions of group entitativity and the manipulation of argument strength (multiplicative function) were regressed on participants' ratings of attitude change and on thought positivity.[4]

Attitude change. As would be expected, strong arguments tended to lead to more attitude change than did weak arguments, $\beta = .22$, $p < .10$. In addition, ratings of entitativity were positively related to attitude change, $\beta = .32$, $p < .02$, indicating that more attitude change occurred for groups perceived as greater in entitativity. More important, the predicted interaction between perceptions of group entitativity and the manipulation of argument strength made a unique contribution in predicting attitude change, $\beta = .44$, $p < .001$. Figure 1 shows that the form of this interaction was as predicted, showing that attitude change (y-axis) relates to perceptions of group entitativity plotted at ±1 *SD* from the mean (x-axis) differently as a function of argument strength (different lines). This interaction revealed that perceptions of group entitativity and attitude change were positively related when strong arguments were presented, $r = .63$, $p < .001$, whereas there was a nonsignificant negative relation between perceptions of group entitativity and attitude change when weak arguments were presented, $r = -.28$, $p < .16$. Thus, as predicted, the relation between perceptions of group entitativity and attitude change varied as a function of argument strength.

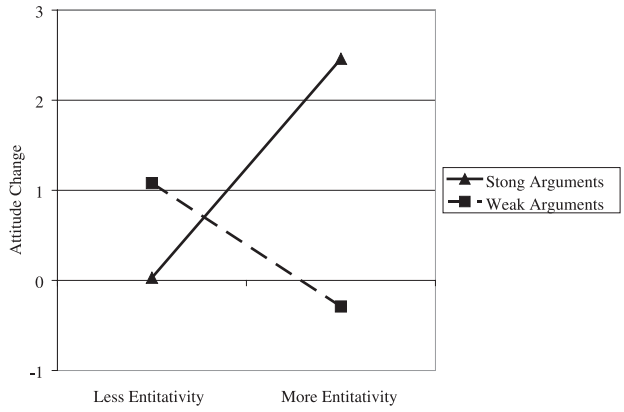

Figure 1 The relation between perceived entitativity and attitude change as a function of argument strength.

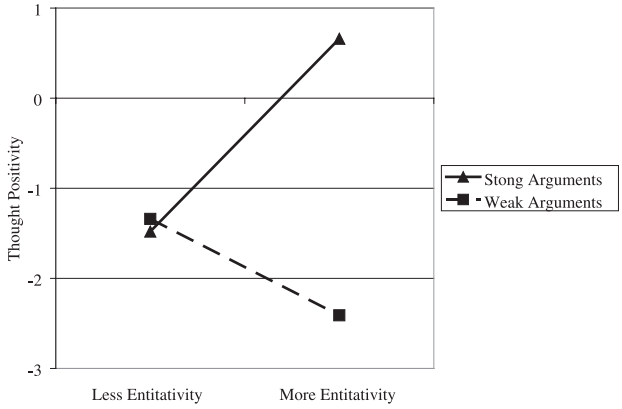

Figure 2 The relation between perceived entitativity and thought positivity as a function of argument strength.

Thought positivity. As would be expected, strong arguments led to more thought positivity than did weak arguments, $\beta = .37$, $p < .01$. In addition, ratings of entitativity were positively related to attitude change, $\beta = .32$, $p < .02$, indicating that more thought positivity was revealed for groups perceived as greater in entitativity. More important, the predicted interaction between perceptions of group entitativity and the manipulation of argument strength made a unique contribution in predicting thought positivity, $\beta = .37$, $p < .01$. Figure 2 shows that the form of this interaction was as predicted and consistent with the attitude change interaction, showing that thought positivity (y-axis) relates to perceptions of group entitativity plotted at ±1 *SD* from the mean (x-axis) differently as a function of argument strength (different lines). This interaction revealed that perceptions of group entitativity and thought positivity were positively related when strong arguments were presented, $r = .54$, $p < .01$, whereas there was a negative, but nonsignificant, relation between perceptions of group entitativity and thought positivity when weak arguments were presented, $r = -.25$, *ns*. Thus, as predicted, the relation between perceptions of group entitativity and thought positivity varied as a function of argument strength.

The analysis of thought positivity revealed a pattern of data consistent with the hypothesis that greater entitativity induces greater argument elaboration. Specifically, it was found that as participants perceived the group as greater in entitativity, they had more positive thoughts about the arguments made when they were strong and a tendency to have less positive thoughts about their arguments when they were weak. These data are consistent with the attitude change data (see Figure 1) and are supportive of the entitativity-derived predictions for persuasion.

MEDIATION BY THOUGHT POSITIVITY

To further investigate our predictions, multiple regression analyses were conducted to examine the mediational role of thought positivity for the relation between perceptions of group entitativity and attitude change. Because the relation between entitativity and attitude change differed as a function of argument strength, multiple regressions were performed on the relation between attitude change and the interaction of centered entitativity ratings and the argument strength manipulation to test for the mediational effects of thought positivity. The conditions necessary to conduct mediational analyses were present (see Aiken & West, 1991). Specifically, as shown in the previous analyses, the independent variable (i.e., the interaction between perceptions of entitativity and argument strength) made a unique contribution in predicting the dependent variable (i.e., attitude change) when ratings of perceived group entitativity and argument strength are included in the regression (required to correctly interpret the interaction term). As also shown above, the independent variable (the interaction term) made a unique contribution in predicting the mediator variable (i.e., thought positivity) when ratings of perceived group entitativity and argument strength are included in the regression. In addition, the mediator variable also predicted the dependent variable, $\beta = .41$, $p < .01$. Thus, participants had their attitude change scores simultaneously regressed on their ratings of entitativity, the manipulation of argument strength variable, the interaction of their perceptions of entitativity attitude change and argument strength, and on their thought positivity index. This multiple regression revealed that when thought positivity was included, the relation between attitude change and the interaction of perceptions of

entitativity and argument strength was reduced but still significant, $\beta = .29$, $p < .04$. A Sobel test demonstrated that thought positivity accounted for a significant amount of variance in the relation between attitude change and the interaction between perceptions of entitativity and argument strength, $z = 2.14$, $p < .04$. This indicates that thought positivity was a significant, but not complete, mediator of the relation between attitude change and the interaction of ratings of entitativity and argument strength.

Discussion

The results of Experiment 1 supported the hypothesis that greater perceptions of group entitativity led to greater elaborative processing of arguments presented by group members. Because participants who perceived the group as more entitative showed the central route to persuasion (i.e., greater attitude change and greater thought positivity as a function of argument strength) and participants who perceived the group as lower in entitativity showed no evidence of following the central route to persuasion, this provides strong initial evidence that groups greater in entitativity are more likely to produce greater attitude change when presenting strong arguments because their arguments are processed elaboratively. Indeed, it is important to note that in concert with the attitude change data, Experiment 1 found that groups perceived as more entitative had their arguments processed more elaboratively, as revealed by the significant Perceived Entitativity × Argument Strength interactions for thought positivity. In addition, thought positivity accounted for a significant amount of the variability between attitude change and the interaction of perceptions of entitativity and argument strength. These results provide strong, converging support for the prediction that greater entitativity leads to relatively greater attitude change for strong arguments relative to weak arguments because of elaborative processing.

EXPERIMENT 2

Although the results of Experiment 1 supported our predictions, more direct evidence for the role of group entitativity would be required to offer firm support for the position that the arguments of groups greater in entitativity are processed more elaboratively, leading to differences in attitude change as a function of argument strength. Because Experiment 1 examined perceivers' perceptions of group entitativity (which was correlational in nature), it was not possible to make causal conclusions about the role of entitativity in attitude change. Thus, Experiment 2 manipulated entitativity and argument strength orthogonally and experimentally. In Experiment 2, we also provided instructions that left personal relevance more ambiguous than it was in Experiment 1 to maximize the likelihood that participants could show a range of persuasion processes (i.e., stronger central or peripheral processing). If results similar to those in Experiment 1 were found when entitativity is manipulated (i.e., highly entitative groups show the central route to persuasion and less entitative groups do not), this would provide additional support for the conclusion that perceptions of greater entitativity induce more elaborative processing of group arguments.

Method

Participants. A sample of 91 Miami University undergraduates participated to fulfill a requirement for their introductory psychology course. Participants were randomly assigned to a 3 (level of entitativity: high entitativity, no information about entitativity, low entitativity) × 2 (argument strength: strong vs. weak) between-subjects factorial.

Preexperiment opinions. The same materials as those of Experiment 1 were used to assess preexperiment opinions.[5]

GROUP INTRODUCTION

A modified version of the group introduction used in Experiment 1 was used in the current experiment. The modification included two changes to the group introduction. First, "Although Miami University is not considering implementing senior comprehensive exams in the future" was deleted from the third sentence in the group introduction (see Experiment 1, Methods) to leave the personal relevance of the senior comprehensive exams ambiguous to maximize the likelihood that differences in processing (central vs. peripheral route) might be revealed. Second, the level of group entitativity was manipulated experimentally.

ENTITATIVITY MANIPULATION

Group entitativity was manipulated by instruction set, following the procedure of Welbourne (1999). Specifically, the instruction set manipulated group unity and similarity of group goals rather than group consistency and similarity of group members. In addition, no mention was made of the group reaching a consensus. Participants in the high entitativity condition were told the following:

> Members of Group A tend to act as a single unit. This group is highly organized with a specific purpose or intention that drives the group's behaviors. Members of Group A engage in behaviors that help the group move toward their common goal. Although members of Group A might behave in different ways, their actions are motivated by similar underlying intentions.

Participants in the low entitativity condition were told the following:

> Members of Group A rarely act as a single unit. This group is loosely organized with no specific purpose or intention. Members of Group A engage in behaviors that help them move toward their own separate goals. Members of Group A might behave in different ways with different underlying intentions motivating their actions.

Participants in the no information about entitativity condition were not given any information about group entitativity. Of importance, the instructions stressed that each statement was made by a different member of Group A.

Argument strength. Argument strength was manipulated in the same manner as Experiment 1.

Postexperiment opinions. As in Experiment 1, participants indicated their posttest attitudes about instituting senior comprehensive exams. Pretest attitude responses were subtracted from posttest attitude responses such that larger values indicated greater attitude change about instituting senior comprehensive exams. Finally, participants' perceptions of Group A's entitativity (α = .93), group likability, and thought positivity were assessed in the same manner as Experiment 1.

Results

Unless otherwise noted, all ANOVAs were 3 (group entitativity: high, low, no information) × 2 (argument strength: strong arguments vs. weak arguments) between-subjects designs. To examine if the manipulation of group entitativity was effective, an ANOVA was conducted on the measure of perceived group entitativity. The predicted main effect of level of entitativity obtained, $F(2, 85) = 5.40$, $p < .01$. Fisher's PLSD tests revealed that participants in the high entitativity condition had significantly greater ratings of group entitativity ($M = 5.95$) than did participants in the low entitativity group condition ($M = 4.92$). Perceptions of entitativity for those in the no information condition ($M = 5.78$) did not differ from the high entitativity group condition but did differ reliably from the low entitativity group condition. A marginally significant main effect of argument strength also was observed, $F(1, 85) = 3.15$, $p < .08$. Participants who read the weak arguments tended to perceive the group as less entitative ($M = 5.30$) than did those who read the strong arguments ($M = 5.79$). No other effects were observed. These findings indicate that the entitativity manipulation was effective.

ATTITUDE CHANGE AND THOUGHT POSITIVITY

Attitude change. To examine persuasion, an ANOVA was conducted on participants' attitude change scores. A main effect of argument strength was observed, $F(1, 85) = 28.79$, $p < .001$, showing that stronger arguments led to greater attitude change ($M = 2.68$) than did weaker arguments ($M = .65$). This indicates that the argument strength manipulation was effective. A main effect of level of entitativity also was observed, $F(2, 85) = 3.78$, $p < .03$. Highly entitative groups produced greater attitude change ($M = 2.27$) than did less entitative groups ($M = 1.00$), with attitude change in the no information condition not differing from either the high or low entitative group conditions ($M = 1.73$).

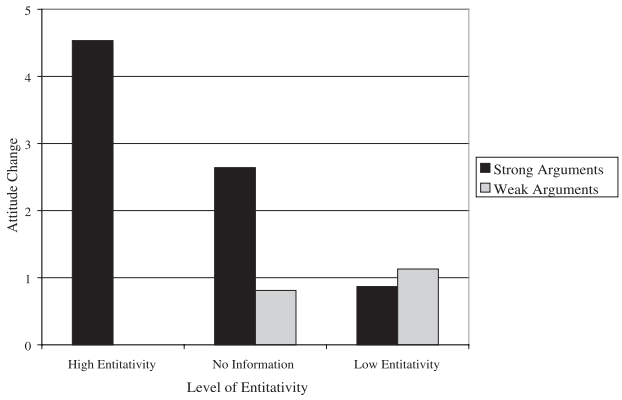

Figure 3 Attitude change as a function of level of entitativity and argument strength.

However, these effects were qualified by the predicted two-way interaction, $F(2, 85) = 13.56$, $p < .001$, and the means are presented in Figure 3. To examine this interaction, simple effects analyses were conducted for argument strength separately for participants in the high, low, and no information about entitativity conditions. As seen in Figure 3, there was a significant effect of argument strength in the high entitativity condition, $F(1, 85) = 48.85$, $p < .001$, with strong arguments producing more attitude change ($M = 4.53$) than weak arguments ($M = .00$). For the no information condition, there was also a significant effect of argument strength, $F(1, 85) = 7.68$, $p < .01$, with strong arguments producing more attitude change ($M = 2.64$) than weak arguments ($M = .81$). Participants in the low entitativity condition showed no effect of argument strength, $F < 1$.

Thus, consistent with Experiment 1 and the hypothesis that greater entitativity leads to central route processing, participants encountering highly entitative groups were more persuaded by strong than by weak arguments. For those who encountered groups low in entitativity, there was no effect of argument strength. For those who received no information about entitativity, strong arguments were more persuasive than were weak arguments (as predicted by the ELM); however, this difference was

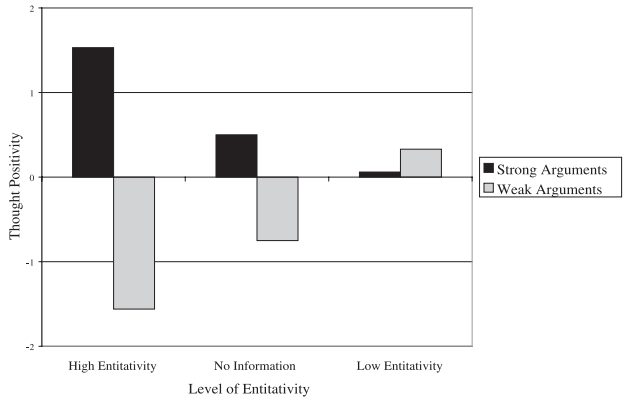

Figure 4 Thought positivity as a function of level of entitativity and argument strength.

weaker than the difference observed in the high entitativity group condition.[6]

Thought positivity. ANOVAs were conducted on participants' index of thought positivity and revealed a significant main effect for argument strength, $F(1, 85) = 6.46$, $p < .02$. Not surprisingly, participants who read strong arguments showed more positive thoughts ($M = .70$) than did those who read weak arguments ($M = -.66$). In addition, Figure 4 shows that the predicted two-way interaction between level of entitativity and argument strength obtained, $F(2, 85) = 3.33$, $p < .05$. Simple effects analyses showed participants in the high group entitativity condition showed greater thought positivity when presented with strong arguments ($M = 1.53$) as opposed to weak arguments ($M = -1.56$), $F(1, 85) = 11.42$, $p < .005$. No significant differences as a function of argument strength in the no information and low entitativity conditions were observed, $F(1, 85) = 1.80$, and $F < 1$, respectively.

Discussion

Experiment 2 experimentally demonstrated that groups greater in entitativity presenting strong arguments were more persuasive than groups lower in entitativity presenting strong arguments because they induced more elaborative processing of the groups' arguments. These findings replicated Study 1 but used an experimental manipulation of entitativity rather than examining idiosyncratic variability in perceivers' perceptions of group entitativity. Consistent with predictions derived from the group entitativity literature, highly entitative groups were more persuasive when presenting strong (relative to weak) arguments and showed greater argument elaboration, indicating that the central route to persuasion was followed when arguments were made by members of groups greater in entitativity. However, groups lower in entitativity did not show differences in attitude change or argument elaboration as a function of argument strength, indicating the central route to persuasion was not used for groups explicitly depicted as low in entitativity.

GENERAL DISCUSSION

The results of these experiments showed that groups greater in entitativity produced more argument elaboration than did groups lower in entitativity. Increased elaboration of the arguments of groups greater in entitativity led to attitude change that differed as a function of argument strength. Because the arguments of groups lower in entitativity were not processed elaboratively, there was no difference in attitude change as a function of argument strength. Experiment 1 observed this using idiosyncratic variability in perceptions of group entitativity, and Experiment 2 replicated these results when entitativity was experimentally manipulated. These results are consistent with previous work revealing more elaborative information processing of conceptual information associated with social groups (e.g., Johnson & Queller, 2003; McConnell et al., 1997; Welbourne, 1999). Indeed, persuasion was clearly affected by the process of argument elaboration, in line with the ELM (e.g., Petty & Cacciopo, 1986; Petty & Wegener, 1998). Thus, not only did greater perceptions of entitativity lead to greater attitude change when encountering strong arguments but ELM mechanisms accounted for how entitativity had its effect.

Although the current findings support a prediction derived from the entitativity literature that more entitative groups induce central route processing of arguments, it is possible that less entitative groups may induce greater persuasion under some circumstances. For example, because less entitative targets can induce greater perceptual encoding (von Hippel, Jonides, Hilton, & Narayan, 1993), it is possible that perceptual cues (e.g., physical attractiveness of members of less entitative groups) might lead to greater attitude change, especially in situations where such perceptual cues affect persuasion (e.g., peripheral route persuasion). Also, less entitative groups might induce greater persuasion in some circumstances based on reasoning derived from the multiple source effect literature. For example, the multiple source effect may be more likely to occur when diverse groups (e.g., Democrats vs. Republicans) agree on an issue that is relevant to the differences between the members of the groups (e.g., lowering taxes).[7] The current research does not directly contrast and compare the multiple source findings with those derived from the entitativity literature, and future work should explore this issue more directly. However, it is an open question

as to whether the entitativity and multiple source effect literatures are actually at odds with each other. Indeed, group entitativity and group homogeneity (presumably a critical ingredient of the multiple source effect) can be thought of as related but distinct concepts (Hamilton et al., 2004). For instance, a highly entitative group (e.g., a close-knit football team) may be composed of many diverse, heterogeneous members (e.g., cerebral quarterbacks, slow and strong linemen, fast and svelte defensive safeties). Thus, although homogeneity may be one aspect of group entitativity, there are many dimensions that comprise entitativity that go beyond the similarity of group members. However, when dimensions of entitativity related to similarity are more accessible or important for understanding the nature of groups, less entitative groups may induce more elaborative processing. With this in mind, we do not view the current findings that were supportive of an entitativity-derived framework as necessarily troubling for findings in the multiple source effect literature. Instead, we view these data as showing an area (i.e., persuasion) in which the effects of entitativity and homogeneity may differ.

In addition to a conceptual differentiation between entitativity and homogeneity, there are methodological differences between the current work and research extending the multiple source effect (Harkins & Petty, 1987, Experiment 3) that make comparisons between these lines of research problematic. Although Harkins and Petty established that dissimilar groups (i.e., groups composed of people selected because of their diverse viewpoints on the attitude of interest) who are able to reach a consensus (by writing a report to the "Faculty Committee on Academic Affairs") are especially persuasive, it is not clear whether their dissimilar groups were perceived as low in entitativity. Perceptions of lower entitativity seem unlikely because the groups presented in Harkins and Petty's experiment produced a group product (i.e., a report reflecting a consensus reached by the group) that offers cogent, compelling arguments to support the group's advocated position. In addition, it seems unlikely that a group of people who were selected because they have drastically different opinions on an issue (in the current research, there was no information provided about how the group was formed) would be likely to reach a consensus and write a strong report supporting a single position on that issue unless some of the group members changed their opinion during the course of group discussion. Thus, it is quite possible that the group composed of people holding diverse viewpoints may not have been perceived as low in entitativity in that they arrived at a group consensus on an issue that, presumably, divided them. Furthermore, it is also important to note that Harkins and Petty only used strong arguments in their study, thus, it is still possible that elaborative processing occurred for the group composed of similar members (i.e., similar groups could have still showed a significant difference in attitude change and thought positivity between strong and weak arguments, reflecting the central route to persuasion). Without having a weak arguments condition, the necessary baseline against which to establish central or peripheral routes to persuasion does not exist in their research. Indeed, future research should take these potentially important differences into account to better examine the conditions under which entitativity versus multiple source effects are revealed in persuasion.

These unresolved issues notwithstanding, it is important to note that the current work provides an interesting and important bridge between a central literature in social psychology (namely, attitude change within the ELM framework) and the burgeoning literature on entitativity and its consequences. Heretofore, the majority of entitativity research has focused on impression formation (e.g., McConnell et al., 1997), attributions (e.g., Yzerbyt et al., 1998), self-concept development (e.g., McConnell, Rydell, & Leibold, 2002), and lay perceptions of groups (e.g., Lickel et al., 2000). However, very little work has extended the implications of entitativity to a broader range of constructs, such as group persuasion and attitude change.

Of interest, research from the minority influence literature provides a parallel to the current work. Namely, this research has shown that minority group members that consistently hold their positions (consistency is a facet of entitativity) are more effective in changing the opinions of majority group members (e.g., Moscovici, Lage, & Naffrechoux, 1969; Nemeth & Staw, 1989, for a review). Although the current work did not explore minority group influence, this area of research suggests that groups perceived as greater in entitativity will be more influential when presenting strong arguments. As this research highlights, the type of group presenting persuasive appeals is important for understanding attitude change (e.g., Harkins & Petty, 1987; Mackie, 1987; Moscovici et al., 1969; Wilder, 1990); however, it is an area that has received far too little research attention.

Thus, the current research provides links between persuasion and a literature that places a strong emphasis on understanding underlying mechanisms and process, the literature on entitativity. Indeed, based on the mechanisms identified in the entitativity literature (e.g., McConnell et al., 1997; Welbourne, 1999), we have a more complete and process-based explanation for how qualities of social groups affect persuasion. More important, the framework from the entitativity literature is extremely compatible with a major model of attitude formation and change, the ELM. As a result, the current work connects two important literatures and shows how

common underlying mechanisms manifest themselves in important ways. The fact that argument elaboration showed the same effects as attitude change in the present work underscores the importance of process-oriented models of social influence (see also Sherman, Crawford, & McConnell, 2004). Also, the current work provides a compelling example of second-generation entitativity questions that go beyond simply understanding social information processing (e.g., McConnell et al., 1997) or developing a descriptive taxonomy for groups (e.g., Lickel et al., 2000). This evolution speaks to the growing maturity of the entitativity literature.

However, future research also would benefit from examining which types of groups, such as those identified by Lickel et al. (2000), are more persuasive. If group entitativity leads to greater attitude change by inducing more elaborative processing, one would expect to find that strong arguments made by highly entitative types of groups (i.e., intimacy, task groups) would be more persuasive than less entitative types of groups (i.e., social categories, loose associations). However, it could be that groups that are seen as extremely entitative (i.e., intimacy groups) could be less persuasive due to reactance or biased processing of the group's arguments. Also, research in the entitativity literature has begun to identify stable individual differences that affect social information processing. For example, McConnell (2001) found that those who held a stronger entity implicit theory (relative to a more incremental implicit theory) were more likely to form elaborative impressions of others. Perhaps people who are stronger entity theorists would be more likely to be persuaded by groups making strong arguments as well. Because of the already-established links established between entitativity and attribution (e.g., Susskind et al., 1999; Yzerbyt et al., 1998), studying the implications of individual differences that affect both processing (e.g., McConnell, 2001) and attribution (e.g., Levy, Stroessner, & Dweck, 1998) could be especially informative.

Conclusions

These experiments add to the emerging literature revealing the effect of entitativity on people's perceptions of groups (e.g., Hamilton et al., 2002, 2004; Hamilton & Sherman, 1996) and how those perceptions influence group-relevant information processing. Past research has shown that perceptions of entitativity are important for stereotyping (e.g., Crawford, Sherman, & Hamilton, 2002), impression formation (e.g., McConnell et al., 1997), attributions (e.g., Yzerbyt et al., 1998), and organizing information about groups in memory (Sherman, Castelli, & Hamilton, 2002). Showing that highly entitative groups are more persuasive when presenting strong (vs. weak) arguments and that their arguments are processed more elaboratively are interesting and important findings. They demonstrate that qualities of groups (i.e., entitativity) affect argument elaboration and persuasion. Indeed, the current work explains why entitativity has its effect on attitude change—argument elaboration differs as a function of entitativity. Thus, this research provides a new bridge between work on entitativity (e.g., Hamilton & Sherman, 1996) and attitude formation and change (e.g., Petty & Wegener, 1998) by linking them through a common, underlying, social-information-processing mechanism explanation (i.e., information elaboration). By appreciating the value of understanding common processes, we believe that many other important yet isolated areas of social psychology can be spanned and that general mechanisms of social behavior can be tested and advanced.

APPENDIX
Entitativity Questions

1. One thing that groups have in common is that each one is a collection of people. However, not all collections of people constitute a group to the same degree. To what extent do you believe that Group A typifies what it means to be a group?
2. How important do you think that Group A is to its members?
3. How often do you think that members of Group A interact with each other?
4. To what extent do you believe that members of Group A are affected by the behaviors of other Group A members?
5. How similar are members of Group A?
6. How long do you think that members of Group A have known each other?
7. How organized do you think Group A is?
8. How motivated are members of Group A to achieve their group's goals?
9. How easy do you think it is for new members to join Group A? (R)
10. How easy do you think it is for established members to leave Group A?
11. How structured do you think Group A is?
12. How committed do you think the members of Group A are to their group?
13. How invested do you think the members of Group A are in their group?
14. How strongly bonded do you think that members of Group A are to their group?
15. To what extent do you believe that members of Group A share common goals?
16. To what extent do you believe that an individual member of Group A has control over the behaviors (including his or her own) and statements (including his or her own) made by Group A regarding senior comprehensive exams at Miami University?

NOTE: (R) = reverse scored.

NOTES

1. It is important to note that additional processing may occur at different levels of encoding as a function of target entitativity. Specifically, von Hippel, Jonides, Hilton, and Narayan (1993) observed greater conceptual encoding for more entitative targets (i.e., two individuals) but observed greater perceptual encoding for less entitative targets (i.e., members of two loose-knit groups). Thus, entitativity may have different effects for perceptual encoding (e.g., memory for the attire worn by group members) and for conceptual encoding (e.g., memory for the personality traits of group members). Because the current work focuses on how people scrutinize and elaborate on group members' arguments, we focused on the relations between perceived entitativity and conceptual encoding (similar to the existent literatures on person memory and on entitativity). However, we acknowledge that greater perceptual encoding might be observed for less entitative groups.

2. A one-sample *t* test showed that pretest attitudes ($M = 4.16$) were significantly below the midpoint of the rating scale, $t(54) = -2.97$, $p < .01$, suggesting that instituting senior comprehensive exams was a counterattitudinal issue. In addition, an independent samples *t* test showed that pretest attitudes did not differ as a function of assignment into the strong argument ($M = 4.21$) or weak argument conditions ($M = 4.11$), $t(53) = .18$, *ns*. Furthermore, there was no correlation between the pretest score and perceived entitativity, $r = -.15$, *ns*.

3. We assessed group liking to determine whether people simply found certain groups (i.e., entitative groups) to be more likeable, leading to greater persuasion (e.g., Chaiken, 1979). Although participants liked groups making stronger arguments more so than groups making weaker arguments in the current work, liking could not account for the overall pattern of results related to group persuasion to be discussed in these studies. Participants also rated Group A's arguments on four semantic differential scales (see Petty & Cacioppo, 1986): good-bad, favorable-unfavorable, wise-foolish, and beneficial-harmful. These ratings were highly intercorrelated ($\alpha = .93$) and were combined to form a measure of argument impressions, with larger scores indicating more positive ratings of Group A's arguments. Many ELM studies have combined semantic differential responses with Likert-type scale measures to increase the reliability of postpersuasion attitude measures. Because our experiments used a pre-post attitude measure design, the increase in reliability by combining two attitude measures was not needed. Analyses using these scores produced similar results to those reported in the current work (i.e., the interaction of entitativity and argument strength was significant in both experiments), thus, they do not receive further attention.

5. A one-sample *t* test showed that pretest attitudes ($M = 3.51$) were significantly below the midpoint of the rating scale, $t(90) = -6.69$, $p < .001$, again suggesting that instituting senior comprehensive exams was a counterattitudinal issue. Showing that random assignment was effective, an Entitativity × Argument Strength ANOVA on pretest scores showed no significant effects, Fs < 1.4.

6. Indeed, when only the high entitativity and no information groups were compared in an Entitativity × Argument Strength ANOVA, the two-way interaction of entitativity and argument strength obtained, $F(1, 57) = 7.35$, $p < .01$, revealing that strong arguments were relatively more persuasive compared to weak arguments when participants were presented with the high entitativity group as opposed to the no information condition.

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