

LOCUS OF CONTROL-BASED ARGUMENTATION AS A PREDICTOR OF GROUP POLARIZATION

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Group polarization is defined as a tendency for average post-discussion positions to be in the direction of, but more extreme than, prediscussion positions. One explanation for this phenomenon is that, during interaction, group members increasingly value their prediscussion individual decisions because of the communication of persuasive arguments supporting these positions. Previous research has shown that group members who have similar attitudes about a discussion topic or who discuss an issue that is relevant will communicate persuasive arguments and polarize in their decision-making. The present study, however, focuses on personality as a predispositional factor which is predictive of the direction of both persuasive argumentation by group members and, subsequently, decisional shifting. Findings tend to validate the value theory of polarization by showing that persuasive argumentation can mediate the effect of personality on decisional shifting.

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The concept of risky-shift in group decision-making has been largely replaced during the last decade by the study of polarization. Researchers who studied risky shifts were primarily interested in finding a tendency for groups to move in the direction of decisions that are either more risky or more conservative than prediscussion positions. Investigations of group polarization, however, focus on a general propensity for average prediscussion positions to be more extreme but in the same direction as the individuals' prediscussion decisions.¹

Study of polarization is attractive to researchers in group communication for at least two reasons. First, the analysis of polarization, with its emphasis on the effects of intragroup behavior, has accelerated the study of group communication, rather than decisional riskiness or cautiousness, as the dependent variable linked to group shifts in decisions. The concept of polarization, for example, generated study of the quantity (Vinokur and Burnstein, 1974) and quality (Madsen, 1978) of arguments occurring in decisionally shifting groups. Second, since polarization is such a broad concept, it allows for theory building based on the study of decisional shifting in a variety of contexts. Confidence in the group polarization hypothesis is readily increased because the phenomenon can be tested in any group in which prediscussion and post-discussion decisions are assessed.

An explanation for group polarization which most clearly focuses on the effect of communication is what Pruitt (1971) calls value theory. The major assumption underlying this theoretical orientation is

the notion that a group will shift in the direction of the decision which is communicated as most valued by the majority of group members. Two value theory based explanations for polarization, social comparison and persuasive argument, have received considerable support. Brown's (1965) social comparison hypothesis proposed that polarization begins when an individual, during prediscussion decision-making, chooses a position on a topic which s/he believes would approximate the group average. After group members' positions are made known, an individual who varies from the norm of decisions feels compelled to readjust his or her position on the topic. The result is a postgroup mean which is greater than, but in the direction of, the prediscussion mean. According to this explanation, the only information needed for polarization is the positions of other group members. Thus, only minimal communication is deemed necessary for polarization. Other research, however, shows that group shifts are greater after *discussion* than after merely the announcement of decisions (Teger and Pruitt, 1967; Myers and Bishop, 1971).

To account for the effects of discussion on polarization, an additional explanation is needed. Burnstein and Vinokur's (1973, 1975, 1977) persuasive-argument hypothesis focuses on the communication of bases of reasoning as one aspect of the group process which may contribute to polarization. The model developed by Vinokur and Burnstein (1974) depicts polarization as primarily related to argumentation in groups when these conditions are met: 1) a preponderance of the ar-

guments communicated favor one position and 2) there is communication of novel arguments supporting the direction of prediscussion positions which are not known to all of the group members. The reasoning behind the first assumption is that an argument is persuasive if it represents a commonly valued point of view. A preponderance of such arguments seemingly gives the group a feeling of consensus on the topic which, in turn, allows the group members to feel even more secure in their perceptions and subsequently to polarize. Novel arguments are believed to help the group to polarize because they include information to which all members of the group do not originally have access. Such novel arguments, if they are in a direction preferred by group members, provide the group with new reasons for supporting a position. Group discussion of a topic, as opposed to simply the communication of decisions, is seen as a process which allows for the sharing of arguments which reinforce group values as well as the presentation of novel arguments. Together, these factors have impact upon decisional shifting.

Myers (1975) and Burnstein and Vinokur (1977) confirmed the persuasive-argument explanation for polarization by finding that group members who share an *attitudinal predisposition* toward a topic will polarize and persuasively argue in a direction predicted by their attitudes. Also, groups discussing an issue which is commonly valued because of its *relevance* persuasively argued in a way predicted by the Burnstein and Vinokur model and polarized more in the predicted direction than groups discussing an irrelevant issue (Madsen, 1978).

As a method for validating the persuasive argument explanation for group polarization, the present study focuses on personality as a predispositional variable which, in certain contexts, inclines group members to share a commonly valued perspective, to reinforce that perspective through generation of persuasive arguments, and, finally, to polarize in their decision-making. Although previous research (Plax and Rosenfeld, 1976) correlated personality with decisions of risk, it is not known whether the personality of group members can affect communication related to polarization. If group members are shown to argue persuasively and to polarize when the basis for the valuation of a position is located in their personalities (a variable which, unlike previous research designs, does not directly relate to the discussion topic) then the generalizability of the persuasive argument explanation for the polarization phenomenon is increased. Locus of control was chosen as the personality construct for testing the persuasive-argument hypothesis because it offers a useful framework for predicting relationships among personality, argumentation and group polarization.

Locus of Control as a Personality Trait Affecting Group Behavior

The locus of control instrument (Rotter, 1966) categorizes individuals as either internals or externals. An internal is defined as one who, given past behavior/reinforcement linkages, expects to affect or control situations. Conversely, externals, given past behavior/reinforcement linkages, do not believe that they can affect or control their environment. The view of locus of control in self seems to affect perceptions of causation in others. Externals tend to see others as "pawns" and not personally responsible for acts, whereas internals are predisposed to view others as responsible for their behavior (Hochreich, 1972; Sosis, 1973).

Alderton (1980) found that mock jury groups of internals attributed responsibility to the actor in a situation and that groups of externals linked fault to the circumstances affecting the actor, but personality emerged as an influential variable only when the group discussed a case in which the evidence was ambiguous. Ambiguity of evidence, in line with factors discussed by Heider (1967) and Kelley (1972), was established by describing a situation in which the actor had an unpredictable pattern of behavior, had average skills, and was affected by both personal and impersonal causal influences.

Within the group attribution of responsibility context, internals discussing ambiguous information seem to attribute more personal responsibility than do externals. The value theory of polarization predicts that groups of internals, for example, would not only vary from externals in the direction of the group attributions but, additionally, internals could be expected to polarize, in the direction of increased attribution of personal responsibility. This polarization occurs, according to the persuasive argument hypothesis, because the group members communicate in ways which provide for consensual validation of the internals' predisposed biases about responsibility-taking. Externals should polarize in the opposite direction but for the same theoretical reason.

Hypotheses and Rationale

If polarization occurs in the groups composed of internals and externals as predicted by value theory, the difference between any postdiscussion decisions of personal or impersonal responsibility is expected to be greater than the variation between prediscussion positions. This phenomenon is most likely to occur in mock jury groups where, because the evidence being discussed is ambiguous, predispositions rooted in personality may affect interpretation of the information.

HYPOTHESIS 1 predicts, therefore, that groups of internals discussing ambiguous evidence in an attribution of responsibility case will polarize in the direction

of decisions favoring more responsibility than will externals. Externals, however, will polarize in the direction of increased attribution of responsibility to impersonal causation.

If polarization in groups of internals and externals is related to the sharing of persuasive argumentation as defined in the Burnstein and Vinokur (1974) model, then certain characteristics of such argumentation will surface. These characteristics are discussed in the following hypotheses.

HYPOTHESIS II predicts that arguments favoring personal attribution of responsibility will emerge and be predominant in polarizing groups of internals, while the preponderance of arguments found in polarizing groups of externals will support impersonal causation.

HYPOTHESIS III predicts that novel arguments favoring personal attribution of responsibility will be found in polarizing groups of internals, whereas polarizing groups of externals will communicate unique arguments favoring impersonal attributions of responsibility.

HYPOTHESIS IV predicts that internal group members will communicate agreement for arguments favoring personal causation and disagreement for arguments supportive of impersonal causation, while groups of externals are expected to do the opposite.

Procedure

In line with the typical format used to assess group polarization, the participants in this study were given an attribution of responsibility case to read prior to discussion. At that time, each subject chose the grade s/he felt the student in the case deserved and the degree of personal and impersonal responsibility for the action in the case study. The individuals, internals or externals, were then formed into groups and requested to discuss the reasons for their answers and reach a group consensus on the three measures. The audio-taped discussion time was approximately twenty-five minutes. To test the hypotheses, pre- to post-discussion changes on the three measures as well as categorical bases of reasoning and reactions to arguments derived from transcripts were viewed.

Independent Variables

Locus of control was determined by use of Rotter's (1966) I-E scale. From a sample ($n=365$) undergraduate students, twenty-six groups with 3 to 5 members each were established. The 13 groups of internals included 42 persons whose scores ranged from 1 to 8 on the I-E scale ($X=5.40$), while the 13 groups of externals had scores ranging from 12 to 21 on the locus of control scale ($X=16.23$).

Ambiguity of information for the group discussions was controlled by use of a case study.² Evidence for use in the case was constructed in such

a way that the information was neither entirely incriminating nor exonerating. Incriminating and exonerating evidence were mixed to make the case sufficiently ambiguous to allow for the groups to shift decisionally toward attribution to either greater or lesser responsibility. The case study was as follows:

Jim transferred to a university at the beginning of semester II (GPA was average). He enrolled late in a fairly demanding art education class. The course required eight in-class projects and a notebook of five out-of-class projects. Instructions and assistance for art projects were given during class, so attendance and keeping up with assignments were somewhat important.

Jim reportedly missed some classes during the first two weeks of the semester because of late enrollment and illness. Mr. Weber, a substitute A.I. teaching the class, suggested that Jim get information from fellow students (Jim later stated that he didn't know other people in the class whom he could ask). In addition, Jim missed classes during the semester because of stated emotional problems with a girlfriend and bad weather. At the end of the semester, Jim handed in what he thought was required for the class. Actually, Jim handed in only half of the in-class and out-of-class projects. Those completed projects, he recalled, averaged to a C or B. The A.I. gave Jim an F for the course grade.

Jim appealed the grade because he felt that the reasons for not meeting the class requirements were justifiable. He did not have the missing and completed projects because he said that he was so frustrated with the grade that he threw them away. Mr. Weber's symbols in the grade book were too confusing for him to be sure of Jim's attendance and grades on one or two of the projects. Mr. Weber felt that Jim had simply overlooked the requirements. A record of Jim's attendance in another class suggests that this sort of behavior was not a factor affecting his grades in that class.

A validity check of the case was made by having students assign a grade (E to A) to the person described in the situation. Of 83 subjects only 45 agreed upon the appropriate grade. The case, therefore, was considered ambiguous enough to allow for more than one interpretation of the degree of the actor's responsibility.

Dependent Variables

To assess decisional shifting, subjects were asked on a questionnaire, individually before discussion and by group consensus after discussion, to choose an appropriate grade (E to A) and rate the degree of personal (1 to 7) and impersonal (1 to 7) responsibility for the person in the case. The decision of an appropriate grade was considered an indirect measure of attribution of responsibility. The higher the grade assigned, the less the degree of attribution of personal responsibility. Ratings of

the degree of personal and impersonal responsibility on seven-point scales were direct attributions of causation.

To analyze group members' arguments and responses to arguments, content analytic categories were generated. One set of categories was used to distinguish between arguments supporting personal and impersonal causality. The two categories were as follows:

- (1) Bases for judgment which argue that the person is responsible. For example:
 - (a) Arguments supporting the reasoning that the person had control over the situation; the person is responsible, because he could have acted in a more effective way.
 - (b) Arguments suggesting that the factual information indicates that the person is at fault and should, therefore, get the severe penalty.
 - (c) Arguments which suggest that the subject, by identifying with the person's problems, believes that since s/he could overcome a situation like this, then so could the actor.
- (2) Bases for judgement which argue that the circumstances are responsible. For example:
 - (a) Arguments supporting the reasoning that the person did not have control over the situation. The actor is seen as a victim; he could not act to change the situation.
 - (b) Arguments suggesting that the data, when added together, indicate that the person should get a less severe penalty.
 - (c) Arguments which suggest that the subject, by identifying with the problems of the actor, has concluded that s/he can well understand why the actor is innocent given such overwhelming circumstances.

The unit of content analysis was the attribution-relevant argument. Since previous research on polarization did not include a definition of argumentation, arguments were operationally defined for this study as communication including both the *basis of judgment* (for example: "He never went to class.") and a *judgment* which shows whether or not the discussant is arguing in favor of personal or impersonal causation (for example: "This just tells you that he didn't care what happened, so it's really his fault.") This definition of argument allows for the possibility that more than one argument may occur within any one communication act. A communication act is the continuous flow of language by a discussant until s/he is interrupted and/or stops speaking.

To identify the degree of support communicated following argumentation, the first communication

act after an argument (or series of arguments by one person) was categorized into one of three content analytic categories:

- (1) Communication that suggests that the group member intends to express a liking for the previously-argued position;
- (2) Communication that suggests that the group member's intent is to express a dislike for the previously-argued position;
- (3) Communication for which the intent to express a liking or dislike for the argumentation is not clear.

Analysis and Results

Hypothesis I predicted that groups of internals will polarize toward increased attribution of personal responsibility when discussing an ambiguous attribution situation, while externals were expected to shift from prediscussion to post-discussion decisions in favor of increased attribution of impersonal responsibility. Evidence of polarization was based upon decisional shifting of the direct measure of attribution of responsibility because the one-to-seven scale was larger and therefore more sensitive to decisional shifting than was the five-step scale used for the indirect measure. A two-way analysis of variance was used to analyze differences in the degree and direction of internal and external prediscussion and post-discussion ratings on the personal and impersonal responsibility for all groups. If, for example, an individual with an internal locus of control rated the degree of personal responsibility for the actor as 5 and the group rating was 3, then a -2 was recorded for the amount and direction of the individual's shift. A significant interaction ($F=5.7$, $(df=1,164)$, $p<.02$, $\text{est. } \omega^2=.05$) did occur in the decisional shifting. Inspection of the cell means suggests that internals, from individuals to group decisions, shifted in the direction of increased attribution of personal responsibility ($X=.36$), and externals shifted in the direction of increased attribution of impersonal responsibility ($X=.41$). Differences in observed shifts occurred, however, because internals moved toward a post-discussion decrease in the attribution of impersonal responsibility ($X=.56$), while externals slightly increased ratings of attribution of personal responsibility ($X=.12$).

Hypothesis II predicted, as a test of the persuasive argument explanation of polarization, that decisionally-shifting groups of internals will predominantly argue the position that the person is responsible, while groups of externals were expected to predominantly communicate arguments favoring impersonal causation. To content analyze the bases of reasoning included in the discussion groups, the communication of a sample of six of the polarizing groups of internals and six of the polarizing groups of externals was transcribed.

Two coders then independently determined, according to the operational definition of a basis of reasoning, the arguments included in the transcriptions. The differences in the identification of the arguments were discussed and a decision was reached in all cases of disagreement. The two raters then independently content analyzed the 402 positions into categories of arguments favoring personal causation or impersonal causation. There were 341 agreements in this analysis ($\phi = .69$, $(df=1)$, $p < .001$). In each of the content analyses, communication acts which were not agreed upon were discussed and, when possible, categorized. The numbers of arguments for each of the twelve groups were then changed to proportions to allow for use of parametric statistics. A two-way analysis of variance was used to assess the relationship between locus of control and type of argumentation. Results suggest that a significant interaction between these variables occurred ($F = 12.3$, $(df=1,20)$, $p < .003$, est. $\omega^2 = .48$). Cell means indicate that, as predicted, internals ($X = .64$) communicated proportionally more arguments supporting personal causation than did externals ($X = .50$), while externals ($X = .49$) argued more in favor of impersonal causation than did internals ($X = .35$).

Hypothesis III predicted that the argumentation which surfaces as unique to internals will support personal attribution of responsibility, while novel argumentation communicated only by externals will support impersonal attribution of responsibility. For this content analysis, each of the 402 arguments were first coded according to direction (personal or impersonal causation) and origin (communicated by internals or externals). Two raters then independently clustered the 402 positions into groups based upon commonality of position expressed. If, for example, 15 of the bases of reasoning had argued that "Jim was guilty because of his laziness," then that would be considered one major position. The raters then independently inspected each one of the clusters of positions which were argued solely by internals or externals. Both raters agreed upon a total of 32 novel arguments which were communicated by one set of personality-varied groups or the other. Within the 32 major novel argument groups, however, independent ratings by one researcher led to the clustering of a total of 61 individual bases of reasoning and the other rater categorized 58 positions. Fifty-four of the categorizations of the individual positions were similar (coefficient of reliability = .91).³ A two-way analysis of variance of the novel arguments favoring personal or impersonal causation as communicated by internals and externals resulted in a significant interaction between the variables ($F = 10.8$, $(df=1,20)$, $p < .006$, est. $\omega^2 = .45$). The cell means show that, as predicted, argumentation peculiar to internals favored personal causation ($X = .31$) more

than impersonal causation ($X = .03$), while arguments found only in groups of externals supported impersonal causation ($X = .53$) more than personal causation ($X = .05$).

Hypothesis IV predicted that internals will communicate more positive reactions to arguments favoring personal causation than impersonal causation, while externals were expected to do the opposite. In the content analysis of those reactions to arguments which were agreements, disagreements and other behaviors, two raters independently coded the first communication act following each of the bases of reasoning. Of the 402 categorizations, 264 were rated as agreements or disagreements with argumentation. Of the 264 communication acts, the raters agreed upon 180 categorizations ($\phi = .24$, $(df=1)$, $p < .001$). Again, the data were changed to proportions. A two-way analysis of variance of the communication of agreements in each group of internals and externals following arguments favoring personal or impersonal causation showed a significant interaction between the variables ($F = 13.4$, $(df=1,20)$, $p < .007$, est. $\omega^2 = .50$). As predicted, the internals ($X = .77$) agreed with attributions of responsibility to the person proportionally more often than did externals ($\bar{X} = .55$), while externals ($\bar{X} = .44$) favored arguments supportive of impersonal causation more than did internals ($\bar{X} = .22$). The same analysis was done with those reactions to arguments which were categorized as disagreements. No significant differences, however, were found.

Conclusions

The results of the present study warrant the following tentative conclusions:

- (1) Hypothesis I was confirmed. Locus of control of group members affects group polarization in discussions of ambiguous attribution of responsibility information. Specifically, internals shifted from prediscussion to post-discussion positions in the direction of increased attribution to personal responsibility, while externals shifted in the direction of increased attribution to impersonal causation.
- (2) Hypothesis II was confirmed. The persuasive-argument hypothesis appears to be one plausible explanation for polarization in the locus of control varied groups. Specifically, polarizing groups of internals predominantly communicated arguments supportive of attribution to personal causation, and polarizing externals argued in favor of attribution to impersonal responsibility. Hypothesis III was confirmed. Of the total of those unique arguments communicated by either one or the other of the personality var-

ied groups, internals tended to generate novel bases of reasoning supportive of personal responsibility and externals shared unique arguments favoring impersonal causation. Hypothesis IV was partially confirmed. As further evidence of personality based valuation for arguments, internals predominantly agreed with those bases of reasoning which put responsibility on the person and externals reacted favorably to arguments which placed responsibility on the situation.

These findings further verify and add to our understanding of the polarization phenomenon. We now know that, in addition to attitudinal bias as a predispositional predictor of polarization, personality can, in certain types of discussion, dispose groups to shift decisionally. Also, during discussions of ambiguous attribution of responsibility information, group members' locus of control surfaces in the communication of arguments. This biased argumentation appears to offer a sort of consensual validation of the group members' predispositions and, therefore, provides a ripe atmosphere for polarization in a direction consonant with the communicated bases of reasoning.

A major concern in this study, however, has been the definition of argumentation. The operational definition of argument as communication of both data and a claim is certainly in line with what communication scholars have traditionally called argumentation. Such a definition, however, is limiting because it lessens the number of persuasive communication acts occurring during the group process which may potentially be categorized. There are times, for example, when a group member may not communicate a claim because, given the direction of argumentation by others or the obviousness of his/her data, a claim is easily inferred. Also, communication of only a claim may be persuasive because, given the discussion context, the relevant data is readily inferred by group members. To improve on the thoroughness of analyzing communication related to decisional shifting, future research might employ categories that focus on a much-expanded definition of persuasive argumentation.

Because the conceptualization of polarization is very general and our knowledge of those behaviors linked to polarization is quite limited, study of this phenomenon could conceivably proceed in many directions. One characteristic of the communication found in polarizing groups which is implied by the value theory but for which there is no empirical evidence is the tendency, over time, for convergence in position-taking. It seems reasonable to believe that a polarizing group begins the discussion with some degree of divergence in positions expressed

and then, as the majority comes to support and reinforce a commonly valued perspective, the group moves increasingly toward consensual validation of a position. Such a tendency may be similar to what Jourard (1964) calls the "dyadic effect," wherein the relationship between two people becomes closer and closer because each person tends to validate in a positive way the other's perceptions of self and the world. This validation builds on itself in an increasingly positive, spiral-like way. Evidence of this progressive spiral in polarizing groups may add support to Sheidel and Crowell's (1979) notion of diverging and converging phases in group decision-making. Also, such research may provide further insight into what Janis (1972) calls the concurrence-seeking tendency of cohesive groups. A next step in the study of a relationship between communication and group polarization then might be to determine the processual nature of argument-making during the discussion.

NOTES

¹The term polarization as used in the present study is not to be confused with extremization. Polarization refers to the tendency to shift in an already preferred direction, while extremization is decisional movement away from neutrality, regardless of the direction. Myers and Lamm (1976) and Pruitt (1971a, 1971b) have defined the polarization phenomenon and provide extensive reviews of the literature.

²A clear or unambiguous attribution of responsibility case was also developed and used in this study. Since polarization did not occur in discussions of this information, as could be predicted given the rationale for decisional shifting presented in the paper, an analysis of reactions to the case was not included. The present study includes a reanalysis of part of the data originally collected for Alderton (1980) research.

³For this computation of interrater reliability, the most appropriate analysis was the coefficient of reliability test found in Holsti (1969):

$$C.R. = \frac{2m}{N_1 + N_2}$$

where M is the number of decisions on which the two judges are in agreement, and N₁ refers to decisions made by judge 1, etc.

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