Processing of Persuasive In-Group Messages

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Two studies investigated the processes mediating the persuasive impact of messages representing in-group opinions. In the 1st study, subjects read either a strong or a weak message attributed to either an in-group member or to another group. Subjects were more persuaded by a strong message from the in-group than a weak one, suggesting content-focused processing of the in-group message. Subjects were equally unpersuaded by either a strong or a weak message from the other group, and showed little sign of message processing. In the 2nd study, Ss listened to in-group or other-group messages about issues that varied in their relevance to in-group membership. When the issue was relevant to the in-group, subjects were persuaded by a strong message from the in-group, unpersuaded by a weak message from the in-group, and equally unimpressed by strong and weak messages from the other group. When the issue was irrelevant to the in-group, subjects accepted the position advocated by the in-group regardless of message quality, and again ignored messages from the other group. These results suggest that increased message processing, and not merely the impact of source persuasion cues, can underlie in-group-mediated attitude change.

When Newcomb (1943) demonstrated the powerful effect that fellow students had on the politics of the freshman class at Bennington College, he showed that the persuasive impact of members of groups to which one belongs is substantial. Since that early demonstration, persuasion produced by in-groups has been studied under many names: attraction (Festinger, 1950, 1953, 1954), reference group effects (Hyman, 1942; Kelley, 1952; Merton, 1957; Siegel & Siegel, 1957), referent power (French & Raven, 1959), identification (Kelman, 1961), referent informational influence (Turner, 1982, 1985, 1987), and source similarity (Brock, 1965; Goethals & Nelson, 1973; Heider, 1958). Despite differences in theoretical approach, these research programs have almost without exception demonstrated that other members of an individual's in-group have significant power to persuade that individual.¹

Early explanations for the persuasive power of in-groups were concerned with distinguishing the group's ability to produce compliant change from "true," or privately accepted, attitude change. Despite the impact of theories that consider group-mediated change to be mere compliance (Asch, 1951; Deutsch & Gerard, 1955; Festinger, 1953; Moscovici, 1980), it is readily apparent that in-group communications more typically result in private acceptance (Allen, 1965; Allen & Wilder, 1977; Clark & Maass, 1988a, 1988b; Insko, Smith, Alikec, Wadie, & Taylor, 1985; Kiesler & Kiesler, 1969; Turner, 1982, 1987). We are concerned here with the processes mediating the private acceptance of an in-group opinion as evidence about (social) reality (Festinger, 1950; Turner, 1982).

Even in those cases in which it is accepted as inducing private acceptance, group-mediated attitude change is nevertheless often regarded as having a status conceptually distinct from other kinds of privately accepted change. Kelman's (1958, 1961) views are illustrative here. Kelman distinguished between privately accepted attitude change that occurred because of value congruence (internalization) and privately accepted change that occurred because of a role-defining relationship between the source and the recipient (identification). Because identification depends on the relationship between the source and the target, change brought about in this way may be expressed only when that role relationship is made salient and may dissipate when the role relationship changes. From this perspective, attitude change produced because of shared group membership is seen as relatively transient in time and situation specific. In contrast, attitude change occurring by means of internalization occurs through active integration of new material into a broad framework of cognitive associations, and thus manifests itself across situations and over time.

This distinction has been echoed in more recently developed process models of persuasion. Both Chaiken (1980, 1987) and Petty and Cacioppo (1981, 1986) have suggested that attitude change can result from two different strategies for processing persuasive messages. Both systematic (Chaiken) and central route (Petty & Cacioppo) processing involve the active and extensive evaluation and integration of information relevant to...

¹ Category membership is defined for our purposes as the subjective perception of the self as a member of the category (Tajfel & Turner, 1980, 1981; Turner, 1982, 1985, 1987).
the advocated position. Such processing typically allows recipients to assess the quality of arguments presented in support of the advocated position, and thus results in considerable attitude change in response to strong arguments and little attitude change, or even a boomerang effect, to weak arguments. Such content-focused processing requires both motivation and capacity on the part of the message recipient (for reviews, see Chaiken, 1987; Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo, 1986).

In contrast, heuristic processing (Chaiken) and peripheral route processing (Petty & Cacioppo) involve little cognitive effort. When subjects are processing heuristically, attitude change depends on the presence or absence of persuasion cues (such as source or message attributes) in the communication context. The use of such cues can replace extensive processing of message content as a means of assessing message validity if motivation or capacity is low.

In Petty and Cacioppo’s original formulation of the elaboration likelihood model, source characteristics such as shared group membership were seen as operating via the peripheral route and thus as producing change because of mechanisms other than processing of available topic-relevant information. In this view, change that occurs through the peripheral route is also implied to be less concerned with the true validity of the advocated position, and thus group-mediated attitude change is tainted with lack of objectivity. More recently, certain source characteristics such as expertise have also been considered as informational items and as factors increasing message processing (Hass, 1981; Puckett, Petty, Cacioppo, & Fisher, 1983; see also Mills & Harvey, 1972). Source characteristics such as expertise and attractiveness have also been studied largely as they operate as persuasion cues within the framework of the heuristic model of attitude change (Chaiken, 1980, 1987; Pallak, 1983). Category membership may operate as a heuristic because of the attractiveness of the source to recipients (Kelman, 1958, 1961; Pallak, 1983) or because subjects can rely on an in-group member’s views as appropriately defining reality (Festinger, 1950; Kelman, 1958, 1961). Although the impact of shared category membership has not been featured in either the heuristic model or the elaboration likelihood model, these approaches echo Kelman’s intimation that group-mediated change may be rooted in less content-focused and less extensive information processing than the attitude change brought about by true internalization.

There are, however, equally plausible motivational and cognitive reasons to believe that exposure to a communication from or about the in-group could invoke intensive processing. First, a communication from a same-category source might be persuasive for the very reason that it is seen as reflecting, defining, and informing about social reality to people similar to the recipient (Festinger, 1950; Turner, 1982, 1987). Turner has argued, for example, that the subjective validity of people’s views (the extent to which people think their views accurately reflect reality) is a function of the extent to which similar others agree with those views. The views of fellow category members thus provide information of high interest for the recipient, presumably increasing motivation to process. Further increases in the ability to process category-relevant messages may result from the activation of category-relevant information induced by the recognition of shared group membership (for examples of this effect in particular knowledge domains, see Bargh & Thein, 1985; Markus, 1977). From this perspective, in-group membership may act as a source characteristic that both motivates the recipient for systematic processing and helps provide the capacity to do so.

In addition, exposure to in-group views that differ from one’s own violates the expectation that one’s opinions are widely held (Ross, Greene, & House, 1977; Heider, 1958), especially by similar others (Allen & Wilder, 1977, 1978, 1979; Turner, 1982). Violation of such expectancies is likely to initiate active processing of relevant information (Hastie, 1984; Petty & Cacioppo 1979a, 1979b; White & Carlston, 1983). Thus, same-category membership could produce attitude change based on extensive processing of presented information as well as or instead of reliance on group identity as a heuristic cue.

**Experiment 1**

Our purpose in the first experiment was to gauge the impact of receiving an in-group message on the use of different processing strategies. To assess the presence of content-focused processing, we followed Chaiken (1980) and Petty, Cacioppo, and Goldman (1981) in incorporating strong and weak arguments as a factor in our design. As noted earlier, subjects engaged in such processing are differentially persuaded by strong and weak message quality, whereas those relying on heuristic cues typically are not.

Subjects read a message on the topic of standardized testing, ostensibly representing the views of either University of California, Santa Barbara (UCSB) students (the in-group) or University of New Hampshire (UNH) students (a nonmembership group). Half the subjects in each condition read a message composed of arguments pretested to be strong and valid, whereas the rest of the subjects saw messages composed of weak and specious arguments. If receiving a message from an in-group member initiated systematic processing, we expected to find that subjects would be persuaded by a strong message from the in-group source, but not by a weak one. In addition, we expected recall of arguments to reflect greater processing of message content. If, on the other hand, source membership was used as a heuristic, we expected that both strong and weak messages from the in-group would result in significant attitude change. Given that the theoretical positions cited earlier almost unanimously suggest that receiving a persuasive appeal from an other-group member will result in reduced persuasion, we expected that messages from other-group members would be less effective. However, no explicit predictions about the processing mediators of this possible effect were made.

**Method**

**Subjects and Design**

A total of 140 (male and female) UCSB undergraduates in an introductory psychology course receiving partial course credit for participation.

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2 A contrasting view is offered by an attributional analysis based on the idea of “triangulation” (Goethals & Nelson, 1973). In this view agreement of a similar other could easily be discounted because agreement might be due to shared biases; it is in fact the agreement of a dissimilar other, presumably free of possible shared shortcomings, that is particularly persuasive. This work is not considered in more detail here because its focus is primarily the formation of and confidence in attitudes, and not attitude change.
tion in another experiment completed the two relevant questionnaires as filler tasks. Subjects participated in aggregates of 3 to 10, and were randomly assigned to the cells of a 2 (in-group or other-group source) × 2 (strong or weak arguments) between-subjects factorial.

**Procedure**

Subjects' initial opinions on a key attitude issue embedded in an 8-item questionnaire were measured at the start of the session. The key item read: "Colleges should continue to use the SAT as a criterion for college admissions." Subjects indicated their opinion by checking an 11-cm line anchored at one end by "strongly disagree" and at the other by "strongly agree" (responses were later translated into scores from 1 to 11, where 11 indicated "strongly agree"). As the persuasive communication (described below) advocated abolition of the SAT exam, subjects' initial position on the issue determined whether the message they heard was proattitudinal (n = 62) or counterattitudinal (n = 78). Subjects also indicated how important the issue was to them by checking an 11-point scale anchored at the low end by "not at all" and at the high end by "very important." After completing the premeasures, subjects went on to participate in an unrelated experiment that lasted approximately 30 min. At this stage subjects were asked to participate in a study that dealt with "people's perceptions of delegates who are representing their constituents' views at conferences." Subjects were asked to read a speech delivered by a delegate at an intercollegiate conference on educational policy, and to answer some questions about the speech and the delegate.

**Manipulation of source membership and argument quality** Half the subjects were informed that the delegate whose speech they would be reading had been sent to the conference by UCSB (in-group source), whereas the other half were told that the delegate was from UNH (nonmembership group source).

Subjects then read the transcript of a speech that opposed retaining the SAT as a criterion for college admissions. The speech began with a statement of the delegate's position on the issue followed by eight arguments justifying the advocated position. Half the subjects read a speech composed of eight arguments considered by a pilot group of 32 similar (UCSB) subjects to be strong and valid (M = 8.40, where 11 = "very strong"). The rest of the subjects read a speech composed of eight arguments that pilot testing showed to be weak and specious (M = 4.97), F(1, 32) = 42.80, p < .0001. Both versions of the message contained 25 lines of text, and were of approximately equal difficulty in terms of the language used.

**Dependent Measures**

After reading the speech, subjects completed several questions intended to reassess their attitudes on the issue and to check the effectiveness of the manipulations. Subjects were first asked to check an 11-cm line anchored with "strongly disagree" and "strongly agree" (later translated into a score from 1 to 11) to indicate their agreement with the statement that colleges should continue to use the SAT as an admissions criterion. Subjects were then asked "What position do you think the delegate held on this issue?" "How important is this issue to you?" "How strong and valid did you think the arguments the delegate used to support his position were?" and "How expert and "How trustworthy did you think the delegate was?" (all on 11-cm lines translated into 11-point scales). Finally, subjects were asked to list any and all thoughts you had while reading the delegate's speech; these can include anything related to what the speaker said in the speech, the delegate and the delegate's personality, the topic of the speech, the context in which the speaker spoke, or anything else you might have been thinking about during message presentation, including totally unrelated things.

Subjects were thanked, told that they would receive written debriefing at the end of the session, and went on to participate in another experiment.

<table>
<thead>
<tr>
<th>Source and message type</th>
<th>Message quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-group</td>
<td>Strong</td>
</tr>
<tr>
<td>Counterattitudinal</td>
<td>1.29</td>
</tr>
<tr>
<td>Proattitudinal</td>
<td>0.47</td>
</tr>
<tr>
<td>Other group</td>
<td>0.32</td>
</tr>
<tr>
<td>Counterattitudinal</td>
<td>0.16</td>
</tr>
<tr>
<td>Proattitudinal</td>
<td>-0.19</td>
</tr>
</tbody>
</table>

**Note.** Positive scores indicate movement toward the advocated position (of a possible 10). The position advocated in the message was perceived as representing 1.50 on an 11-point scale.

**Results and Discussion**

**Effectiveness of Manipulations**

Responses on the initial pretest questionnaire indicated that subjects saw the SAT issue as being of only moderate personal importance (M = 5.63, SD = 2.79, where 11 = "extreme importance") before exposure to the communication. Subjects correctly perceived the position advocated in the message (M = 1.36) as opposed to SAT retention. Analysis of variance (ANOVA) conducted on subjects' ratings of the strength of the message yielded a significant main effect for message quality, F(1, 132) = 25.03, p < .0001, confirming that subjects perceived the strong message to be stronger (M = 8.62, where 11 = "very strong") than the weak message (M = 6.42).

**Attitude Change**

A preliminary analysis ascertained that subjects' attitudes were randomly distributed across conditions (other than message position) before exposure to the persuasive message. An individual index of attitude change toward the position advocated in the message was calculated by comparing each subject's attitude before and after exposure to the message. Positive scores indicate movement toward the position advocated in the message. A 2 (in-group or other-group source status) × 2 (strong or weak message quality) × 2 (proattitudinal or counterattitudinal message) ANOVA yielded two main effects of interest (see Table 1 for means).

First, a marginally significant effect for source status, F(1, 132) = 3.63, p < .058, indicated that the two sources had induced differing degrees of persuasion. Subjects exposed to a message regarding the in-group position showed a significant change in attitude toward the advocated position, t(68) = 2.45, p < .02. In contrast, subjects who were exposed to the other group member's speech moved slightly, but nonsignificantly, in the direction opposite to the one advocated in the message.

3 The effect for message quality was marginally significant for those hearing a proattitudinal message, F(1, 58) = 3.31, p < .07, and strongly significant for those hearing a counterattitudinal message, F(1, 74) = 35.24, p < .0001, producing a marginal interaction in the overall analysis, F(1, 132) = 3.63, p < .06. There were no effects of source membership on these ratings.
Second, the significant main effect for message quality, $F(1, 132) = 3.96, p < .05$, reflected the fact that subjects who read the strong message moved significantly toward the advocated position, $t(72) = 2.26, p < .03$, whereas subjects exposed to the weak message did not.

Although the predicted interaction between source status and argument quality did not approach significance, tests of the simple effect of argument quality at each level of the source status variable did reveal qualifications of the main effects. The superiority of the in-group in producing attitude change derived largely from the condition in which the message was strong ($M = .94$), rather than when it was weak ($M = .06$), $F(1, 65) = 3.94, p < .05$. This pattern of differentiation between strong and weak messages was not present when the source was a member of another group, $F(1, 67) < 1$, ns. When messages were strong, the in-group source produced marginally more change than the other-group source, $F(1, 69) = 3.09, p < .08$, and only when a strong message was received from an in-group source did postmessage attitudes differ significantly from initial attitudes, $t(35) = 3.35, p < .002$. Thus, in-group sources were effective with a strong message and ineffective if a weak message was presented, a pattern consistent with the predicted increased content processing of in-group messages. In contrast, other-group sources were ineffective regardless of message quality.4

### Cognitive Responses

Subjects' cognitive responses to the message were coded by one of the authors and a second independent judge, both of whom were blind to the subjects' conditions. Interjudge reliability was 96%, and all disagreements were resolved by discussion. Reactions and responses of interest were classified as accurate recall of message content, favorable or unfavorable message or issue-related elaborations, and favorable or unfavorable responses about the source.5

**Recall of message content.** Subjects included a marginally greater number of recalled arguments from the in-group message ($M = 1.16$) as compared with the other-group message ($M = .66$) in their cognitive response protocols, $F(1, 132) = 3.52, p < .06$. This finding is consistent with the idea that in-group messages received greater processing than other-group messages.

**Issue and message elaborations.** Analysis of the number of responses subjects made about the message or issue revealed a significant four-way interaction among source status, argument quality, message position, and the valence of the responses produced, $F(1, 132) = 4.97, p < .03$. To further clarify this effect, the impact of message position and argument quality on valence of responses was examined for in-group and other-group messages separately. The means from these analyses can be seen in Table 2.

When messages came from an in-group source, strong and weak messages were responded to quite differently, producing an interaction between the argument quality and the valence factors, $F(1, 65) = 15.56, p < .0002$. Strong messages received slightly more favorable than unfavorable responses, $F(1, 34) = 2.74, p < .10$, whereas weak messages received more unfavorable than favorable responses, $F(1, 31) = 16.45, p < .0003$. Proattitudinal in-group messages received more favorable ($M = 1.87$) than unfavorable ($M = 1.63$) responses, whereas counterattitudinal in-group messages received more unfavorable ($M = 2.87$) than favorable responses ($M = 1.89$), $F(1, 65) = 3.82, p < .055$. These differences are also consistent with the idea that the content of messages about the in-group's opinions received considerable processing.

Although there was a similar trend toward responding favorably to the strong other-group message and unfavorably to the weak other-group message (see Table 2), these differences only approached significance, $F(1, 67) = 3.50, p < .07$, and neither simple effect comparison reached conventional levels of significance. Reactions to proattitudinal and counterattitudinal other-group messages did not differ.

**Source-related thoughts.** Responses that referred to the source of the message were analyzed in a 2 (source status) $\times$ 2 (argument quality) $\times$ 2 (message position) $\times$ 2 (valence of response) ANOVA with repeated measures on the last factor. All four of these factors were involved in a significant interaction, $F(1, 132) = 8.71, p < .004$. To clarify this effect, the impact of argument quality and message position on the valence of responses was analyzed separately for in-group and other-group sources.

Responses about the in-group source revealed a significant impact of argument quality, $F(1, 65) = 6.40, p < .01$, with more positive ($M = .50$) than negative ($M = .38$) responses being made about an in-group source with a strong message, and more negative ($M = 1.18$) than positive ($M = 1.36$) responses being made about an in-group source delivering a weak message. Negative reactions to weak counterattitudinal messages were particularly predominant, producing a three-way interaction, $F(1, 65) = 4.57, p < .04$.

Comments about the other-group source also produced a three-way interaction, $F(1, 67) = 4.14, p < .05$, but because of a different pattern of means. There were more negative ($M = .75$) than favorable responses ($M = .50$), $F(1, 67) = 3.82, p < .055$. These differences are also consistent with the idea that the content of messages about the in-group's opinions received considerable processing.

### Table 2

**Message and Issue Elaborations of In-group and Other-group Messages: Experiment 1**

<table>
<thead>
<tr>
<th>Source and message quality</th>
<th>Positive</th>
<th>Negative</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong</td>
<td>2.28</td>
<td>1.47</td>
<td>0.81</td>
</tr>
<tr>
<td>Weak</td>
<td>1.45</td>
<td>3.27</td>
<td>-1.82</td>
</tr>
<tr>
<td>Other group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong</td>
<td>2.02</td>
<td>1.57</td>
<td>0.45</td>
</tr>
<tr>
<td>Weak</td>
<td>1.74</td>
<td>2.70</td>
<td>-0.96</td>
</tr>
</tbody>
</table>

4 The analysis also revealed a significant interaction between the proattitudinal or counterattitudinal nature of the message and attitude assessment, $F(1, 132) = 4.66, p < .03$. Subjects who received a counterattitudinal message moved more toward the position advocated in the message ($M = .52$) than subjects who read a proattitudinal message ($M = -22$). Change in the latter condition may have been restricted by ceiling effects.

5 Comments of a generally favorable nature ("This is an interesting experiment"); "It's good to think about these things") were also analyzed. More favorable ($M = .26$) than unfavorable ($M = .04$) general comments were made, $F(1, 132) = 17.75, p < .0001$, and this difference was particularly marked when strong as opposed to weak messages were received, $F(1, 132) = 5.78, p < .02$. 

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than positive ($M = .31$) comments, regardless of message quality, in every cell except when the other-group source delivered a strong proattitudinal message, $M(positive) = 1.00$, $M(negative) = .56$. The group identity of in-group sources was not mentioned more than that of other-group sources.

Relation between cognitive responses and attitude change. To ascertain the relation between subjects' cognitive responses and the attitude change they showed, separate regression analyses were performed for messages received from in-group and other-group sources. A content favorability index (produced by subtracting negative from positive issue/message elaborations), a source favorability index (computed by subtracting negative from positive responses made about the source), and the number of correctly recalled arguments were used as predictor variables, with the amount of attitude change toward the advocated position serving as the criterion variable. The results of these analyses appear in the first column of Table 3. Consistent with the idea that in-group messages received more extensive processing, the content favorability index proved a significant predictor of attitude change when subjects heard in-group messages. Neither source favorability nor argument recall accurately predicted acceptance of the in-group message, and no index predicted attitude change in the other-group condition.

Our results suggest that the content of messages from in-group sources are given more scrutiny than messages from other-group sources. First, strong and weak in-group arguments were differentially persuasive, whereas strong and weak other-group messages were not. Second, strong and weak in-group messages produced more differentiated content-related cognitive responses than did strong and weak other-group messages. Third, subjects recalled slightly more arguments from in-group as opposed to other-group messages. Finally, only in the in-group conditions did subjects' cognitive responses about message content predict attitude change.

These findings suggest that group-mediated change can be produced by means of increased message processing, and not merely as a result of reliance on persuasion cues. Although increased content-focused scrutiny made the strong in-group message more persuasive, however, it did not make the weak in-group messages less compelling. Weak in-group messages were not less effective than weak other-group messages (in fact, they were as effective as were strong other-group messages).

This pattern of means suggests some possible further bias in acceptance of in-group relative to other-group messages. Subjects may not only be oriented toward messages from an in-group member but may also be prepared to accept them. When given further consideration, strong in-group messages lend themselves to acceptance, and are thus influential. However, the inadequacies of weak messages become obvious upon further scrutiny (even to those prepared to accept them), and so their persuasiveness is undermined. Such an interpretation of the results is consistent with Chaiken's (1987) suggestion that persuasion cues may have an initial impact on advocacy acceptance that is modified only if further, more deliberative processing of message content occurs. In the present case, in-group source status may have predisposed recipients toward acceptance of the message, a position that is confirmed by more careful analysis of strong messages but proven wrong by scrutiny of weak messages. Processing of the message thus produces differences in reaction to messages of different argument strength, but because of the predisposition to agree with the message, a position that is confirmed by more careful analysis of strong messages but proven wrong by scrutiny of weak messages. Processing of the message thus produces differences in reaction to messages of different argument strength, but because of the predisposition to agree with the in-group, this differentiation is displaced toward acceptance of the message. At the same time, because other-group messages receive little or no processing, strong and weak other-group messages do not produce different reactions.

We were also aware, however, that the attitudinal issue used in this study may have had particular relevance to our subjects as members of the UCSB community, the very group membership made salient in this experiment. Subjects commented extensively on their own, their fellow classmates', and what they imagined to be the source's personal experiences with the SAT and in their cognitive response protocols. Many commented on the fact that SAT scores determined their presence at UCSB, and thus by implication their membership in the relevant group categorization. Note that this issue had not been of high personal importance to students before the experiment, but its relevance to the group membership made salient by the source became clear during the course of the experiment. It was possible that the evidence of increased attention paid to the in-group message depended on the fact that the message concerned an issue of particular relevance to the shared group. We therefore designed a second study to investigate the impact of relevance of the issue of interest to the in-group (controlling for preexpo-
sure personal importance) on processing strategies in persuasive contexts.

**Experiment 2**

Reception of a message from or about an in-group presumably activates one's mental representation of the in-group (Turner, 1982). Among other things, this structure might well contain typical issues and opinions that are of concern to the target group (Andersen & Klaztzy, 1987). The activation of an in-group structure might thus be accompanied by activation of knowledge about these group-relevant issues, as well as knowledge about their importance and relevance to the in-group (and thus to the self). Because increases in knowledge on a topic (Bobrow & Norman, 1975; Wood, Kallgren, & Priesler, 1985) and increases in the relevance of a topic (Harkness, DeBono, & Borgida, 1985; Petty & Cacioppo, 1979b, 1984) have been found to increase extensive processing, activation of the in-group structure might increase both the capacity and the motivation to process.

If, on the other hand, an in-group source advocates a position on an issue unrelated to in-group membership, activation of the in-group structure may not involve activation of message-relevant information or concerns about the relevance or centrality of the issue to group membership. In this case, capacity, and perhaps motivation as well, to process the message would be low. Because the in-group status of the source can be used as a heuristic cue by which message validity can be determined, however, recipients might still accept such messages without painstaking scrutiny of message content. Thus, relevance of the message issue to in-group membership could be a key determinant of whether a source's in-group membership would act primarily as a heuristic cue, or would also increase the extent to which a message was systematically processed.

To test these ideas we chose two issues that subjects saw as being equally important but of differential relevance to a salient in-group. Subjects listened to two speeches, one on each issue, ostensibly delivered by either an in-group (UCSB) or a nonmembership group (UNH) source. All subjects heard one speech discussing an issue relevant to the in-group (oil drilling off the southwestern coast of the United States) and one of much less relevance to the in-group (acid rain problems in the northeastern United States). Both messages comprised either strong or weak arguments and both advocated positions that were either congruent with or counter to subjects' initial opinions on the issue.

We predicted that source status and message relevance would interact in the following manner. When an in-group source delivered a group-relevant message, we expected that recipients would systematically process the message and thus be persuaded by a strong message and relatively unimpressed by a weak message. When an in-group member delivered a group-irrelevant message, we expected source status to act primarily as a persuasion cue, so that an in-group message would be accepted regardless of its quality. Thus, we expected an interaction between issue relevance and argument strength in the in-group conditions.

Messages delivered by the other group were predicted to induce less change on both issues than those delivered by in-group members. In addition, because the in-group structure would not be activated by the presence of the nonmembership group source and because we chose issues of equal personal importance, the relevance of the issue to the in-group was predicted to have no effect on the persuasiveness of messages from group-irrelevant sources.

**Method**

**Subjects and Design**

A total of 107 UCSB students volunteered for a two-session experiment for partial fulfillment of course requirements. Subjects were run in aggregates of up to four. Each group was randomly assigned to the cells of a 2 (ingroup or other-group source) X 2 (strong or weak arguments) X 2 (proattitudinal or counterattitudinal advocacy) between-subjects factorial design. The relevance of a particular issue to the in-group was manipulated as a within-subjects factor.

**Procedure**

In an initial session, subjects completed an opinion survey on environmental issues. Embedded in this survey were two key issues: "Continued oil drilling should be permitted off the southwestern coast of the US" (an issue that informal pretesting suggested was relevant for the UCSB community) and "The government should impose controls to minimize the effects of acid rain on the northeastern US" (an issue considered to be much less relevant for the UCSB community). Subjects were also asked how important the issues were to them personally, how often they discussed the issues with others, how knowledgeable about the issues they were, and how qualified the students in Southern California and New England were to make judgments about the issues. All responses were made by placing slash marks along 11-point scales.

In a second session approximately 1 week later, subjects were told that we were interested in people's perceptions of delegates, as in Experiment 1. They then listened to two speeches delivered by delegates at an environmental conference. Subjects listened to a tape recording of the delegate delivering a 2-min speech while viewing a slide of the delegate projected on a screen to the front of the room. After listening to the first speech, subjects completed the dependent measures relevant to the first speech (described later). Subjects then heard a second message from a second delegate on the other issue, and completed the dependent measures again. Subjects always heard one speech from a female delegate and one from a male delegate. The gender of the delegate presenting the first message was counterbalanced. The same male and female model appeared as both UCSB and UNH sources.

**Manipulation of source membership.** The two delegates who delivered the speeches were portrayed as being representatives from the

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6 Pretesting revealed that the majority of our subjects held logically consistent initial attitudes on the two issues: If subjects were for control on acid rain they opposed oil drilling, and vice versa. This meant that if subjects in a particular session heard, for example, a message in favor of acid rain control and a message against off-shore drilling, these messages would have constituted either two counterattitudinal or two proattitudinal messages for the majority of subjects. Subjects for whom this was not true (n = 33) were eliminated from the design.

7 Every effort was made to ensure that subjects considered these sessions unrelated. For example, subjects went on to complete another experiment in the first session, giving a sense of closure about the attitude survey. In addition, different experimenters signed subjects up for the return session, and different experimenters ran the second session, which was also held in a different room in a different part of the building.
same school. Half of the subjects saw and heard delegates from UCSB (the subjects’ in-group) and half of the subjects saw and heard delegates from UNH (a nonmembership group). The experimenter noted the group membership of the source before the first speech and again preceding the second speech. The slide accompanying each speech showed either a young woman or a young man wearing a T-shirt displaying the name and logo of the appropriate school.

**Manipulation of argument quality and message position.** Subjects heard speeches on both key issues in counterbalanced order. Half of the subjects heard a speech composed of nine points that pretesting had demonstrated to be strong and valid. Fourteen UCSB student raters not involved in the study provided a rating of 11.34 (where 15 indicated very strong) for the strong versions of the message. The rest of the subjects saw a message containing nine points pretested as weak (prerated at 6.84, F\[l, 13\] = 40.84, \(p < .0001\)). These effects were not influenced by topic.

Half of the subjects in each of the above conditions received messages that advocated positions that were proattitudinal. The other half listened to speeches that took counterattitudinal positions. There was a version of the strong message and a version of the weak message supporting each side of each issue, so that subjects randomly assigned to the proattitudinal condition could be presented with two messages agreeing with their initial positions on the issues, regardless of what side of the issue they initially supported. The strong proattitudinal and counterattitudinal versions of the message for each issue were seen as equally strong, and the weak proattitudinal and counterattitudinal versions for each issue as equally weak (the interaction of these two factors was therefore not significant, F\[l, 13\] = 2.90, \(p < .2\)). All versions of the message were approximately equal in overall length and difficulty.

**Dependent Measures**

The same dependent measures, including the thought listing task, as described for Experiment 1 were collected after subjects listened to the first speech and again after they heard the second speech. In addition, subjects were asked after each speech to identify the school represented by the delegate.

**Results and Discussion**

**Checks on the Effectiveness of Manipulations**

Subjects were asked several questions in the initial session designed to assess both the importance of the issues to them personally and the relevance of the issues to the in-group and other group. On the personal level, UCSB subjects did not report knowing more about the oil drilling issue than the acid rain issue, F(l, 98) = 1.06, ns, nor did they rate one issue as more important than the other, M(oil drilling) = 6.92, M(acid rain) = 7.42, F(l, 98) = 1.79, ns. Note that the personal importance of both issues was rated at about the midpoint of the 11-point scale.

On items designed to assess group relevance, however, subjects believed that UCSB students were more qualified to discuss the oil drilling issue (M = 5.71) than were students from New England (M = 2.73), F(l, 98) = 173.43, \(p < .0001\). In contrast, UCSB students were not seen as any more or less qualified to discuss the acid rain issue (M = 5.69) than students from New England (M = 5.58). The interaction reflecting these differences in ratings of the two issues was significant, F(l, 98) = 69.98, \(p < .0001\). In addition, subjects reported discussing the oil drilling issue more (M = 2.92) than the acid rain issue (M = 2.30) with other members of the in-group, F(l, 98) = 4.64, \(p < .03\). Thus, the oil drilling issue was more likely to be a topic of discussion among UCSB students, and UCSB students were seen as more justified in discussing and taking a stand on the issue, presumably because the issue had greater consequences for the in-group than it did for the other group. These results suggest that we were relatively successful in selecting one issue, oil drilling, that seemed more relevant to the in-group than to the other group, and a second issue, acid rain, that was not differentially relevant to the in-group as compared with the other group. Importantly, both issues were rated of equal and moderate personal importance.

The effectiveness of the message quality manipulation was reflected in subjects’ ratings of the strong messages as stronger (M = 10.18) than the messages composed of weak arguments (M = 8.18), F(l, 95) = 20.66, \(p < .0001\). This effect was not influenced by any of the other independent variables.

One hundred three subjects correctly identified the source of both messages. The remaining three subjects correctly identified one of the sources and failed to identify the other. Because all subjects recalled at least one of the sources, data from all subjects were retained in the analyses.

**Attitude Change**

A preliminary analysis was conducted to determine whether subjects’ attitudes before exposure to the message were randomly distributed following assignment to the appropriate message condition. Subjects’ attitudes toward the acid rain issue (M = 9.87, where 11 indicated complete agreement) were initially more positive than their attitudes on the oil drilling issue (M = 6.89), F(l, 98) = 87.99, \(p < .0001\). Otherwise, subjects in different conditions had very similar initial opinions on the issues.

An individual index of attitude change toward the position advocated in the message was calculated by comparing each subject’s attitude before and after exposure to the message. Positive scores indicate movement toward the position advocated in the message. The results of a 2 (in-group and other-group source status) × 2 (strong or weak message quality) × 2 (proattitudinal or counterattitudinal message position) × 2 (relevant and irrelevant issue) ANOVA with repeated measures on the last factor revealed the significant predicted three-way interaction among group, message quality, and issue, F(l, 98) = 3.83, \(p < .05\). The means of this interaction can be seen in Table 4. To further clarify the nature of this interaction, we looked separately at the effects of the other independent variables on persuasion following reception of a message from the in-group and the other group.

**Influence from the in-group.** As predicted, strong and weak messages about the different issues produced different patterns.

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*There was also a predictable main effect for message type, F(l, 98) = 5.78, \(p < .02\). Subjects who received a counterattitudinal message moved more toward the advocated position (M = 1.41) than subjects who read a proattitudinal issue (M = .21). In addition, subjects who received a proattitudinal message moved more toward the advocated position when reading about the acid rain issue (M = .94) than the oil drilling issue (M = -.53). The opposite was true for subjects who received a counterattitudinal message (M = 1.98 and M = .85, respectively), F(l, 98) = 10.92, \(p < .001\).*
of attitude change. These differences were reflected in a significant interaction between the issue relevance and argument quality factors, F(1, 50) = 8.21, p < .006. As can be seen in Table 4, subjects' attitudes about the in-group-relevant issue (oil drilling) changed more toward the advocated position when the message was strong than when it was weak, F(1, 50) = 10.28, p < .002. The attitude change produced by the strong message differed significantly from zero, t(24) = 3.61, p < .001, although the boomerang effect produced by the weak message did not. These results are consistent with the idea that in-group-relevant messages from an in-group source receive considerable content-focused processing and replicate the findings from Experiment 1.

Subjects' reactions to a message about the less in-group-relevant acid rain issue from an in-group member showed a completely different pattern. Subjects showed moderate and significant amounts of change toward the advocated position regardless of message quality, t(24) = 1.81, p < .08, and t(28) = 2.80, p < .009, for the strong and weak message, respectively, suggesting a relative willingness to accept the in-group position without careful processing of its content. Strong relevant messages did not produce more change than strong irrelevant messages, but weak relevant messages produced less change than weak irrelevant messages, F(1, 27) = 9.26, p < .005.

Influence from the other group. Other-group members were much less persuasive than in-group members. Attitude change was not significantly greater than zero in any condition. The only significant effect indicated that subjects were more persuaded by the other group's proattitudinal message on acid rain than by their proattitudinal message on oil drilling, F(1, 48) = 4.63, p < .04.

In-group versus other-group influence. Responses to the relevant issue revealed an interaction between source status and argument quality, F(1, 98) = 6.59, p < .01, such that strong and weak relevant messages from the in-group were differentiated, but those from the other group were not. Attitude change produced by receiving a strong relevant message from the in-group was greater than that produced by a weak relevant message from the in-group, t(52) = 3.17, p < .003, by a strong relevant message from the outgroup, t(52) = 2.02, p < .05, or by a weak relevant message from the outgroup, t(46) = 1.60, p < .11. Recall that in-group messages on the irrelevant issue had produced attitude change significantly different from zero, whereas other-group messages on the issue had not. Compari-

Table 4

<table>
<thead>
<tr>
<th>Source and issue relevance to in-group</th>
<th>Message quality</th>
<th>Strong</th>
<th>Weak</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevant</td>
<td></td>
<td>2.36</td>
<td>-0.62</td>
<td>1.74</td>
</tr>
<tr>
<td>Irrelevant</td>
<td></td>
<td>1.28</td>
<td>1.38</td>
<td>-0.10</td>
</tr>
<tr>
<td>Other group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevant</td>
<td></td>
<td>0.55</td>
<td>0.87</td>
<td>-0.32</td>
</tr>
<tr>
<td>Irrelevant</td>
<td></td>
<td>0.38</td>
<td>0.52</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Cognitive Responses

Subjects' cognitive responses were coded by two independent judges. Interjudge reliability was 83.6%; all disagreements were resolved by discussion. Reactions and responses to the message were again classified as accurate recall of message content, favorable or unfavorable elaborations of the message content or issue, and favorable or unfavorable comments about the source.

Recall of message content. Subjects recalled comparatively few arguments from the message. However, they did recall more from messages delivered by in-group (M = .47) than other-group (M = .21) sources, F(1, 98) = 4.13, p < .04. As expected, recall of oil drilling arguments presented by the in-group (M = .57) was higher than recall in any other condition (M = .27, M = .37, and M = .15 for the out-group oil drilling, in-group acid rain, and other-group acid rain arguments, respectively), but the relevant interaction was not significant, F(1, 98) < 1, ns.

Issue and message elaborations. Analysis of the number of responses subjects made about the two messages revealed that the issues were responded to differently, F(1, 98) = 10.39, p < .002, that strong and weak messages about the two different issues were responded to differently, F(1, 98) = 3.97, p < .05, and that in-group compared with other-group messages on the two issues were responded to differently, F(1, 98) = 5.74, p < .02. To further clarify subjects' responses in the different conditions, separate analyses were performed on messages received from the in-group and from the other group.

We had predicted that subjects would show greater systematic processing of the in-group-relevant message compared with the irrelevant message when the source was an in-group member. This would be reflected in a greater differentiation of the in-group source's strong and weak versions of the oil drilling message compared with the strong and weak versions of the acid rain issue. The average number of favorable and unfavorable responses produced by in-group messages appears in the top panel of Table 5. As can be seen, subjects made more favorable relative to unfavorable responses to the strong message about oil drilling, and about the same number of favorable and unfavorable responses to the strong acid rain message. At the same time, subjects made more negative than positive comments about the weak oil drilling message and about the same number of each about the weak acid rain message. Although these numbers were consistent with the predicted pattern, they were not significant. However, responses also showed that subjects had more favorable reactions to the proattitudinal acid rain message than to the proattitudinal oil drilling issue, producing an interaction, F(1, 50) = 9.20, p < .004, and this effect influenced the predicted pattern of results. When the message about the relevant issue was counterattitudinal, more positive relative to negative reactions were prompted by the strong message and more negative relative to positive reactions were prompted by the weak message, F(1, 24) = 3.07, p < .09, whereas this pattern was weaker when the message was proattitudinal. No such differentiation of the weak and strong versions of either the pro- or counterattitudinal irrelevant message.
occurred. More responses of every kind were made about the oil drilling issue \( (M = .94) \) than about the acid rain issue \( (M = .60) \) when messages came from the in-group.

Analysis of elaborations of messages from the other group revealed only that subjects had responded more positively than negatively to the proattitudinal acid rain message and more negatively than positively to the proattitudinal oil drilling message, producing an interaction, \( F(1, 48) = 9.55, p < .003 \).

Source-related thoughts. The only significant effect of interest indicated that subjects had produced more negative \( (M = .26) \) than positive \( (M = .02) \) responses to the other-group source delivering a weak message, whereas equally few positive and negative responses were made about the sources in the other conditions, producing an interaction, \( F(1, 98) = 4.25, p < .04 \). This effect was independent of the issue being discussed.

Relation between cognitive responses and attitude change. To ascertain the relation between subjects' cognitive responses to the message and the attitude change produced by it, separate regression analyses were performed for messages received from in-group and other-group sources on each issue. The same predictor and criterion variables described in Experiment 1 were calculated for each of the two issues. Results of these analyses appear in columns 2 and 3 of Table 3. As can be seen, the content favorability index reliably predicted attitude change when messages about the relevant issue were received from the in-group: Neither this index nor any of the other indices predicted change found in the other three conditions. These results suggest that relevant messages from the in-group were receiving increased content-oriented processing relative to the other conditions.

### General Discussion

The results of these studies provide evidence that the privately accepted attitude change mediated by group member-ship can be produced by means of content-focused message processing. The results of both studies suggest that when the topic of the persuasive communication is relevant to a salient in-group, the content of messages delivered by an in-group source received considerable content-focused processing. In the first experiment, subjects were more persuaded by a strong message about college entrance criteria from their college in-group than they were by a weak message. In addition, subjects' cognitive responses to the content of the in-group message successfully predicted their acceptance of the advocated position. Moreover, they tended to recall more of the message when it was presented as representative of the in-group rather than of the other group. A similar pattern indicative of differentiation of strong and weak message content was found in the second experiment, but only when the topic under discussion was of relevance to the in-group. In this case, the strong and valid version of the message again proved more persuasive than the weak and specious version of the message, the in-group message was better recalled, and cognitive responses about the content of the message again predicted acceptance of the advocacy.

The particular pattern of our results provides some evidence as to the conditions producing such increased processing. First, it did not seem to be the case that such increases were due to particular effects of the issues themselves. Subjects reported having no greater knowledge of the in-group-relevant compared with the in-group-irrelevant issue used in Experiment 2. Nor did it appear that the group-relevant issue was more personally important than the irrelevant issue prior to message exposure, given that subjects asked how important the issues were to them rated both issues similarly. Personal importance of the issue is also made an unlikely explanation by the results of Experiment 1, in which a single issue produced different effects depending on whether messages were received from the in-group or other group. In addition, receiving a message on the in-group-relevant issue from an other-group source did not result in increased scrutiny of the message, as would be expected if the importance of the topic alone was increasing motivation or ability to process. However, this is not to argue that receiving a message on an issue known to be associated with group membership might not increase the perception of both personal and group importance of the issue in the persuasive context.

Second, it was not the case that exposure to any in-group opinion elicited careful processing. In Experiment 2, for example, an in-group source delivering a message on an issue of less importance to the in-group successfully produced persuasion, but not because it provoked content-focused processing of the message.

Thus, it appeared that more elaborate and extensive processing of message content depended on the presentation of an in-group-relevant message by an in-group member said to be representing the in-group's views. This pattern of results raises several possibilities as to the determinants of these effects. First, the results implicate the activation of group-relevant knowledge in the persuasive process (Turner, 1987). Our manipulations were intended to expose subjects to an opinion representative of the in-group and thus to activate cognitive representations of the in-group. We chose to do this by having messages presented by an in-group delegate: Under most circumstances the views of an in-group member are at least potentially repre-

<table>
<thead>
<tr>
<th>Source, issue relevance to in-group, and message quality</th>
<th>Valence of cognitive responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>In-group Relevant</td>
<td></td>
</tr>
<tr>
<td>Strong</td>
<td>0.80</td>
</tr>
<tr>
<td>Weak</td>
<td>1.00</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0.48</td>
</tr>
<tr>
<td>Weak</td>
<td>0.72</td>
</tr>
<tr>
<td>Other group Relevant</td>
<td></td>
</tr>
<tr>
<td>Strong</td>
<td>0.52</td>
</tr>
<tr>
<td>Weak</td>
<td>0.65</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0.62</td>
</tr>
<tr>
<td>Weak</td>
<td>0.61</td>
</tr>
</tbody>
</table>

Source, issue relevance to in-group, and message quality.

Message and Issue Elaborations of Relevant and Irrelevant Messages Received From the In-Group and Other-Group Source: Experiment 2

Table 5
sentative of the group. There was some evidence in our results that activation of the in-group concept increased readiness to accept in-group messages. Taking the results of Experiment 1 and the relevant issue conditions of Experiment 2 together, strong in-group arguments produced significantly more persuasion than the same arguments from nongroup members, but weak in-group messages were no less persuasive than weak (or strong) other-group messages. In addition, there was some weak (p < .12) evidence in Experiment 2 that even irrelevant messages from in-groups were more accepted than other-group messages on the same topic, regardless of argument quality. These findings are consistent with the idea that group membership might act as a persuasion heuristic, although they provide little direct evidence of the effect. In-group sources were not seen as more expert or trustworthy, and in-group arguments were not seen as stronger, but we unfortunately did not measure postexposure attractiveness, similarity, or representativeness of in-group sources. As another possibility, the heuristic value of group membership might well have more to do with the perceived social validity and social relevance of presented information than with more traditionally studied source characteristics. These possibilities warrant further research attention.

As noted above, however, activation of the group concept alone was not enough to increase systematic processing of all in-group messages. In the case of group-relevant issues, activation of the group concept might entail the activation of knowledge or motivational structures relevant to that particular item, in addition to (rather than instead of) beliefs about the general relevance and validity of in-group positions that operate for all, even group-irrelevant, issues (Chaiken, 1987; Insko et al., 1985; Mackie, 1987; Turner, 1982, 1985). The activation of such structures might increase attention paid to relevant issues by making issue-relevant knowledge more accessible and by increasing recipients' perceptions of the group relevance of the issue, both of which could increase extensive processing. The latter of these might have greater impact, given that activating issue knowledge alone (as when the nonmember's views on oil drilling were presented) did not increase processing. If so, the centrality of the issue to group membership may be an important determinant of whether group-mediated persuasion depends primarily on heuristic or on more elaborate processing. An appropriate direction for further research might then consist of attempting to more directly manipulate and measure the structures activated by these particular persuasive situations.

Our results indicate that attitude change mediated by concerns relevant to group membership need not be rooted in less rigorous, less extensive, or even less objective information processing. In fact, the kind of content-focused processing that in-group-relevant messages delivered by in-group sources received in these studies has been found to be a precursor not only of privately accepted attitude change, but of new opinions that are maintained over the long term, resistant to new persuasion attempts, and predictive of behavior (Pettty & Cacioppo, 1988). Our findings may thus provide evidence of a processing base of the powerful long-term persuasive effects of group membership.

Perhaps even more important, these results illustrate the benefits of bringing advances made in understanding the processes underlying persuasion together with the insights gained earlier from more traditionally "social" influence topics. Process approaches to social influence topics reveal the powerful influence of social groups to induce "true" internalized attitude change and allow the conditions under which heuristic and content-focused mediational paths underlie group-induced change to be delineated. At the same time, the impact of group membership concerns on the persuasive implications of strong and weak arguments should act as a reminder to information-processing approaches that what makes information strong, valid, relevant, and worthy of further attention depends on the social context.

It is possible that some of the increased scrutiny of in-group-relevant messages found in these experiments might be due to the idea that the in-group source was said to represent the in-group's (and the subject as a member of the in-group's) views publicly. This suggests that future experiments might well manipulate the extent to which a source's views are said to be representative of the in-group and are expressed publicly or privately. Note also that views accepted as representative of the in-group might well come from different sources. In our experiments the views expressed by nongroup members were said to represent the nonmembership group, not the in-group. Having a member of an explicit out-group (which might be expected to activate the in-group) express views about an in-group-relevant issue might, however, provoke even greater scrutiny.

In both experiments subjects exposed to the strong message rated the delegate as being more expert and trustworthy than subjects who received the weak message, $F(1, 132) = 18.52, p < .0001, F(1, 131) = 6.64, p < .01$, and $F(1, 98) = 11.95, p < .0008$, and $F(1, 98) = 11.13, p < .001$, for expertise and trustworthiness in Experiments 1 and 2, respectively. There was no tendency to report the in-group source as either more expert or trustworthy, suggesting that differences in the persuasiveness of in-group and other-group messages were not mediated merely by differential inferences of source credibility (for a similar finding, see Clark & Maass, 1988).

### References


