Chapter 7
Social Context Effects in Persuasion:
The Effects of Multiple Sources and Multiple Targets

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Attitudes are a central feature of our social lives. Daily, we are called upon or feel compelled to express our views on a variety of topics. Equally often, we are exposed to attempts to change these attitudes. Some classic research in social psychology clearly makes the point that the social context in which people find themselves is a crucial determinant of their attitudes. For example, Newcomb (1943) in his research on Bennington College coeds found that students who were initially highly conservative, gradually came to adopt the liberal views espoused by the college community over the course of their stay there. The fact that people and their attitudes are located in social matrices has been suggested as one reason that field studies of attitude change typically find weaker effects than laboratory studies (Hovland, 1959). In laboratory research people are typically exposed to a persuasive communication in social isolation, but in field research and in "real life" people often receive messages in the company of others. As a result, subjects in laboratory research may feel that the message is aimed at them in particular which enhances its impact, whereas in the natural environment the perception may be that the message is aimed at people in general. Also, when other people are present, a message recipient might hear various individual group members make statements in opposition to the position outlined by the message source. This would also reduce the impact of the message.

Despite the obvious importance of the social context of persuasion, an examination of the attitude-change literature reveals that with a few notable exceptions that will be addressed later in this chapter (e.g., the effects of group discussion on attitude change, Lamm & Myers, 1978), relatively little attention has been paid to the effects of the social context on persuasion. The incorporation of social context into the study of attitude change, while long overdue, introduces many complexities into the study of the persuasion process. In fact, it may well be the complexity of the endeavor that has led attitude researchers to employ the impoverished social settings that have characterized most investigations. While we readily acknowledge this complexity, and can only aspire to the goal of the development of a comprehensive model of the effects of social context on persuasion, in this chapter we will report a series of studies that represent a first step. In this initial work, we have
limited the focus of our attention in several ways. (a) In social groupings people are often alternately the source and the target of persuasive communications. While we are interested equally in the effects of the production of and exposure to persuasive communications, in this chapter we will restrict our attention to the effects of the latter process. (b) People are exposed to persuasive communications that are generated both from within and from without the social groups in which they happen to be at a given time. We will limit our attention to communications originating from outside the social grouping. (c) People are sometimes exposed to persuasion in the company of friends and acquaintances, and sometimes in the presence of strangers. We will limit our attention to the effects of strangers.

By limiting the domain of our initial inquiry in this way, we have excluded from consideration many potentially interesting features of the social context. Nevertheless, even this restricted domain serves quite well as a first approximation, since it allows the control of many features of a very complex situation, and also provides an analog for many real-world persuasion settings that involve groups. For example, in the courtroom, opposing attorneys attempt to persuade a jury of the merits of their cases using a parade of witnesses to bolster their positions. The members of the jury are jointly exposed to the messages from multiple sources and are jointly responsible for evaluating these positions and reaching a verdict. At political rallies, a number of speakers may argue in favor of or against some position or candidate to groups of voters who are jointly responsible for the election outcome. Finally, we note that our consideration of these persuasion settings will be limited in another way. In the examples just given, people are often with others and at the same time are exposed to persuasive communications delivered by multiple sources. We have separated these features, so that, in our research, single or multiple targets were exposed to a persuasive communication delivered by a single source, or a single target was exposed to one or multiple sources. In addition to the advantage of reducing complexity, this conceptualization was suggested by Latané's (1981) theory of social influence, which proposes that the many ways in which people are affected by others can be described as operating in two basic types of social force fields: multiplicative force fields, in which a person stands alone as a target of social influence emanating from multiple sources, and divisive force fields, in which a person stands with others as a target of social influence. According to the theory, social impact increases with the number, status, and immediacy of sources attempting to influence us, but decreases with the number, status, and immediacy of the other targets of the influence attempt. Of course, the situation in which a person stands alone as the target of the persuasion attempts of multiple sources represents a multiplicative force field, whereas the situation in which a person stands with others as the target of an influence attempt represents a divisive force field. The theory would generally predict that increasing the number of message sources should increase the amount of persuasive impact, while increasing the number of message recipients (targets) should diminish it.1

1 The theory also predicts the shape of these functions as the number of sources and/or targets increases, but these predictions are not tested in the present research since we did not parametrically manipulate number.

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degree of attitude change in multiplicative and divisive force fields, the theory does not attempt to provide an account of the process that intervenes between exposure to these social contexts and attitude change. As Latané writes:

It (social impact) does not purport to "explain" the operation of any of the number of particular social processes that are necessary to account for all of the effects I have labelled "social impact" or to substitute for theories that do. It does, however, provide general overall rules that seem to govern each and all of these individual processes. (1981, p. 343)

An account of the intervening process that we were interested in testing is provided by the cognitive response approach to persuasion (Pett, Ostrom, & Brock, 1981). Cognitive response theory contends that targets of persuasion attempts do not passively encode the content of persuasive messages; rather, as the message arguments are presented, people generate internal idiosyncratic reactions, termed cognitive responses. If these responses are preponderantly favorable, persuasion results; if they are primarily unfavorable (i.e., counterarguments), no persuasion results, and in fact, some boomerang might occur. The quality of the arguments making up the message plays a central role in determining the pattern of these cognitive responses. If the arguments are cogent, favorable thoughts are likely to predominate; if unconvincing, counterarguments are likely to be generated. Manipulations of both ability and motivation to think about the message arguments have been shown to interact with message quality in determining the pattern of cognitive responses and attitude change (see Petty & Cacioppo, 1981, for a review). Thus, manipulations of both greater ability (e.g., message repetition; Cacioppo & Petty, 1979) and greater motivation (e.g., issue involvement; Petty & Cacioppo, 1979) to think have been shown to enhance production of favorable thoughts and increase persuasion when the message was composed of convincing arguments, but increase counterargumentation and decrease persuasion when the message was composed of low-quality arguments. The importance of the cognitive response approach is that in contrast to social impact theory, which predicts a direct effect of number of sources and targets on persuasion, cognitive response theory predicts that the number of sources and targets will have an impact on persuasion primarily through their impact on a person's motivation and/or ability to think about the message arguments presented.

Division of Impact

We will consider first the situation in which a person stands with others as a target of social impact. In this type of social force field, social impact would predict that as the number of targets increases, persuasion should decrease. Consistent with this prediction, Latané (1981) reported a reliable inverse relationship between the proportion of Billy Graham crusade attenders persuaded sufficiently by the speaker to lead them to inquire for Christ, and crowd size. On the other hand, Newton and Mann (1980), who surveyed crusade attendance in Australia in 1979, found that for weekday meetings the greater the audience size, the greater the proportion of inquirers. Analysis of one crusade, in Melbourne, and the weekend crusades at all of the locations revealed no reliable relationship between crowd size and inquiry.
of people taking part is held constant or a person is actually alone, the simple perception that one is taking part in a task with others can influence one’s behavior. For example, Latané, Williams and Harkins (1979) asked subjects to shout alone and in groups of two and six. In this study there were always six people present, but since they were blindfolded and wore earphones, they could not hear or see each other. On some trials the participants actually shouted with others, but on the crucial trials, termed pseudogroup trials, the participants were told via their headphones that they would be shouting with others but they actually shouted alone. Since each trial was accompanied by a loud masking noise delivered over the head-phones, the participants were unable to tell how many other people were actually shouting. This strategy allowed Latané et al. (1979) to determine if thinking that one was taking part with others was sufficient to reduce individual effort, independent of any potential loss in productivity as a result of distraction or lack of coordina tion (Steiner, 1972) and indeed, when participants thought they were taking part with others they produced less sound than when they shouted alone. Latané et al. (1979) termed this reduction in individual effort “social loafing.” Similar loafing effects have been reported in between as well as within subjects designs (Harkins, Latané, & Williams, 1980), for females as well as males (Harkins et al., 1980), and for a variety of physically effortful tasks including clapping (Harkins, et al., 1980), rope-pulling (Ingham, Levinger, Graves, & Peckham, 1974) and pumping air (Kerr & Bruun, 1981).

Division of Effort and Attitude

Of course, these findings relate to tasks involving physical effort, but evaluating persuasive messages is also an effortful activity, if conscientiously carried out. The social loafing findings suggest then that perhaps when exposed to a persuasive message in the company of others, people feel less compelled to critically evaluate the message than when they alone are to carry out the task, since there are others available to shoulder the burden. This reduced effort could lead to a reduced appreciation of the arguments and less persuasion. Of course, when actual group size manipulations are used, this loafing effect, if present, would be confounded with the effects that Knowler (1936) enumerated. So, as a first step, to determine whether loafing effects could be obtained on a cognitively effortful task independent of any effects resulting from the physical presence of others, we held actual group size constant and informed the participants either that they alone were responsible for evaluating a poem and an editorial ostensibly written by another student, that they were one of four students responsible, or that they were one of sixteen evaluators (Petty, Harkins, Williams, & Latané, 1977). Consistent with the work on physically effortful tasks, subjects who were told that they were solely responsible for their evaluations reported putting greater effort into their evaluations than did subjects who shared the responsibility. In addition, the individually responsible subjects evaluated the written products more favorably than the shared responsibility subjects. This less favorable attitude towards the poem and editorial on the part of the shared responsibility (group) subjects is consistent with the notion of division of impact and replicates earlier research without the confoundings introduced by the
actual presence of other people (cf. Keating & Latané, 1976; Knowler, 1935, 1936). However, there are at least four different processes that could lead to this outcome. For example, a deindividuation interpretation (Zimbardo, 1970) might contend that the group evaluators experienced feelings of anonymity that made them more willing to express deviant and derogatory evaluations (see Adelman, Brehm, & Katz, 1974, for evidence consistent with this argument). Two other explanations link the more favorable evaluations by individually responsible subjects directly to the increased effort individuals perceive themselves as exerting. Jones and Gerard (1967) have suggested that

If a person expends effort that is not readily justified by the amount of reinforcement received, he tends to create reinforcements out of the stimuli in the immediately surrounding environment. (p. 89).

This "effort justification" hypothesis would suggest that individual evaluators may have justified their increased efforts by overvaluing the communications (see also Cohen, 1959; Wicklund, Cooper, & Linder, 1967). Similarly, Brock's (1968) commodity theory predicts that the more effort one exerts attending to a communication, the higher the subjective value it will have (see also Fromkin & Brock, 1973).

A fourth explanation is suggested by the cognitive response model of attitude change (Petty et al., 1981) that we described earlier. Since both the poem and the editorial were favorably regarded (the average rating on the evaluative scales was above the midpoint for both individual and group evaluators) and the individually responsible subjects reported putting greater effort into their evaluations, the cognitive response formulation would predict that individual evaluators would be more likely to discover the merits of the communications, generate more favorable thoughts, and evaluate the products more favorably than the less-motivated group evaluators. Thus, deindividuation, dissonance, commodity enhancement, and more diligent information processing all provide potential explanations for the evaluation effect obtained by Petty et al. (1977).

Petty, Harkins, and Williams (1980) conducted two studies to distinguish among these potential explanations. Although all of these explanations make the same predictions for well-regarded materials, this is not the case if the materials are of low quality. Deindividuation, dissonance, and commodity enhancement would still predict that individual evaluators would rate the materials more favorably, although the rationales differ. The cognitive response approach, however, would predict that the greater effort put into the evaluation of a low-quality stimulus by the individually responsible subjects should lead them to a more acute sense of the flaws of the materials and to a less favorable evaluation than that arrived at by the group evaluators. To test these possibilities, we had subjects evaluate a tape of a therapist interacting with a client. Subjects were led to believe either that they were the only person evaluating the therapist or that they were one of twelve. The therapist was either portrayed as highly competent and genuinely interested in the client's phobia, or as incompetent and uninterested in the client's problem. Replicating Petty et al. (1977), the individually responsible subjects reported putting more effort into their evaluations. In addition to this perceived effort measure, subjects were given three minutes to list their thoughts about the therapist's behavior (see Cacioppo, Harkins, & Petty, 1981). This thought-listing procedure provided an opportunity to look at the subjects' actual cognitive effort rather than their perceived effort. It was expected that the pattern of thoughts would be consistent with the effort the subjects reported putting into their evaluations. That is, if the individually responsible subjects were putting in greater effort, we should find that they generate more thoughts consistent with the character of the stimulus than shared responsibility subjects. Individually responsible subjects did generate more favorable thoughts in response to the good therapist than did the shared responsibility subjects. However, there were no differences for the bad therapist. Consistent with the thought-listing data, individual evaluators provided more favorable evaluations of the good therapist than group evaluators, but there were no differences for the bad therapist.

Thus, the findings for the good therapist replicated the results of the Petty et al. (1977) research and provided evidence for actual effort differences between individual and group evaluators, but the bad therapist findings were problematical. A potential explanation for the latter finding may be provided by an examination of the evaluations of the bad therapist. While these ratings were reliably worse than those of the good therapist, they were not nearly as extreme as those of the good therapist. If the bad therapist was actually more neutral than bad, the findings of no difference would not be inconsistent with the cognitive response interpretation, since greater effort put into the evaluation of a neutral stimulus would still yield a neutral evaluation, and no group/individual differences would be expected.

In a second experiment we explored this notion by having subjects evaluate one of three editorials, ostensibly written by another student. Each of the editorials was composed of eight arguments, but in one editorial the arguments were logically sound, defendable, and compelling (strong arguments message), in the second editorial the arguments were more open to refutation and skepticism (moderately weak arguments), while in the third the arguments were quite specious (very weak arguments). Crossed with this manipulation, subjects were told either that they alone were responsible for the evaluation or that they were one of ten who would be looking at a particular essay. Once again, individual evaluators reported putting greater effort into their evaluations than group evaluators. As shown in Table 7-1, analysis of the thoughts measure revealed that subjects who were individually responsible generated more favorable thoughts in response to the strong arguments and more unfavorable thoughts in response to the very weak arguments than did shared responsibility subjects. As in the previous study, there were no reliable differences in response to the moderately weak arguments. As suggested by the results of the thoughts measure, individually responsible subjects evaluated the editorial composed of strong arguments more favorably and the editorial composed of very weak arguments less favorably than did shared responsibility subjects. There were no individual/group differences in the evaluation of the editorial composed of moderately weak arguments.

These results are consistent with the cognitive response interpretation, which suggests that the greater effort put into the evaluation by the individually responsible subjects leads to a greater appreciation of the merits and flaws of the communi-
Table 7.1. Effects of Group Size and Stimulus Quality on Cognitive Effort and Evaluationa,b

<table>
<thead>
<tr>
<th>Item</th>
<th>Strong Arguments</th>
<th></th>
<th>Moderate Weak Arguments</th>
<th></th>
<th>Very Weak Arguments</th>
<th></th>
</tr>
</thead>
<tbody>
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<td></td>
<td>Individual</td>
<td>Group</td>
<td>Individual</td>
<td>Group</td>
<td>Individual</td>
<td>Group</td>
</tr>
<tr>
<td>Perceived cognitive effort</td>
<td>8.81</td>
<td>7.63</td>
<td>7.81</td>
<td>7.04</td>
<td>8.50</td>
<td>8.10</td>
</tr>
<tr>
<td>Negative thoughts</td>
<td>.86</td>
<td>1.40</td>
<td>.90ab</td>
<td>1.86</td>
<td>3.80</td>
<td>2.33</td>
</tr>
<tr>
<td>Positive thoughts</td>
<td>3.76</td>
<td>2.83b</td>
<td>2.00</td>
<td>2.20</td>
<td>.96</td>
<td>1.76b</td>
</tr>
<tr>
<td>Evaluation index</td>
<td>9.30</td>
<td>7.64b</td>
<td>6.83</td>
<td>7.17</td>
<td>4.03</td>
<td>5.82d</td>
</tr>
</tbody>
</table>

a From Petty, Harkins, & Williams (1980, Experiment 2).
b Means in the same row without a common subscript are significantly different at the .05 level by the Newman-Keuls procedure.

cisions than that achieved by the shared responsibility subjects. This greater effort apparently leads to more thoughts consistent with the quality of the stimulus, and an evaluation consistent with this pattern of thoughts. The results are inconsistent with the other interpretations, each of which predicts less favorable evaluations by group evaluators for each of the editorials, regardless of their quality. These data also suggest that increasing the number of targets does not always lead to reduced persuasive impact, since when exposed to the very weak editorial, the group evaluators liked it more than the individual ones.

Factors Responsible for Division of Effort

Our series of studies suggests that divisive force fields do lead to reduced cognitive effort, but the quality of the stimulus (persuasive message) must be taken into account to predict the persuasive impact that this reduced effort will have. Moreover, while these studies do suggest the process by which effort is translated into an evaluative reaction, the process by which group evaluators come to put in less effort than individual ones is unclear. There are at least two features of the experimental paradigm that has been used in social loafing research that could contribute to reductions in effort when groups rather than individuals are assigned responsibility for a task.

External surveillance and identifiability. First, in both the studies on physical and on cognitive effort, the participants' efforts are combined in the group conditions. For example, when performing the sound production tasks, the participants think that on the group trials the sound-level meter will record the total sound output of the group. When performing the cognitively effortful tasks, the subjects are told that their reactions will be combined with those of the others to form an overall rating. Thus, on all of the tasks the subjects are led to believe that their individual outputs will not be identifiable. They can receive neither credit nor blame for their performances, and lacking this motivation for performance, the subjects loaf.

Williams, Harkins, and Latané (1981) tested this possibility by manipulating the identifiability of individual performances within the group in two experiments. In the initial phase of the first experiment, subjects shouted alone and in pseudogroups. As has been the case in previous research, when the subjects shouted alone, their outputs were individually identifiable, but were unidentifiable when they performed in the group. In the second half of the experiment, subjects were asked to don individual microphones that supposedly permitted the monitoring of individual outputs even when the subjects performed in groups. Consistent with previous research (Latané et al., 1979), in the first half of the experiment subjects shouted more loudly when performing alone than when they thought they were shouting with the others. However, when they were told that their individual outputs could be monitored when they performed in groups, no loafing occurred. Subjects shouted as loudly when they thought they were shouting with others as they did alone. In the second experiment, a between-subjects design was used in which subjects were told one of the following: (a) they would shout alone and in groups—identifiable when alone condition; (b) they would shout alone and in groups while wearing microphones that allowed the monitoring of their individual performances in groups as well as alone—always identifiable; or (c) they would shout alone and in groups, but since interest centered on the group's performance, their individual performances would be summed and the group totals would be examined—never identifiable. Replicating the social loafing effect, subjects shouted more loudly alone than when they thought they were shouting with others. Also, replicating the previous study, when the participants thought that their outputs could always be identified, they shouted as loudly in groups as when alone. Finally, when led to believe that the experimenters were interested in group totals, subjects put out as little effort alone as when in groups. Thus, consistent with the identifiability notion, when the experimenters monitored only the group performances, subjects worked as little alone as when in groups.

Task characteristics. These studies suggest that social loafing is, at least in part, the result of the subjects' lack of identifiability when participating in groups. When subjects can neither be praised nor blamed for their individual effort, they loaf. However, an examination of the tasks used in previous loafing research suggests at least two features of the tasks themselves that may also be required to obtain the loafing effect. First, in the loafing research, all of the subjects have shared the responsibility for working on a relatively simple task. Shouting, clapping, and rope-pulling are all easily accomplished. Even though the subjects are told to produce as much as they can, a maximizing task in Steiner's (1972) terminology, and each person's contribution adds to the group total, subjects undoubtedly realize that virtually anyone could perform these simple tasks. On the cognitive tasks, the subjects are asked to evaluate materials that are easily understood. After all, the subjects are told that these essays were written by their fellow students. On this optimizing task (Steiner, 1972), the subjects may feel that their efforts are redundant: The reactions they come up with are likely to be very similar to those generated by others in their group. Thus, even though their reactions will contribute to the overall rating, subjects may feel that their particular contributions are not really needed. This analysis suggests that if the tasks were made more difficult and challenging, subjects might
not loaf in groups even if their individual inputs remained unidentifiable because on a challenging task, subjects would perceive that their contributions are not easily duplicated by someone else.

Secondly, in previous loafing research, in addition to the task being simple, the task was also identical for all group members (subjects pulled on the same rope, evaluated the same essay, etc.); and this may have contributed to social loafing by enhancing subjects' perceptions that their efforts were not needed. To remove this feature, an investigator, for example, could tell subjects that their evaluation of essays would be combined to form an overall class evaluation as in previous research (Petty et al., 1977), but that each subject would be evaluating a different essay from the class. Even if the task were simple and subjects remained unidentifiable in that each contributed unrecognizably to one group evaluation, loafing might not occur under these conditions because all subjects have their own unique subtask. Thus, subjects would likely perceive that their contribution was valuable and was not duplicated by another group member.

Our analysis suggests that as a result of the fact that in previous social loafing research responsibility has been shared for one task that is quite simple, the subjects may not have felt motivated to exert their maximal effort unless their work was identifiable. In other words, if the task itself does not enhance subjects' motivation to perform their best, social loafing will occur if the loafing cannot be detected. On the other hand, if the task itself provides sufficient motivation for performance, loafing may not occur even if the subjects' work remains unidentifiable. Therefore, lack of identifiability may not be a sufficient condition for social loafing. loafing may also require that subjects feel that the group task does not afford them an opportunity to make a contribution substantial enough to warrant their best efforts.

Of course, there are undoubtedly a number of ways in which subjects could be led to believe that their efforts are needed. In the research that we describe here, we manipulated this perception in two ways. In two experiments we manipulated the difficulty of the task, testing the notion that increasing task difficulty would lead the subjects to feel that their efforts were needed since the task presented a challenge. In two other experiments, we manipulated whether subjects worked on the identical task as the others, or had their own task on which to work, testing the notion that making the participants' efforts non-redundant would make them feel needed. We expected that social loafing would occur only when the task was simple and non-challenging or required subjects to make responses that were redundant with the contributions of other group members. When the tasks were more challenging and/or required non-redundant responses, we expected that social loafing would not occur, even if the subjects' responses were completely unidentifiable (i.e., submerged in a group score).

Task difficulty experiments. In our first experiment (Harkins & Petty, 1982), the subjects' task was to generate uses for an object. In this brainstorming task, the subjects were told either that they alone were responsible for listing as many uses for an object as they possibly could or that they shared this responsibility with nine others whose uses would be combined with their own. Crossed with this manipulation, one half of the subjects were given an object for which pretesting had revealed that it would be difficult to generate uses, a detached doorknob, while the other half were given an object for which it was easy to generate uses, a knife. For the easy object, we predicted the typical social loafing effect: More uses would be generated by the individually responsible subjects than by those who were told the responsibility was shared. For the difficult object, however, where the task presented a challenge, we expected that shared-responsibility subjects would work as hard as those who were individually responsible.

In line with these predictions, people working alone on the easy object generated more uses than those working together, while there were no differences for the difficult object. In addition, subjects generating uses for the difficult object rated their uses as more unusual than those generating uses for the easy object.

This experiment was replicated using different objects, and once again, individual evaluators generated more uses for the easy object (a box) than did group evaluators, but there were no differences for the difficult object (a burnt-out light bulb). In addition, subjects who generated uses for the difficult object felt less likely that the same uses would be generated by another person responding to the same object than easy-object subjects, and also felt that their uses represented more of a unique contribution unlikely to be duplicated by others. Both subjects and independent judges felt that the uses generated for the difficult object were more unusual than those generated in response to the easy object. These results are consistent with the interpretation that subjects were motivated in the difficult-object conditions by the potential for making a unique (non-redundant) contribution. It could be argued that the equivalence in performance in the difficult object conditions was the result of a floor effect that prevented the emergence of any significant differences. Given the present data, this argument does not seem plausible. The individually responsible/difficult object subjects in both experiments generated a reasonable number of uses, an average of 7.94 in Experiment 1 and 6.28 in its replication. This level of performance left the group subjects ample opportunity to perform more poorly than individually responsible subjects. Specifically, in Experiment 1 the group subjects need only have generated five or fewer uses, and in its replication, four or fewer to have generated reliably fewer uses than the individually responsible subjects. However, in both experiments the group subjects' mean performances, if anything, exceeded that of the individual subjects' (Experiment 1: 9.25 vs. 7.94; replication: 6.64 vs. 6.28), although not significantly.

Another possibility is that the individually responsible subjects were at their ceiling and were unable to generate any more uses, no matter how hard they tried. Of course, if the individual subjects' performances were at a ceiling, the group subjects' performances were at the same ceiling since there were no reliable differences between these experimental groups. Once again, since the individual subjects' level of performance left the group subjects ample room to have generated reliably fewer uses, it seems unlikely that the performance equivalence is a ceiling artifact. In addition, in Experiment 1, there was no reliable difference in the number of uses generated under the difficult and easy conditions by the shared responsibility (unidentifiable) subjects. This finding strongly suggests that group subjects were working harder when faced with the difficult object than the easy one.
Why should the participants feel that they can make a greater contribution when the task is more difficult? Research from several sources suggests that people see themselves as above average on many dimensions. For example, Myers (1980) reports that 70% of the 829,000 high school students who recently took the Scholastic Aptitude Test felt that they were above average in leadership ability, 60% felt that they were above average in athletic ability, and 0% rated themselves as below average in ability to get along with others (60% saw themselves in the top 10%, 25% in the top 1%). Jejilson and Riskind (1970), in their test of the notion that risk-taking is seen as an indicant of ability, found that on the average, subjects rated themselves as more capable, clever, competent, creative, ingenious, innovative, and insightful than average. Goethals and Zanna (1979), in their study of the role of social comparison in choice shifts, found that when asked to compare themselves to an average person on the dimensions of talent, creativity, and ability, 72% of the subjects rated themselves as above average, 17% saw themselves as average, and 1% subject (1%) felt he was moderately below average. When taking part in a simple task, subjects may not be motivated to make use of their “above average” abilities since they may feel the task could be done by anyone and others are there to do it. However, when faced with a more challenging (difficult) task, subjects may feel that their contribution is needed since they are better able than the average person to perform the task.

To test the generalizability of the finding that increasing the difficulty of the task alone is sufficient to eliminate social loafing, we replicated the basic design using a task much like those requiring physical effort (Harkins & Petty, 1982, Experiment 2). In this study the subjects simply watched a television screen, reporting seldomly occurring signals by pressing a key. As with the noise production task, identifiability was manipulated by combining the subjects’ responses or collecting them separately. Thus, the subjects’ responses were collected either on individual counters or on a group counter. Difficulty was manipulated by using two contrast levels, making the signals either quite easy or more difficult to detect. Consistent with other social loafing research, at high contrast levels, when the task was easy, subjects whose scores could be individually identified outperformed (i.e., fewer misses and false alarms) subjects whose scores were combined, and therefore identifiably. However, with the brainwashing research, when the task was more difficult and challenging, there were no differences in performance due to identifiably.

3Once again, it could be argued that this performance equivalence was the result of the activity being so difficult that a floor effect prevented the emergence of any significant differences. Arguing against this interpretation is the finding that overall 77% of the 14 signals were detected. In addition, this level of performance was attained at the cost of an average of only four false alarms. To have performed reliably more poorly on the difficult task than the identifiable subjects who made 7.62 errors, the subjects who were told that their scores were not identifiable need only have made 11 or more errors (misses plus false alarms). So, although this task was more difficult than the easy one, there was still plenty of room for the unidentified subjects to have performed more poorly than the identifiable ones. Thus, no floor effect appears to be operating. An in Experiment 1, arguing against a ceiling artifact is

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Task uniqueness experiments. Taken together, the brainstorming and vigilance studies suggest that it may not be a feeling of a lack of identifiability or accountability alone that leads to social loafing, but also a feeling that one’s contribution is redundant (i.e., one’s “above average” talent is not required), that one’s performance does not represent a real contribution, and hence, there is no incentive for working hard. To test directly the roles of these two factors, we designed a study using the vigilance task in which the factors of interest were manipulated orthogonally. Identifiability was manipulated, once again, by keeping track of a group’s responses on one counter, or on a set of four counters, one per subject. Crossed with this manipulation, in one half of the groups all of the subjects were assigned a single quadrant of the TV screen to watch (same task), while in the other half of the groups, each individual was given his or her own quadrant to watch (unique task). Fourteen signals occurred in each of the quadrants but the time of occurrence of the signals within a given quadrant was completely independent of the time of occurrence in the other quadrants. So, when watching different quadrants, subjects could make a definite contribution, since if they did not report a signal, it went unreported. When everyone watched the same quadrant, any one of the subjects could see and report a signal.

To replicate previous research on identifiability (Williams et al., 1981), we would expect better performance by subjects whose performances were individually identifiable than by those whose outputs were combined on a single counter. However, if the opportunity to make a definite contribution provides sufficient motivation to reduce social loafing, subjects whose individual scores are identifiable but are assigned tasks requiring nonredundant responses should perform as well as identifiable subjects. Thus, if lack of identifiability alone is sufficient to produce social loafing, we should obtain a main effect for identifiability on performance. If the lack of an opportunity to make a definite contribution to the group effort is also necessary for social loafing, as the previous experiments suggest, an identifiability X task interaction would be expected.

The results of the study supported the latter hypothesis. Despite the fact that unique-task subjects felt no more identifiable than same-task subjects when their outputs were combined, the former subjects made fewer errors than the latter. In fact, the unique task subjects performed as well as same-task participants whose outputs were identifiable. These data are presented in Table 7-2. This pattern of results for the identifiable (1 counter) performance cells was replicated at a higher contrast setting. Thus, even though the subjects were performing a simple task and their responses were not identifiable, when they were responsible for monitoring a unique quadrant on the TV, no loafing occurred.

3Once again, it could be argued that this performance equivalence was the result of the activity being so difficult that a floor effect prevented the emergence of any significant differences. Arguing against this interpretation is the finding that overall 77% of the 14 signals were detected. In addition, this level of performance was attained at the cost of an average of only four false alarms. To have performed reliably more poorly on the difficult task than the identifiable subjects who made 7.62 errors, the subjects who were told that their scores were not identifiable need only have made 11 or more errors (misses plus false alarms). So, although this task was more difficult than the easy one, there was still plenty of room for the unidentified subjects to have performed more poorly than the identifiable ones. Thus, no floor effect appears to be operating. An in Experiment 1, arguing against a ceiling artifact is

the fact that if the identifiable subjects were operating at a ceiling, the unidentifiable subjects were at the same ceiling since their performances were not reliably different. Yet there was ample room for poorer performance (more errors than 11). In addition, as in the previous experiment, the a posteriori tests of the interaction means revealed that the subjects whose scores were unidentifiable performed as well on the difficult task as on the easy one, suggesting that these subjects put out greater effort on the former task than on the latter one.
Table 7-2. Combined Error Index as a Function of Identifiability and Task^a,b

<table>
<thead>
<tr>
<th>Task</th>
<th>Identifiable (4 counters)</th>
<th>Unidentifiable (1 counter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique</td>
<td>2.33^a</td>
<td>3.05^a</td>
</tr>
<tr>
<td>(4 quadrants)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same</td>
<td>2.73^a</td>
<td>6.08^b</td>
</tr>
<tr>
<td>(1 quadrant)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^a From Harkins & Petty (1982, Experiment 3).
^b Means that do not share a common subscript are reliably different by the Newman-Keuls procedure, p < .05.

To test the generalizability of this finding, we conducted a conceptual replication, using the brainstorming task with which we began. As in the previous experiment, subjects were told either that they alone would be working on their particular task or that others would also be taking part. In this case, as in the first experiment, the task was generating uses for an object. However, rather than writing all of the uses on a sheet of paper as in the first brainstorming experiments, the subjects wrote their uses on slips of paper and put them down cardboard tubes into a common box, so that (presumably) the uses could not be associated with their authors. If brainstorming works like vigilance, then even though their outputs are unidentifiable, subjects who believe that they have their own object should generate more uses than those who believe that they have the same object for which to generate uses as everyone else.

Subjects whose outputs were unidentifiable, but who were told that they each had a different object, generated more uses than subjects whose outputs were unidentifiable but were told that they were generating uses for the same object as everyone else. Different-object subjects believed that the experimenter could tell exactly how well they performed to the same extent as same-object subjects, so that differential perceptions of identifiability do not provide a plausible interpretation for the major finding. These results are consistent with those obtained using the vigilance task. Perceptions of need are sufficient to reduce loafing even when one's contribution remains completely anonymous.4

Summary and conclusions. In summary, the experimental designs used in previous research on social loafing have incorporated several features that could account for the observed reductions in individual effort when groups were assigned responsibility for a task. Williams et al. (1981) have shown that one such feature is that in these studies the participants’ outputs are combined. However, in addition to eliminating the potential for individual evaluation, the loafing manipulation in previous studies has also required subjects to work with others on the same simple task. The brain...

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Storming and vigilance studies reviewed here suggest that these task characteristics may also contribute to the loafing effect, and that loafing may be reduced by giving group members the impression that they can make a definite contribution.

Our series of studies shows that working with others on an evaluative task can lead to reduced effort, which, in turn, can affect persuasion by affecting the amount of thinking about the message content. Importantly, our research shows that these effects are above and beyond any effects attributable to the actual presence of others. Having found support for the notion that social context (i.e., the number of people evaluating a message) can influence the persuasion process, we now turn to the opposite side of the coin: the effects of multiple sources on a single target.

Multiplication of Impact

Research from several areas is consistent with the notion that increasing the number of message sources may lead to increased persuasive impact. For example, conformity pressures resulting from knowing that others support a position often lead to movement toward that attitude position simply as a result of normative influence (cf. Krech, Crutchfield, & Ballachey, 1962). Also, multiple sources may generate different arguments to support their position, and research shows that increasing the number of arguments used in a persuasive message leads to enhanced persuasion (Calder, Insko, & Yandell, 1974). Thus, multiple sources might be expected to be more persuasive as a result of conformity pressures and/or the different arguments the sources might generate. In fact, it may be that this research on conformity and number of arguments led to limited interest in the effects of multiple sources since it may have appeared that the effects of this variable were already well-documented.

However, in the previous research, actual exposure to persons or their arguments has been confounded with the mere knowledge that the persons or arguments existed. That is, subjects have been exposed either to the positions of one or multiple sources, or to one or multiple arguments, but subjects in the one-person or one-argument conditions have not explicitly been informed that multiple sources or multiple arguments also existed supporting the advocated position, and that they might be exposed to these sources and arguments. Thus, it was not possible to determine whether the information about the number of sources or number of arguments to which they might be exposed would have been sufficient to lead to attitude change, or if actual exposure was required for persuasion to occur.

From a social impact theory perspective (Latané, 1981), it is clear that one would predict that increasing the number of sources should increase persuasive impact, but it is less clear what the theory would predict with regard to increasing the number of different arguments or the effects of actual exposure versus mere knowledge of the number of sources and arguments involved. From a cognitive response theory perspective, it is clear that increasing the number of good arguments should lead to more persuasion, but increasing the number of poor arguments should lead to less persuasion. The effect on persuasion of increasing the number of sources would be determined by how increasing the number of sources affects mes...
sage processing. Increasing the number of sources might plausibly increase a person's motivation to think about the arguments presented, or conversely, might distract a person from doing so.

Number of Sources and Attitudes

In an initial study designed to explore the effects of multiple sources and arguments (Harkins & Petty, 1981a), we exposed subjects to one or three arguments presented by one or three sources, but held constant background information about arguments and sources by telling all of the subjects that we had videotaped three people who advocated a particular position. Subjects were further told that each of these people had generated three arguments on the issue and that they might be exposed to these people and their arguments. This allowed a test of whether actual exposure to sources or arguments had persuasive impact beyond that achieved by the mere knowledge of the number of sources and arguments to which they might be exposed. In addition two control groups were included: an "information only" control group in which subjects were given the same background information as the other subjects but responded to the dependent measure without exposure to the sources and their messages; and an "attitude only" control group in which subjects gave their opinions on the topic without receiving any information about the existence of the sources or their arguments. As shown in Table 7.3, the "information only" manipulation was sufficient to yield more favorable attitudes than those held by the "attitude only" subjects. In fact, only when participants were exposed to multiple sources delivering multiple arguments were they more persuaded than subjects in the "information only" condition. Exposure to a single source presenting a single argument, to multiple sources who gave different versions of the same argument, or to multiple arguments given by the same source led to no more persuasion than that resulting from the background information about persons and arguments. In addition, subjects did not differ by condition in the proportion of presented arguments that they could recall, or in their estimates of the percentage of their peers they thought would support the proposal.

This pattern of results is consistent with two plausible alternative explanations. One possibility is that subjects, seeing three different sources independently generate three different, yet convincing, arguments, conclude that a large pool of good arguments in favor of the advocated position must exist, and so, it must be a position worth supporting. Subjects seeing three sources each present a variation of the same argument, or a single source (who would be motivated to avoid repeating an argument) present different arguments, would have less reason to come to this conclusion.

A second, cognitive response interpretation would suggest that subjects who are exposed to multiple sources presenting multiple arguments process the content of the message more thoroughly than subjects in the other conditions. That is, each time a source appears, the subject "gears up" to process the message. If it is a new source, and a new argument, the target thinks about the argument's implications and since the arguments are sound, favorable thoughts and persuasion result. However, if the same source appears again, even though with new arguments, the target may put less effort into thinking about the argument since this source has been heard from already. Likewise, if new sources are presented, but with the same arguments, little additional processing takes place. After all, the target has heard the argument before. Consistent with this interpretation, multiple-source/multiple-argument subjects generated more favorable thoughts concerning the advocated position than subjects in the other conditions (see Table 7.3). These two possibilities were tested in a second experiment (Harkins & Petty, 1981a, Experiment 2) in which one condition subjects were led to believe that the arguments that were presented exhausted the pool of good arguments in favor of the position. In this condition, the argument-pool explanation would predict no persuasive advantage resulting from multiple sources presenting multiple arguments, since the argument pool was limited to the number of arguments presented. Although manipulation checks revealed that the argument-pool induction was successful, limiting the argument pool did not reduce persuasion. Multiple sources presenting multiple arguments were still more persuasive than single sources presenting the same information. These results are consistent with a processing interpretation since limiting the size of the argument pool should not affect one's cognitive responses to the arguments that are actually presented. The cognitive response interpretation received further support from the results of a third experiment (Harkins & Petty, 1981a, Experiment 3) in which number of sources and argument quality were jointly manipulated. Subjects exposed to three sources presenting three con-

<table>
<thead>
<tr>
<th>Condition</th>
<th>Attitude</th>
<th>Positive Thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-person-three-argument</td>
<td>1.88</td>
<td>3.75</td>
</tr>
<tr>
<td>Three-person-one-argument</td>
<td>0.30</td>
<td>2.20</td>
</tr>
<tr>
<td>One-person-three-argument</td>
<td>0.04</td>
<td>1.85</td>
</tr>
<tr>
<td>One-person-one-argument</td>
<td>0.03</td>
<td>1.50</td>
</tr>
<tr>
<td>Information control</td>
<td>0.12</td>
<td>1.95</td>
</tr>
<tr>
<td>Attitude control</td>
<td>-2.38</td>
<td>0.70</td>
</tr>
</tbody>
</table>

\*From Harkins & Petty (1981a, Experiment 1). Means that do not share a common subscript are significantly different at the .05 level by the Newman-Keuls procedure.
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would disappear because subjects would no longer give enhanced scrutiny to the multiple-source arguments. We tested this notion by replicating the multiple-source/multiple-argument and single-source/multiple-argument conditions of Harkins and Petty (1981a) and adding a multiple-source/multiple-argument condition in which the subjects were informed that the sources had formed a committee to research the issue. In the latter condition, subjects were told that the arguments generated were the result of the committee's joint efforts. As shown in Table 7-4, the data for the two replication cells duplicated previous findings: multiple-source/multiple-argument subjects generated more positive thoughts and were more persuaded than single-source/multiple-argument subjects. However, when told that the sources had colluded in the generation of their arguments, this persuasive advantage disappeared.

The committee subjects were no more persuaded than single-source subjects. Thus, the persuasive advantage of having multiple sources present cogent arguments disappeared when the sources were perceived as nonindependent.

Further evidence consistent with the independence hypothesis comes from Wilder's (1977) conformity research in which he has found that the manner in which the sources of influence are grouped affects the amount of social influence that they exert. For example, when subjects perceive four people as two groups of two, these two entities exert greater social influence than when they are categorized as one group of four. That is, to the extent that the sources of influence are perceived as nonindependent, their influence is diminished.

However, while we suspect that nonindependence leads to reduced processing and less persuasion (if the arguments are cogent), this lack of independence could lead to reduced persuasion through an alternative route. It could be argued that when the target knows that the sources formed a committee to look into the issue, he or she could feel less confidence in the committee's judgment. Goethals and Nelson (1973) have shown that for matters of belief, greater confidence in the correctness of a judgment is inspired by agreement from dissimilar rather than similar others. Reckman and Goethals (1973) have shown that when emphasis is placed on accuracy of judgment, participants show a preference for partners whose interpersonal judgment styles are dissimilar from their own. As Goethals and Nelson (1973) note: "the greater the difference in perspectives converging on a judgment, the more confidently that judgment can be held" (p. 122). Of course, similarity/dissimilarity in their study referred to the degree of difference between a person him/herself and another, but the same process could operate when a target faces multiple

Table 7-4. Means for Attitudes and Positive Thoughts Measures in Committee Study 1

<table>
<thead>
<tr>
<th>Condition</th>
<th>Attitude</th>
<th>Positive Thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-person – Three-argument</td>
<td>.93\textsuperscript{a}</td>
<td>3.18\textsuperscript{a}</td>
</tr>
<tr>
<td>One-person – Three-argument</td>
<td>-.30\textsuperscript{b}</td>
<td>2.09\textsuperscript{b}</td>
</tr>
<tr>
<td>Committee</td>
<td>-.63\textsuperscript{b}</td>
<td>1.64\textsuperscript{b}</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Means that do not share a common subscript are significantly different at the .05 level by the Newman-Keuls procedure.
sources, who seem similar or dissimilar. Thus, the committee manipulation could lead to the inference that there is a commonality of perspective, resulting in reduced persuasion. Independent sources could lead to the perception of different perspectives converging on the same judgment, yielding greater confidence in their judgment.

Of course, this explanation, unlike ours, does not depend on differences in processing to account for differences in persuasion. Differences in the inferences made about the independence of the sources' judgments are sufficient to account for the differences in agreement. If this inferential process alone accounted for our pattern of results, the order in which the subjects were exposed to the information about whether the sources were independent or had formed a committee and the persuasive messages should not make a difference. That is, learning that the sources formed a committee after exposure to the persuasive messages should lead to the same outcome as if they had received the information prior to exposure, since the same inferences could be made in either case. If differential processing plays a role, as we suspect, the order of presentation of the source information is crucial in that only when the committee manipulation comes first could it influence the processing of the persuasive messages. If presented afterwards, it should not matter since the processing has already taken place. We tested this possibility by utilizing a pre-post design in which all of the subjects were exposed to multiple sources presenting multiple arguments, but half were told of the independence or nonindependence of the sources prior to exposure to the arguments, and half were informed subsequent to exposure to the arguments, but prior to responding to the dependent measures.

Consistent with the processing interpretation, the persuasiveness of multiple sources presenting multiple arguments was reduced only when the committee manipulation preceded exposure to the arguments. Learning that the sources had formed a committee after exposure to the arguments resulted in as much persuasion as that following from exposure to independent sources. Thus, it does not appear that simple inferences about the judgmental independence of the sources alone can account for the differences in persuasion. It could well be, however, that these inferences do play a role by motivating more or less processing which, in turn, depending on argument cogency, enhances or diminishes persuasive impact.

We have focused on one aspect of the committee manipulation: that is, members of a committee may be seen as sharing a perspective and this lack of independence in judgmental perspective may lead the subjects to process their messages less diligently. However, other aspects of the committee manipulation could also result in elimination of the multiple-source effect. Most simply, perhaps by labelling the multiple sources as a "committee," they are all viewed as the same source. Subjects would, therefore, respond just as they do to single sources presenting multiple arguments. Alternatively, the subjects may be influenced by their perceptions of how committees work. They may feel that certain points of view are likely to be suppressed in committees, and so, the unanimity expressed by the sources may be the result of an active campaign to bring recalcitrant committee members into line, rather than an expression of a shared perspective. If subjects believed this, they might think less about the arguments since they could not be sure that the views reflected the sources' true feelings. In addition, subjects could feel that independent sources might have been more diligent in forming their opinions than sources who

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are members of a committee, who share the responsibility for adopting a position on the issue. Since less thought went into it, the committee members' joint position may be less worthy of thought than the positions of the sources who arrived at their conclusions independently. Although it is not yet clear what aspect of the committee manipulation is responsible for eliminating the multiple-source/multiple-argument effect, it does appear that people are less likely to think about information that comes from committees than from independent individuals.

General Discussion

Taken together, our series of studies suggests that the social context does have important and systematic effects on the persuasion process, and in both the division and the multiplication situations, these effects appear to be mediated by the amount of cognitive effort the targets are motivated to put into processing the content of the persuasive communications received. When targets share the responsibility for evaluating persuasive messages with others, they appear to put out less effort than when they are solely responsible. When participants are the target of a persuasion attempt by multiple sources, each of whom contributes a different argument, they appear to put out greater effort than when they are exposed to a single source, even though in the latter situation, the participants have heard the same arguments and have learned about the other sources.

However, the processes that lead to the expenditure of this effort are quite different for targets and sources. In the diffusion situation (i.e., multiple targets), sharing responsibility for the same easily accomplished tasks leads the participants to feel that they cannot make a unique or worthwhile contribution, and so, they reduce their efforts. The more important, challenging, or difficult the evaluation task is, the less likely it is that group responsibility will lead to reduced effort. In the multiplication situation (i.e., multiple sources), exposure to several people who present different arguments leads to enhanced effort as long as the sources are seen as independent. The greater the perception of dependence or collusion among the sources, the less likely it is that multiple sources will lead to enhanced effort.

Despite these differences, the process that links effort and persuasion appears to be the same for multiplication and division situations: Persuasion is a function of the number and nature of cognitive responses elicited. Greater effort leads to an enhanced appreciation of the merits and/or flaws of a communication and reduced effort leads to a diminished appreciation. Thus, if the communication consists of cogent arguments, their consideration by multiple targets will lead to less appreciation of these merits and less persuasion than if this evaluation were conducted by a single target. The opposite occurs for messages consisting of specious arguments since the group evaluators, putting less effort, are less aware of the message flaws than the individual evaluators and are therefore more persuaded. Similarly, the greater effort elicited by multiple independent sources presenting multiple independent arguments leads to enhanced persuasion only when the arguments are cogent. If they are not, the greater cognitive effort elicited by multiple sources leads
to even less persuasion than that occasioned by exposure to the same arguments presented by a single source.

In this research, we initially restricted our focus to investigating the divisive and multiplicative force fields suggested by Latane's (1981) theory of social impact. In addition to providing a conceptual framework, the theory also makes predictions concerning persuasion in these situations that we were able to test. A clear finding from our research was that under appropriate conditions, increasing the number of sources could increase the amount of cognitive effort put out by the targets, and increasing the number of targets could decrease the amount of effort they exerted. However, although these effects may be consistent with social impact theory, as noted previously, the processes that mediate effort in response to sources and targets appear to be quite different. Social impact theory is not meant to provide any insights concerning mediating processes, but its silence in this regard also means that it provides no clue as to what factors might interact with source and target manipulations to influence effort. If the mediating process were the same for both targets and sources, one could be more sanguine about the predictive utility of social impact. Importantly, social impact theory does not fare well in predicting persuasion. When the arguments making up the message were cogent, multiple sources and multiple targets did lead to enhanced and diminished persuasion, respectively. But, when the arguments were specious, exposure to multiple sources and multiple targets led to diminished and enhanced persuasion, respectively. These findings suggest that, at least when it comes to persuasion, simply knowing that the number of sources or targets has increased will not allow one to make persuasion predictions. Number manipulations, whether of sources or targets, do not seem to have simple, unitary effects on persuasion.

As a means of predicting the persuasion effects, we made use of the cognitive response model (Petty et al., 1981), which predicts that persuasion occurs primarily as a result of increases or decreases in a person's motivation and/or ability to think about the arguments that are presented. Our findings suggest that the source and target manipulations affect the participants' motivation to process the message arguments, and it is this motivation to think about the message arguments that mediates persuasion. The cognitive response model appears to provide a viable account of the persuasion findings that result from manipulating the number of sources and recipients of a persuasive message.

While the outcomes of these studies seem promising, a number of unresolved issues remain. For example, questions may arise as to the generalizability of these findings. For example, feeling that one can make a contribution apparently reduces the diffusion (loafing) effect, and there are probably a number of ways that this impression could be given. If participants were given a persuasive message composed of passages that appeared complex or difficult to understand, people may feel that they could make a contribution since they are likely to believe that they are better able to understand and evaluate the arguments than the average person. Similar outcomes may be obtained if participants felt that they knew more about a particular issue than other group members. Other manipulations may also reduce loafing. For example, when exposed to persuasive communications on issues that are highly personally involving, participants may not loaf, since it is important to have a veridical opinion on these issues. These possibilities suggest that the diffusion effect has low generalizability since there may be a number of factors working against it.

In general, however, persuasive messages are meant to be easily understood, and, given the large number of potential issues, there is little reason to believe that most people feel very knowledgeable about or personally involved in many of them.

It is also the case that in the diffusion studies, we explicitly combined the products of the participants. How often does this occur in the "real world"? First of all, there are a number of situations in which this happens. For example, juries are given joint responsibility for their decisions and the same is true of many committees. Most often, when people listen to political candidates, it is in anticipation of voting rather than filling out individual attitude questionnaires, and all votes are combined to determine the election winner. Even if there is no explicit combinatorial rule, people may still feel shared responsibility and put less effort into their evaluations when they are with others. For example, when part of a group that is listening to a persuasive communication, an individual may feel that the responsibility for evaluating the position is implicitly shared with the other members of the group, and diffusion of effort could occur.

The findings for multiplication of effort as a result of exposure to multiple sources also have implications for many persuasion settings. Our findings suggest that actual exposure to multiple sources can have persuasive effects beyond those following from simple exposure to information about the number of sources and arguments, and that this additional persuasive impact is the result of enhanced processing on the part of the targets. In addition, however, our research suggests the conditions under which exposure to multiple sources will not result in enhanced persuasion. For example, in the courtroom or in advertising our data suggest that any connection among the sources or their arguments will render exposure to the sources and their arguments no more efficacious than simple knowledge that they and their arguments exist. That is, if the jury perceives the defense witnesses as an entity rather than as separate sources, as is likely to be the case, the defense might be as well served to present one witness who delivers all the information and to point out the existence of the other witnesses. If potential consumers of a product see the participants in man-on-the-street interviews as truly independent, this technique would be useful. However, this perception may be unlikely given the obvious sponsorship by the responsible company. Furthermore, even if these sources were seen as independent, their advocacy would be no more effective than that of a single source, unless they generated different reasons for their use of the product.

Another problem is that cognitive effort is a central concept in our model, but we have no direct measure of it. We have used self-report measures in some of our research, and the results have been consistent with our effort interpretation. More convincing are the cognitive response data we have collected. Given the limited amount of time that participants are given to list their thoughts, we would not expect, nor have we obtained, differences in the total number of thoughts generated, but the pattern of thoughts generated has been consistent with the effort hypothesis. This interpretation is all the more convincing given the strong-weak argument
manipulation. Just as one would expect if more effort were expended in thinking about the arguments, multiple-source/multiple-argument and single-target participants generate more favorable thoughts than the single-source or multiple-target participants in response to cogent arguments, but more unfavorable thoughts in response to specious ones. Nevertheless, a direct measure of cognitive effort would be valuable. Kahneman (1973) has suggested pupillary dilation as the single best index of mental effort, since it appears to be sensitive to both between-tasks differences in difficulty and within-task variations in effort (see also Beatty, 1982). In future research we will attempt to use a measure such as this to provide additional corroborative evidence.

As we noted in introducing our program of research on number of sources and targets of persuasive influence, we have restricted our focus in a number of ways in order to reduce the complexity inherent in many social situations. For example, in our research participants were always the targets of an influence attempt, never the sources; messages originated from outside rather than inside the group; groups were composed of unfamiliar people rather than acquaintances; and the number of people physically present in group and individual conditions was always held constant. Interestingly, the setting used in research on group polarization effects (cf., Lamm & Myers, 1978) incorporates many of the complex features that we have omitted in our research. In group polarization research, participants typically respond to some attitude item individually, and then participate in a group discussion. In this group discussion, when participants give their reasons for endorsing a given position, they are acting as the sources of a persuasive message. Additionally, in this research, the messages originate from within the group, and participants are one of multiple targets who are the recipients of multiple arguments from multiple sources. Thus, each participant acts as both a source and a target of persuasive influence. The major outcome of this kind of research is that after discussion, the average group attitude rating is more extreme than the average of the group's prediscussion ratings. That is, whatever initial tendency there was tends to be accentuated by group discussion.

One might think that this polarization tendency is opposite to what would be expected on the basis of our diffusion research. After all, in some sense the group shares responsibility for an evaluation of the attitude topic, so "why wouldn't they loa?" Viewing this question from the perspective suggested by our research, however, makes quite clear the complexity of this setting. Participants are not only targets, they are also sources themselves and the targets of multiple sources. In addition, whatever effects actual presence might have (e.g., distraction) could also play a role.

This analysis suggests that polarization could result from the operation of multiple processes, some of which may be working in opposition to one another, but at differing strengths. We feel that a research strategy in which the various components of this setting are considered separately, as well as together, will maximize the likelihood that a thorough understanding of such phenomena will be achieved. Our research already suggests that a more fine-grained analysis of the group interaction would be fruitful. For example, our source findings would suggest that the mere number of people in the group or the mere number of different arguments expressed in the group discussion would not be as powerful a determinant of attitude polarization as the number of different arguments that are expressed by different people.

Additional research is required to test the generality of the effects we have obtained and to extend this work to other aspects of persuasion settings, but the research reported here suggests the utility of such an effort. Clearly, the number of sources and targets of a persuasion attempt have attitudinal effects beyond those predictable by previous research and these effects have considerable implications for persuasion attempts in naturally occurring settings.

References


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