Chapter 10

Strategies of Change: Active Participation

Use of active participation as a means of bringing about change has taken many different forms, such as contact and interaction with other people, choice between several alternatives, a public speech in favor of some position, or performance of some other behavior. It is usually expected that experiences of this kind will produce changes in beliefs, attitudes, intentions, and behavior.

The notion that active participation is more effective as a means of bringing about change than passive exposure to information has been investigated in many different areas of social psychology. Perhaps the best-known example is Lewin's (1947) pioneering work in which certain methods of group decision were compared to lecturing and individual treatment as a means of changing social behavior. Although Pelz (1955) later showed that active participation was not a factor responsible for the superiority of group decisions, the facilitating effects of active participation in group discussions continue to be studied by investigators interested in group processes. Much of this research falls outside the realm of the attitude area; readers interested in problems of group process and decision making are referred to Cartright and Zander (1968), Collins and Guetzkow (1964), Davis (1969), and Steiner (1972).

Most studies have been concerned with the factors that influence the amount of change produced by active participation. Numerous variables have at one time or another been proposed, and the degree to which they mediate the effectiveness of active participation has been investigated. For example, it has been suggested that the effects of interpersonal contact on racial prejudice depend on the relative status of the different ethnic groups involved, on the intimacy of contact, on the degree to which the contact is pleasant or rewarding, and on the importance of the interaction (see Amir, 1969). Similarly, it has been suggested that the persuasive effects of performing a behavior in apparent contradiction to one's own atti-

tude or belief are mediated by the amount of reward anticipated, by the degree of commitment to the act, and by the extent to which the behavior was performed voluntarily (e.g., Festinger and Carlsmith, 1959; Holmes and Strickland, 1970).

Implicit in this strategy of change is the assumption that active participation provides the actor with an opportunity to acquire new information. The participation experience thus provides the basis for change in "attitudes" (opinions, prejudice, intention, or interpersonal actions). It is worth noting that certain manipulations (status of the participants, intimacy of the relations, etc.) may influence not only the extent to which the interaction produces change, but also the nature of the interaction itself. Our conceptual framework suggests a similar but somewhat more complex process.

An Alternative Model of Active Participation

An interaction experience allows the participant to directly observe various objects, people, and events. The situation entails a large number of informational items, i.e., a large number of object-attribute links. Each informational item corresponds to a *proximal belief*. Since a person rarely questions his own observations, the participation experience is likely to produce changes in many of these proximal beliefs, although the person can obviously not observe each and every item of information to which he is exposed. In most active participation situations, the individual will perceive that certain people and objects are present in the environment, and he may observe that they possess certain attributes; he may also observe some of the behaviors performed by individuals in the situation, including his own behavior; further, he may perceive contingencies between these behaviors and certain outcomes. It can thus be argued that the actor, by virtue of his participation in the behavioral situation, acquires new descriptive beliefs about himself, about other people, about the consequences of his own or others' behaviors, and about his environment—or that he changes some of his existing descriptive beliefs.

The effect of these changes on any particular dependent variable, however, is an empirical question. As we saw in Chapter 9, the proximal beliefs attacked in an influence attempt need not be related to the dependent variable under investigation. That is, changing proximal beliefs may fail to produce changes in primary beliefs. Moreover, changes in proximal beliefs may have impact effects on relevant external beliefs, thereby producing unexpected changes in primary beliefs and dependent variables.

Figure 10.1 applies our general model of an influence attempt (see Fig. 9.5) to the active participation strategy. The effects of active participation on a primary belief can be traced through a number of mediating processes. As noted, a participant observes some of the informational items contained in the situation, and since he usually accepts his own observations, this leads to changes in certain proximal beliefs. Through various inference processes, changes in external beliefs may also occur. These changes in proximal and external beliefs may then influence

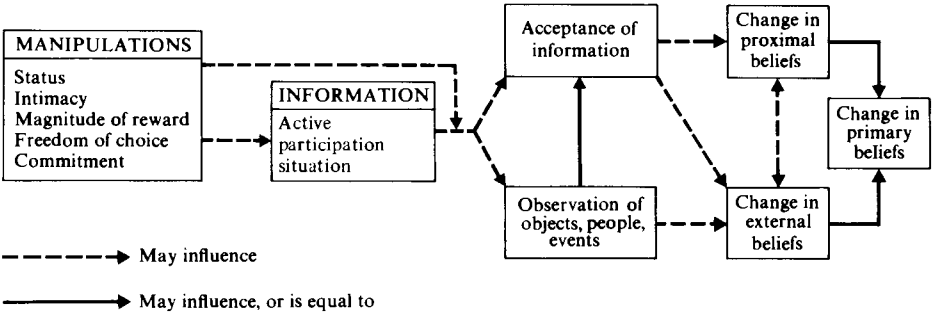

Fig. 10.1 Schematic presentation of active participation process.

primary beliefs. As a result, the desired change in the dependent variable should occur.[1] (See Fig. 9.4.)

Figure 10.1 also illustrates the possible effects of an experimental manipulation. The broken arrow leading to information indicates that certain manipulations may change the nature of the interaction itself, thereby exposing subjects in different conditions to different items of information. In addition, the manipulation may direct the participant's attention to some items of information rather than others, and it thus may influence amount of change in proximal and external beliefs. The manipulation may also provide information that is not part of the active participation situation. For example, prior to entering the situation, the participant may be promised a $5 reward in one condition and a $1 reward in another. Alternatively, some subjects may be led to believe that they are freely choosing to participate, and others may be led to believe that they have no decision freedom with respect to participation. The beliefs formed on the basis of the manipulation have often been treated as target beliefs in investigations of active participation. For example, the belief "I performed the experimental task voluntarily" has served as a target belief assumed to lead to the inference "I enjoyed the task" or "The task was interesting."

Controlling information and specifying target beliefs. In terms of the paradigm developed above, an influence attempt using active participation would ideally begin by specifying the *target beliefs* that are assumed to directly or indirectly influence the dependent variables. The next step would be to identify a set of *proximal beliefs* which, if changed, would produce the desired effects on target beliefs. At this stage the investigator is confronted with the difficult task of devising a situation in which the participant is exposed to informational items that directly attack the relevant proximal beliefs.

The reason this task is often very difficult is that the investigator may not

1. Although active participation may produce changes in *irrelevant* proximal and external beliefs, we have deleted these effects from the diagram for ease of presentation. Further, recall that any belief in this sequence may serve as a target belief.

have sufficient control over the ongoing interaction to ensure that participants will be exposed to the desired information. Thus, if the investigator studies the effects of interracial contact in a natural setting, such as a public housing project, the participants may never be exposed to certain informational items needed to produce changes in selected proximal beliefs. Further, various events may occur in the course of interracial interactions that expose participants to information which either prevents the desired changes or produces undesired changes in proximal beliefs. Moreover, even though the participants may be exposed to the desired information, there is no assurance that they will observe each relevant item of information. Clearly, then, it may sometimes be difficult to ensure that the active participation experience will result in observations producing change in the desired proximal beliefs, or even to specify the proximal beliefs that are directly attacked by the information to which participants *are* exposed.

At a minimum, however, the investigator should always be able to identify the target beliefs assumed to directly or indirectly influence the dependent variables that are to be changed, and to assess the effects of the active participation experience on these target beliefs and on the immediate determinants of the dependent variable. Unfortunately, in most studies not only is it difficult to identify the informational items to which subjects are exposed, but it is also impossible to specify the beliefs that were selected as target beliefs by the investigator.

The problem of influencing a specified set of target or proximal beliefs is related to the degree to which the investigator has control over the situation. Whenever he has less than complete control over the situation, subjects within the same experimental condition may be exposed to markedly different items of information. Indeed, the four main lines of investigation employing an active participation strategy are characterized by different degrees of control over the information presented. The amount of control increases as one moves from interpersonal contact to role playing, to counterattitudinal behavior, and finally, to choice situations.

INTERPERSONAL CONTACT

It is often assumed that interpersonal contact tends to produce more favorable interpersonal relations. Interaction between members of different races, for example, is expected to lead to a reduction in prejudice. "This view, which seems to be held rather commonly, is exemplified in the explicit or tacit objectives of various international exchange programs: student exchanges or those of professional people, organized tours and visits to foreign countries, . . . international seminars, international conferences and exhibitions, Olympic games—all these—are often thought to be effective because of the opportunities for contact they afford." (Amir, 1969, p. 320) The increased popularity in recent years of sensitivity training and encounter groups also seems to be based on the premise that interactions of this kind will reduce interpersonal tensions and generally lead to improved interpersonal relations.

In a review of research on the contact hypothesis in racial relations, Amir (1969) concluded that contact between members of different ethnic groups tends to produce some change in attitudes. However, interracial contact does not always have an effect; and if it does have an effect, it does not always serve to improve relations. Instead, contact is often found to increase rather than decrease prejudice (cf. Fishbein and Ajzen, 1972). "The direction of the change depends largely on the conditions under which contact has taken place; 'favorable' conditions tend to reduce prejudice, 'unfavorable' ones may increase prejudice and intergroup tension." (Amir, 1969, p. 338)

From our point of view this conclusion is of course not unexpected. In studies on the effects of interracial contact on prejudice, subjects are usually exposed to a wide range of interpersonal experiences over which the investigator has relatively little control. Since subjects in a given study are exposed to different items of information, it is difficult, if not impossible, to identify the proximal beliefs that are influenced by the contact experience. It is not at all clear what new beliefs the subject may be expected to form or which of his existing beliefs are likely to change. There is no assurance, therefore, that interracial contact will produce changes in primary beliefs that are related to the dependent variable under investigation. Further, since the investigator has little direct control over the kind of information his subjects receive, it is possible for these primary beliefs to change in an undesirable direction. Thus a moderately prejudiced person may actually come to hold an even more negative attitude toward a given minority group if in the course of interpersonal contacts with members of the group in question he acquires unfavorable beliefs about them.

Clearly, then, some contact situations favor the development of positive beliefs, and others lead to the formation of negative beliefs. When these beliefs are related to the dependent variables under investigation, favorable or unfavorable effects may be observed. Consider, for example, a white person who is induced to interact with blacks. Various kinds of descriptive and inferential beliefs may be formed as a result of this interaction. Depending on the social status, education, and personality characteristics of the particular blacks with whom he interacts, the white may come to believe that these blacks are intelligent or stupid, polite or rude, cooperative or uncooperative, educated or uneducated, etc. As discussed in Chapter 6, formation of such beliefs about the black persons in the interaction situation will then lead to more favorable or more unfavorable attitudes toward these black individuals.

By the same token, the white person may develop new beliefs about the consequences of certain behaviors with respect to these particular blacks and about the expectations of other people, i.e., normative beliefs. Thus he may learn that interacting with some blacks leads to favorable or unfavorable consequences in the immediate situation. He may also learn that his friends or his family approve or disapprove of such contacts. We saw that changes in beliefs about the consequences of a behavior may influence the person's attitude toward the behavior. Since behavioral intentions are determined by attitude toward the behavior and

by subjective norm (see Chapter 7), interpersonal contact may either increase or reduce intentions to continue to interact with the black persons in question.

It is unfortunate that studies on the effects of interpersonal contact have not systematically investigated the immediate influence of such contact on a person's beliefs about the other participants, about the consequences of his own behavior, or about the expectations of relevant reference groups. To illustrate the importance of paying more attention to the formation and change of such beliefs, it may be instructive to examine in some detail one of the few controlled laboratory investigations concerned with the effects of contact on racial attitudes.

Cook (1970) recruited female college students for what they believed would be a part-time job. The students were first given various tests, including three measures of attitude toward Negroes. On the basis of this pretest, 23 subjects were selected who consistently expressed an anti-Negro attitude on all three instruments. The subjects were then asked to work two hours a day for a month on a simulated management game involving an imaginary railroad system. Each subject interacted with two female confederates, one white and the other black. At the end of the month subjects were given some further experience with blacks when they were asked to interview five students (including two blacks) who were ostensibly applying for the same job the subject had just completed. One to three months later, subjects were again asked to respond to three instruments measuring general attitudes toward Negroes; scores on the three measures were summed, and the sum served as the major dependent variable. The results showed that only eight of the 23 subjects (35 percent) changed their attitudes toward blacks in a favorable direction. One subject became more unfavorable, and the remainder exhibited no appreciable change.

It is of interest to note that in this study Cook attempted to create conditions that would be optimal for attitude change as a result of the contact experience. Consistent with conclusions reached by other investigators (e.g., Allport, 1954; Amir, 1969), Cook attempted to make sure that the following conditions were met: (1) The role of the black confederate in the simulated game provided her with a status equal to that of the white subject. (2) The participants were mutually interdependent in attempting to attain the task goal. (3) The black confederate (as well as the two black "interviewees") behaved in a friendly, able, ambitious, and self-respecting manner. (4) During breaks, subjects received rather intimate information about the black confederate. (5) The white confederate expressed sympathy for the black coworker, thereby providing normative support for favorable attitude change. The data reported by Cook fail to explain the fact that in spite of the great care taken to optimize the conditions of contact, the majority of the subjects did not change their attitudes toward Negroes.

An analysis of this experiment from our perspective suggests a number of possible explanations. Perhaps the most serious problem concerns the relevance of the contact experience for the dependent variable under investigation. The expressed purpose of the study was to change attitudes toward blacks, and the dependent variable was indeed a measure of attitude toward blacks in general. The

appropriate target beliefs for such an influence attempt would be beliefs that blacks possess certain attributes and beliefs about those attributes. Thus the active participation experience should have provided information that could directly or indirectly produce changes in such beliefs. Had Cook measured changes in these primary beliefs, he might have found that for most subjects the contact experience did not have the desired effects. The interracial contact in this experiment exposed participants to considerable information about one particular black person (the confederate) and to limited information about two other blacks (the interviewees), but it did not provide any direct information about blacks in general. Thus the proximal beliefs attacked by the contact experience were for the most part beliefs about three particular black individuals. Had the dependent variables been measures of attitudes toward the specific black persons with whom the subject interacted, significant changes might have been obtained, even though the general attitude measure showed no effects. In other words, for many subjects the proximal beliefs addressed by the interpersonal contact experience may have been unrelated to the primary beliefs underlying their attitudes toward blacks in general. The fact that at least some subjects indicated a change in general attitude toward blacks indicates the presence of inference processes linking beliefs about a given member of a class to the class in general. The results of the experiment suggest that relatively few subjects made such inferences. It appears that in this study there was a low probabilistic relation between beliefs about specific individuals and beliefs about the class to which they belong.

These considerations imply that interpersonal contact is likely to produce change in beliefs, attitudes, intentions, and behaviors with respect to an ethnic, religious, or national group only when participants come in contact with a relatively large number of individuals who are clearly identified as members of that group. Unfortunately, these are precisely the kinds of situations in which the investigator has little control over the information available to participants and in which undesired as well as desired changes therefore tend to occur.

ROLE PLAYING

Interpersonal contact is often assumed to produce attitude change and improve relations because it provides individuals with an opportunity to get to know each other, to appreciate and perhaps to accept the other's point of view. On the basis of the same premise, it has also been argued that a person would be likely to exhibit attitude change if he was induced to play the role of someone holding opinions which do not correspond to his own. Perhaps the first use of role playing as a means of bringing about change is associated with Moreno's (1946) therapeutic approach known as psychodrama. Moreno's patients were asked to recreate problem situations in their lives by acting out their own roles or those of other people in those situations. The role playing experience was assumed to provide deeper insight into one's own motives, feelings, projections, and thoughts. As a result, the role player's beliefs, attitudes, and behaviors were expected to change. Be-

cause of its assumed therapeutic value, role playing was later used in a variety of other settings. For example, the technique is still very popular in management training programs, where supervisory personnel are asked to take the roles of workers or union leaders. These experiences are expected to alter the manager's perception of himself and his subordinates and therefore to improve management-labor relations (cf. Maier, 1952). In another application, Sarason (1968) has developed a program of role playing therapy for juvenile offenders. Despite the widespread interest in role playing, J. S. Wiggins *et al.* (1971) noted that "data from well-controlled studies on the success of role playing as a therapeutic method are as yet unavailable" (p. 428).

Since it is assumed that enacting the role of another person facilitates changes in an individual's views of himself, other people, and events, role playing has attracted the interest of investigators studying attitude change. A good example of this approach is a recent study by Clore and Jeffery (1972), who asked subjects to play the role of a handicapped student. A subject was seated in a wheelchair, instructed to wheel himself across campus to the student union, where he was to get a cup of coffee, and then to return to the laboratory. Subjects in a second group were told to follow and observe the role players. For purposes of control, a third group of subjects spent an equivalent amount of time walking on the campus. Immediately following their experience, subjects responded to a 12-item questionnaire about disabled students and rehabilitation; the sum over the 12 responses served as the dependent measure of "attitude toward disabled students." [2] At the end of the study, each subject was asked to provide the experimenter's supervisor with a confidential report about various aspects of the experiment. Included in this report were three evaluative items assessing the subject's attitude toward the experimenter (who appeared to be confined to a wheelchair).

The results showed that after their experience, role players held significantly more favorable attitudes toward disabled students and toward the experimenter than did the control subjects. The attitudes of the observers did not differ significantly from those of the role players. These results persisted four months later (in telephone interviews) when, among other alternatives, subjects were asked whether they would favor spending leftover funds to increase facilities for disabled students. In contrast, these results were not obtained with respect to a measure of intentions. One month after the experiment subjects were phoned and asked whether they would volunteer to show handicapped students around campus. No significant differences between conditions were obtained.

As in many active participation situations, the proximal beliefs in this study are not easily identifiable. Generally speaking, they corresponded to the items of

2. Since the items dealt not only with disabled students but also with issues such as the role of the rehabilitation center, the content of introductory psychology lectures, and preference for scholarship recipients, it is not clear whether this instrument provided an unambiguous measure of attitude toward disabled students.

information to which subjects were exposed while performing their respective experimental tasks. It stands to reason that the active role players and the observers were exposed to much the same information. Although the former may have been more aware that they had to expend considerable energy to move their wheelchairs, both could have increased their beliefs that handicapped people have difficulties in moving around, that there are too few facilities for handicapped students, etc. Since such beliefs were unlikely to change for control subjects, it is not surprising to find that role players and observers were more in favor of spending funds to increase facilities for disabled students.

With reference to the dependent measure of attitude toward handicapped students, the primary beliefs are beliefs about handicapped students. Some of those primary beliefs were likely to have changed for both role players and observers. Since role players and observers were exposed to virtually identical items of information, there was no reason to expect these groups to show differential changes in proximal beliefs. Therefore there should also have been little difference between these groups in terms of primary beliefs or the dependent measure of attitude. In contrast, the informational items available to control subjects were not likely to have changed proximal beliefs related to the primary beliefs and little change in attitude would have been expected. The findings concerning attitudes toward handicapped students are consistent with these considerations.

With reference to the second measure of attitude, the primary beliefs are beliefs about the apparently handicapped experimenter. Here the same items of information were available to all subjects, and hence the same proximal beliefs should have changed. It might therefore appear that there should have been no differences between experimental conditions in attitudes toward the experimenter. Two explanations may be offered for the finding that role players and observers held more favorable attitudes toward the experimenter than did control subjects. Clearly, all subjects were likely to have formed the belief that the experimenter was handicapped (or that she was a handicapped student). One explanation relies on the prior finding that attitudes toward handicapped students (the attribute of this belief) were more favorable for role players and observers than for control subjects. This difference in attribute evaluation may account for the difference in attitude toward the experimenter. Another possibility is that role players and observers, who formed more favorable beliefs about handicapped students in general than did control subjects, may have attributed some of those beliefs to the handicapped experimenter. Both explanations suggest that attitudes toward the experimenter were affected more indirectly than attitudes toward handicapped students, and this notion is supported by the finding that the experimental manipulation accounted for 25 percent of the variance in attitudes toward handicapped students but only for 11 percent of the variance in attitudes toward the experimenter.

As in other studies we have encountered, the results obtained with respect to attitudes did not generalize to intentions. The experimental manipulation apparently had no effect on amount of change in the primary beliefs relevant for the

intention to show handicapped students around campus. In fact, there was no reason to expect subjects in the three conditions to hold different beliefs about the consequences of performing this behavior or about the expectations of relevant others. Thus there should have been little difference in the immediate determinants of the intention, i.e., attitude toward the behavior and subjective norm, and in the intention itself. The findings of this study again demonstrate that changing attitudes toward an object may have little or no effect on intentions to perform specific behaviors with respect to that object.

A unique feature of the Clore and Jeffery (1972) experiment is that the proximal beliefs of both role players and observers were attacked by means of direct observation. In most other studies the active participant plays the role of a person advocating a certain position on an issue while control subjects serve as passive observers. For example, in one of the first laboratory experiments investigating the effects of role playing on attitude, Culbertson (1957) asked subjects in three-person groups to discuss the adoption of an educational program to facilitate racial integration. Each subject was assigned the role of a person advocating a specific theme for the educational program. Three observers listened to the discussion, and each one was instructed to associate himself with an assigned role player.

Two weeks prior to the role playing session and again seven to ten days following the discussion, role players and observers indicated their attitudes toward "allowing Negroes to move into white neighborhoods," as well as their attitudes toward Negroes in general.[3] At equivalent points in time, an untreated control group merely provided measures of the same attitudes.

Table 10.1 reports the percentage of subjects in each condition who changed their attitudes in a favorable direction. Although no information concerning *degree* of change was reported, a significantly greater proportion of role players and observers than of the control subjects changed their attitudes on both measures in a favorable direction. Moreover, in contrast to the Clore and Jeffery (1972) findings, significantly more role players than observers showed favorable change on both attitude measures. The latter finding is consistent with Culbertson's hypothesis that "the closer the person is to a role—for example as a participant

Table 10.1 Percentage of Subjects Changing Attitudes in Favorable Direction (Adapted from Culbertson, 1957)

Attitude toward	Role players	Observers	Control
"Allowing Negroes to move into white neighborhoods"	67	43	11
Negroes in general	74	57	21

3. The first measure was based on the ranking of six opinion items, and the second measure was a standard Likert scale.

rather than an observer—the more likely are his cognitive and motivational dispositions to be affected by the experience" (1957, p. 230). Although she failed to elaborate on the psychological mechanism underlying this presumed effect, Culbertson did mention that role players, in comparison with observers, reported significantly more association with the assigned role, spending more time attending to the role and experiencing more emotional involvement with it.[4] Note that this explanation is inconsistent with the lack of significant differences between role players and observers reported by Clore and Jeffery (1972). Analysis of Culbertson's study in terms of our conceptual framework may suggest some reasons for the inconsistent findings.

As is often true in an active participation situation, the investigator had relatively little control over the kinds of arguments brought up in the course of the discussion. Nevertheless, it is possible to identify some of the proximal beliefs in this situation. Each statement voiced by a participant may be viewed as an informational item directed at a corresponding proximal belief. Depending on the relevance of these proximal beliefs for the primary beliefs, a change in proximal beliefs may or may not influence the dependent variable.

Generating versus Receiving Information

As in the Clore and Jeffery study, role players and observers in the Culbertson experiment were exposed to virtually identical information, and at first glance it might therefore appear that their attitudes should have changed to the same extent. However, in marked contrast to the Clore and Jeffery study, the Culbertson role players actively generated the information, and the observers were passively exposed to it. This difference between role players and observers may affect attitude change in at least two ways. First, it may influence the amount of change in proximal beliefs, and second, it may affect the perceived relevance of proximal beliefs for primary beliefs and dependent variables.[5]

Differential changes in proximal beliefs. As an illustration, consider a prejudiced role player who is confronted with the task of generating arguments in favor of letting blacks move into white neighborhoods (integration). At the outset, the subject has a hierarchy of beliefs linking integration to positive or negative attributes. The first belief coming to his mind might be "integration increases interracial conflict." Since his task is to argue in favor of integration, he may either reverse this belief and argue that integration reduces interracial conflict or reject it and consider the next belief in his hierarchy. As this process continues, the

4. These data are based on a questionnaire administered immediately after the discussion; the questionnaire was not described in detail.

5. It has often been argued that active role playing produces more change than passive exposure because active role players are more likely to accept the arguments they generate. This implies that role players and observers may be viewed as recipients of a persuasive communication. Factors influencing acceptance of informational items contained in a persuasive communication will be discussed in Chapter 11.

role player comes to elicit beliefs that were initially not part of his salient belief hierarchy.

In a series of experiments, Maltzman and his associates (Maltzman, 1960; Maltzman *et al.*, 1960; Maltzman, Bogartz, and Breger, 1958) have found that the mere elicitation of nonsalient beliefs tends to increase their probability of elicitation in the future. In a procedure called "originality training" Maltzman's subjects are asked to elicit different responses to repeated presentations of the same stimulus list. This procedure forces subjects to go further down in their belief hierarchies on each successive presentation. The training not only increases the salience of the low-probability responses but also increases the likelihood that low-probability or "original" responses will be elicited by other stimulus objects.

The role playing experience may thus serve to at least temporarily introduce previously nonsalient beliefs favorable to integration into the person's salient belief hierarchy. The observer's position differs greatly in that he is not forced to actively search through his own belief hierarchy. Some proximal beliefs may therefore become salient for the role players but not for the observers. Such differential changes in proximal beliefs could account for greater change in the dependent variable among role players than among observers. Indirect evidence for this argument can be found in a study by Greenwald and Albert (1968), who showed that subjects were better able to recall the arguments they had generated themselves than arguments produced by another person.

Differences in perceived relevance. Even when proximal beliefs do not show differential change, role players and observers may still differ in terms of the dependent variable. A role player who is instructed to adopt a given position develops arguments that he perceives to be relevant to and supportive of the position in question. The observer, however, may not perceive any relation between these beliefs and the dependent variable. For example, in an attempt to support racial integration, the role player might argue that since blacks have served their country well in the armed forces, they should be allowed to move into white neighborhoods. Unlike the role player, the observer may not see any connection between military service and racial integration. Although both role player and observer may increase their beliefs that blacks have served their country well in the armed forces, only the former would exhibit a more favorable attitude toward racial integration.

In conclusion, active role playing may indeed produce more change than passive exposure. This is expected to happen when the role player, in contrast to the observer, is forced to actively search through his belief system in order to find arguments in favor of the position he has been assigned. When the role playing procedure does not involve this active search for nonsalient beliefs, no differences between role players and observers are to be expected.

A similar conclusion was reached by King and Janis (1956) on the basis of two studies in which role players were asked to present oral arguments in sup-

port of an assigned position. In one of the first laboratory investigations of the persuasive effects of role playing, Janis and King (1954) investigated "the effects of one type of demand that is frequently made upon a person when he is induced to play a social role, namely, the requirement that he overtly verbalize to others various opinions which may not correspond to his inner convictions" (p. 211). Thus, in contrast to the Culbertson study, in which subjects were assigned a position with which they may have agreed, Janis and King asked subjects to give a short talk advocating a position which differed greatly from their own.[6]

About four weeks prior to the experiment, subjects completed a questionnaire containing, among other items, the following three questions.

1. How many commercial movie theaters do you think will be in business three years from now?
2. What is your personal estimate about the total supply of meat that will be available for the civilian population of the United States during the year 1953? (Subjects indicated the "percent of what it is at present," i.e., in the year during which the experiment was conducted).
3. How many years do you think it will be before a completely effective cure for the common cold is discovered?

Subjects participated in groups of three; each subject gave an informal talk on one of the topics and listened passively to the presentations of the other two members on the remaining topics. Thus each subject served as an "active participant" for one topic and as a "passive control" for two topics. More specifically, three minutes prior to each presentation, all group members were given an outline prepared by the experimenter. The outline advocated a position considerably lower than any of the three subjects' initial estimates. In addition to stating the conclusion, the outline summarized the main arguments to be presented. Role players as well as observers retained the outlines during the role player's informal talk. Immediately after the last talk all subjects completed a second questionnaire, which also included the three belief items listed above.

The outline given to the subjects essentially constituted a persuasive communication. Each statement in the outline was an informational item that could produce changes in the corresponding proximal beliefs of the role players and observers. Moreover, since prepared arguments were available to role players, it is not clear to what extent they had to search through their own belief systems in order to present their informal talks. Thus, not only may role players and observ-

6. Another difference between these two studies is that in the Janis and King experiment, role players did not discuss the issue in question among themselves. Most subsequent studies have followed the Janis and King procedure, which avoids the problem of exposing the role player to information about the issue generated by other participants.

ers have been exposed to the same information, but all this information may have been provided by an outside source (the experimenters).

Janis and King (1954) analyzed their data in terms of "net change scores," i.e., in terms of the percentage of subjects changing in the advocated direction minus the percentage changing in the opposite direction. They found that on each topic, subjects lowered their estimates significantly whether they served as active participants or as passive controls. Contrary to the experimental hypothesis, however, the net change index showed no significant differences between active participants and passive controls. Thus active role playing did not appear to be much more persuasive than passive exposure to the same arguments. This finding is quite consistent with our general conclusion that role playing will facilitate change only to the extent that the role player is forced to actively search through his own belief system. When he is provided with a set of arguments by the experimenter, the role player may or may not elicit previously nonsalient beliefs.[7]

In an attempt to further explore the role playing hypothesis, the investigators compared active participants and passive controls in terms of *sizable* changes. For the first topic (movie theaters) a sizable change was defined as an estimate increased or decreased by at least 5000 theaters; for the second topic (meat supply) a sizable change was 25 percent or more; and for the third topic (cure for the common cold) it was five years or more. In terms of "net sizable change" on the first two topics, active participants were influenced significantly more than passive controls. However, the difference was again nonsignificant on the third topic. Janis and King concluded that, at least under certain conditions, role playing is more effective in bringing about change than is passive exposure to the same information.

Although the results of this study are clearly far from conclusive, they have frequently been cited as evidence for an increased persuasive effect due to active role playing. In order to explore possible mediating factors underlying the gain in opinion change, Janis and King compared the conditions in which active participation produced more change than passive exposure (topics 1 and 2) with the condition in which it did not (topic 3). In general, they found that active participants discussing topics 1 and 2 seemed to improvise more and to be more satisfied with their own performance than active participants discussing topic 3. This suggested two possible explanations for the advantage of active role playing.

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7. A series of recent studies by Greenwald (1969, 1970) suggests that role playing may produce more change than passive exposure even when it does not involve active search through the belief hierarchy. Greenwald found that subjects expecting to defend one side of an issue judged arguments in favor of that side to be valid more than did subjects expecting to defend the opposite side of the issue. This finding suggests that information provided by the experimenter is more likely to be accepted by role players than by passive control subjects. However, the study by Janis and King does not support this line of reasoning. In any case, Greenwald's findings are perhaps more relevant to studies on the effects of persuasive communication than to studies concerned with the effects of role playing.

1. *Improvisation.* This factor suggests that "the gain from role playing may occur primarily because the active participant tends to be impressed by his own cogent arguments, clarifying illustrations, and convincing appeals which he is stimulated to think up in order to do a good job of 'selling' the idea to others."

2. *Satisfaction.* The alternative explanation suggests that "the rewarding effects of the individual's sense of achievement or feelings of satisfaction with his performance in the role of active participant" may be responsible for the gain from role playing (Janis and King, 1954, p. 218).

King and Janis (1956) attempted to test these alternative explanations in a subsequent experiment. Several months prior to the experiment, male college students completed a questionnaire that included five items related to military service and the draft. Subjects were asked to estimate the following items.

1. The required length of service for draftees
2. The percentage of college students who will be deferred
3. The percentage of college students who will become officers
4. Their personal expectations of length of military service
5. Their personal expectations of being drafted

At the beginning of the experiment itself, all subjects read a persuasive communication dealing with the prospects of military service for college students. The communication argued in support of two main conclusions: (1) that over 90 percent of college students would be drafted within one year of their graduation, and (2) that the majority of college students would be required to serve at least three years in the military service. These conclusions represented positions significantly higher than the estimates made by the students.

The nature of the role playing task was varied by creating three experimental conditions. Subjects in the *improvisation* condition presented a talk in favor of the assigned positions shortly after reading the script but without the benefit of having it present during the talk. In the *nonimprovisation* condition, subjects were asked simply to read the persuasive communication aloud. Finally, control subjects merely read the script silently. This manipulation was designed to assess the effects of active participation with and without improvisation in comparison with a passive control group.

At the conclusion of the experiment, subjects again indicated their estimates for the five items listed above, and they also provided self-ratings of their satisfaction with their own performance. The main dependent variable in this study was the percentage of subjects who changed in the advocated direction on at least three of the five opinion items. The obtained percentages were 87.5 in the improvisation condition, 54.5 in the nonimprovisation condition, and 65.0 in the control group. The percentage of change in the improvisation group was significantly

greater than the change in either of the other two groups, which did not differ significantly from each other.[8]

It thus appeared that improvisation was a necessary condition for active participation to increase amount of change. However, there was still the possibility that this effect was due to increased satisfaction resulting from improvisation. This possibility was ruled out by the finding that subjects in the nonimprovisation condition were significantly *more* satisfied with their own performance than were subjects in the improvisation condition. On the basis of this finding and some supplementary data to be discussed later, King and Janis concluded that the facilitating effect of active participation is due to the improvisation often required of role players, rather than to their greater satisfaction with their performance. This conclusion is consistent with our earlier argument that active participation facilitates change only when it requires searching through one's own belief hierarchy.

Analysis of role-playing research. Although a distinction is usually not made, the role playing studies discussed in this section involve procedural variations that influence the extent to which active participants are forced to elicit previously nonsalient beliefs. The role playing variations employed in these studies can be ordered with reference to the required amount of improvisation, as follows: (1) Since role players in the Clore and Jeffrey experiment did not engage in discussion but merely wheeled themselves across campus, they were obviously not required to improvise. Similarly, no improvisation was required of those subjects who merely read a prepared script in the King and Janis study. (2) When subjects were asked to give an informal talk on the basis of an available outline (Janis and King), or when they gave a talk on the basis of a previously read but no longer available script (King and Janis), some improvisation may have but need not have taken place. (3) Improvisation was clearly required only of subjects in the Culbertson study, who argued in favor of an assigned position without receiving prior information. The active participation procedure should thus have had a clear advantage over passive exposure only in the Culbertson study; it could have but need not have facilitated change in the Janis and King experiment or in the "improvisation" condition of the study by King and Janis. As we saw above, the results of the different studies were entirely consistent with this analysis.

Availability of information. The degree to which an active participant is forced to improvise depends in large measure on the kind and amount of information provided by the experimenter. This information essentially represents a persuasive communication that may produce changes in certain proximal beliefs. By the same

8. If the analysis had been performed on *net* changes rather than changes in the advocated direction only, the tests of significance might have shown different results. In fact, the results in terms of net changes differed greatly from item to item. Use of an index based on favorable changes in at least three of the five items is comparable to an analysis of *sizable* changes, which may show a significant effect when an analysis of all changes does not (see Janis and King, 1954).

token, studies vary in terms of the amount of information given to passive control subjects. In addition, passive controls may or may not be allowed to observe the role player or listen to his presentation. Thus the passive subject may actually receive two persuasive communications, one from the experimenter and the other from the active participant. Depending upon the amount and kind of information available, active participants may change more or less than passive controls. For example, subjects in the two conditions may receive the same persuasive communication from the experimenter (e.g., a prepared script), but the passive controls may not be permitted to listen to the role player's improvised talk based on the script (King and Janis, 1956). Since the role player's improvisation may generate items of information not included in the experimenter's communication, passive controls may exhibit less change on the dependent variable than active participants.

By way of contrast, providing passive controls with a prepared script not available to the role players may expose the passive controls to a greater number of informational items relevant for the dependent variable. This argument receives support from a number of studies in which passive reading of a communication was found to be more effective in bringing about change than was active role playing (see McGuire, 1969; Matefy, 1972). A person may frequently be unable to come up with relevant arguments in favor of a position that disagrees with his own, whereas the passive subjects may be exposed to a number of such arguments prepared by the experimenter. As a result, the role player's presentation may have less effect on the dependent variable than passive exposure has. McGuire (1964; McGuire and Papageorgis, 1961) presented some indirect evidence in support of this notion. He found that writing an essay without any guidance in support of one's own position was much less effective in producing *resistance* to a subsequent persuasive communication than was passively reading a supportive essay prepared by the experimenter. It appears that the experimenter is sometimes able to provide a greater number of relevant arguments in favor of the subject's position than is the subject himself (especially since the subject has only limited time at his disposal).

These considerations emphasize the crucial importance of the information made available to active participants and passive controls. When role players and observers are not exposed to identical items of information—whatever the source of the information—differences in proximal beliefs are to be expected, and hence, obtained differences in the dependent variable may be due to factors other than active participation. The potential confounding effect of providing different information to role players and observers is illustrated in a study by Janis and Mann (1965). In this study, moderate and heavy smokers played the role of a patient who had just been told by her doctor (played by the experimenter) that she had cancer. Our analysis suggests that this situation should facilitate change since it requires that the subject engage in active improvisation using arguments that are normally not part of her salient belief system. Further, these arguments, as well as those voiced by the "doctor," were directed at proximal beliefs

that appeared to be relevant for the study's dependent variables. The results reported by Janis and Mann indeed showed that active participants changed more than passive controls. However, this finding is not unequivocal, since all control subjects were exposed to the same tape recording of a single role playing session selected for its "exceptionally dramatic and emotional quality." Thus the information available in the control condition was not identical to that available in the role playing condition.[9] In fact, had a different role playing session been recorded, it might have contained information that would have produced the same or even more change among passive controls than that obtained among the active role players.

The importance of providing subjects in different experimental conditions with identical items of information is further illustrated in Mann's (1967) follow-up of the Janis and Mann study. In an attempt to test the hypothesis that the effectiveness of role playing is due to emotional involvement, Mann compared two types of emotional role playing with a nonemotional technique. A *fear-emotional* condition was identical to that used by Janis and Mann. In a *shame-emotional* condition, smokers played the role of patients who, though found to be physically fit, were chided by their doctors for their lack of self-control. The third condition involved a nonemotional *cognitive* role playing procedure in which the subject played a debater and the experimenter played the coach of the debating team. With the help of the coach, the role player prepared to advocate "that smokers should quit smoking."

Clearly, subjects in the different role playing conditions were exposed to widely different items of information. Further, these informational items may have been directed at proximal beliefs that were not equally relevant for the dependent variables under investigation. The differences in the available information may in and of themselves have produced different degrees of change in the dependent variables. Obtained differences between role playing conditions, therefore, may have little to do with the degree of emotional involvement. In other words, type of role playing is confounded with informational content in this study, and no unequivocal conclusions can be derived from its data. Although Mann's results appear to indicate that emotional role playing was more effective than cognitive role playing, the results of the Clore and Jeffery (1972) study discussed above contradict this conclusion. In the Clore and Jeffery study informational content was not confounded with type of role playing, since the same information was available to the role players (who were put in wheelchairs) and active observers, who were not emotionally involved. Under these conditions, emotional involvement did not increase the effectiveness of role playing.

So far we have discussed studies that have attempted to demonstrate that

9. A more appropriate procedure would have been to permit each control subject to observe the role playing session of a *different* active participant (yoked controls). This procedure would also have equalized the availability of nonverbal informational items in the situation.

some types of active participation in the form of role playing are superior to passive exposure in bringing about change. In most studies the role player has been called on to adopt a certain position on an issue and defend it publicly. This task often requires the role player to generate and verbalize arguments that may not correspond to his privately held beliefs. The investigator's first consideration must be to ensure that the informational items available to control subjects are identical to those available to the role players. Any advantage of active participation over passive exposure must then be the result of either greater changes in proximal beliefs or greater perceived relevance of these proximal beliefs for primary beliefs and hence for the dependent variable in question. We have noted that such effects are likely to occur only when the role player is forced to actively search through his own belief system. To gain a full understanding of obtained differences between active participants and passive controls, it is therefore necessary to identify the relevant proximal beliefs and trace changes in these beliefs to changes in primary beliefs, to changes in the immediate determinants of the dependent variable, and to changes in the dependent variable itself. Unlike active participation in the form of interpersonal contact, the role playing situation does permit the investigator to identify at least those proximal beliefs that correspond to the informational items presented by the experimenter and by the role player himself. A relatively complete analysis of the influence process should thus be possible in most role playing situations.

COUNTERATTITUDINAL BEHAVIOR

The studies discussed thus far have compared role playing with passive exposure; it seems clear that the kind and amount of information available in the role playing situation determines the amount of change in the dependent variable. We now turn to an examination of studies that — without questioning the importance of the information available to subjects — have focused on other factors that may be of relevance. Two important features distinguish the research discussed in this section from traditional role playing experiments. First, the active participant is induced to adopt a position contrary to his own, and this counterattitudinal behavior is assumed to be one of the reasons for the effectiveness of role playing. Studies in this area have therefore focused on the counterattitudinal aspect of the subject's behavior, and various means other than developing arguments in support of a given position have been used to bring about such counterattitudinal behavior. The second distinguishing characteristic of this research is its manipulation of variables that may facilitate or inhibit the amount of change produced by the performance of counterattitudinal behavior.

For example, the King and Janis (1956) study described earlier included a manipulation designed to influence the effectiveness of a counterattitudinal role playing experience. Arguing that the effects of active participation may be mediated by satisfaction with own performance, the investigators provided subjects in the improvisation condition with favorable, unfavorable, or no ratings on their

speaking performance. Although this manipulation had a significant effect on self-ratings of satisfaction, its effect on the dependent variable was reported to be non-significant.[10]

Effects of Reinforcement

A study directly concerned with the effects of positive and negative reinforcement for advocating a counterattitudinal position was conducted by Scott (1957). Subjects in pairs were asked to debate one of three issues in front of a student audience. The issues were concerned with universal military training, night hours for women students, and de-emphasis of football in college. Altogether Scott used 18 different audiences, each hearing two debates on one of the three issues.[11] On the basis of a pretest, role players with extreme positions on these issues were selected. For purposes of the debate and unknown to the audience, subjects with pro opinions were assigned the con side of the issue and vice versa. Following the two debates, each lasting ten minutes (five minutes for each side), the audience was asked to cast two ballots for the role players who in their opinion had done a better job in presenting their sides of the issue. Actually, subjects were given false feedback concerning these audience reactions such that the person advocating the pro position in one debate and the person advocating the con position in the other debate were said to have "won." This manipulation was supposed to express either group approval (positive reinforcement) or group disapproval (negative reinforcement) for the performance.

Two weeks prior to the debate and again immediately after the announcement of "winners" and "losers," the debaters as well as members of the audience were asked to respond to an open-ended question concerning the issue debated. Two members from each audience, one initially pro and one initially con, were selected to serve as control subjects. Responses were coded on seven-point scales ranging from *very pro* to *very con* on the issue in question. A pretest-to-posttest change score was computed for each subject, and the finding was that "winners" changed by a significantly greater amount in the direction of their adopted positions than either "losers" or controls. The difference between "losers" and controls was non-significant.

Consistent with a reinforcement theory of attitude change, Scott concluded that approval for the subject's performance positively reinforced his expressed beliefs, and disapproval provided negative reinforcement. Similar results were reported in a subsequent replication and extension of this study (Scott, 1959). These investigations suggest that reinforcement can influence the effectiveness of

10. This conclusion must be regarded with caution since the results are based on a small sample (about 10 subjects per condition) and the investigators provided little detail as to the dependent variable or data analysis.

11. Actually, 19 different classes were used, but because of administrative difficulties, two of the classes were exposed to only one debate each.

role playing by increasing the likelihood that the role player will believe his own counterattitudinal arguments. Subsequent investigations, however, have not always been able to demonstrate the facilitating effect of social approval or reinforcement. For example, Sarbin and Allen (1964) had an audience give positive reinforcement (e.g., smiles) or negative reinforcement (e.g., frowns) while the subject made a counterattitudinal speech. Contrary to a reinforcement hypothesis, no significant differences were found between the two conditions.

Complementing the reinforcement hypothesis, other investigators have argued that the mere knowledge of potential reinforcement can itself be an important factor influencing change. For example, according to incentive theory, the *prospect* of being evaluated by an audience or of receiving some other type of reward or punishment provides the subject with an added incentive to devise convincing arguments in favor of the adopted position (Janis and Gilmore, 1965; Rosenberg, 1965b). We would argue, however, that anticipated reward or punishment should serve as an incentive only to the extent to which it is perceived to be contingent upon quality of performance. The greater the incentive (i.e., the greater the expected magnitude of reward to be obtained or punishment to be avoided), the more change should result. For example, subjects who believe that a high monetary reward is contingent upon good performance of their role playing task may be expected to produce better arguments and thus to exhibit more "attitude" change than subjects who are promised a relatively small monetary reward for good performance or subjects who do not expect to be rewarded at all.[12]

Forced Compliance

An added incentive for role playing a position other than one's own or for engaging in some other counterattitudinal behavior is expected to have a completely different effect on attitude change, according to Festinger's (1957) dissonance theory. The "forced-compliance" paradigm in dissonance theory suggests that the greater the promised reward or threatened punishment, the more pressure is put on the individual to perform the counterattitudinal behavior and the more justified he should feel in performing this behavior. Increasing the magnitude of reward should thus lead to a reduction in dissonance. Since the amount of attitude change is assumed to vary directly with the magnitude of dissonance, promising a person a high reward for his counterattitudinal behavior should result in less attitude change than promising him a low reward for performing the same behavior (see Chapter 2).

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12. Even when not contingent upon quality of performance, expectation of high reward may sometimes serve as a greater incentive than expectation of a low reward. This effect might occur when subjects feel obliged to work harder in order to justify a large reward, as would be predicted by equity theory (see J. S. Adams, 1965; Walster, Berscheid, and Walster, 1973). Moreover, many incentive theorists would argue not only that a reward may serve as an incentive but that its administration may also reinforce the performance, thereby increasing attitude change.

Studies formulated within the incentive theory framework have manipulated reward magnitude in an attempt to influence the quality of arguments produced. In addition both incentive theory and a reinforcement position suggest that reward magnitude also influences the degree to which the active participant believes his own arguments. In contrast, studies conducted within the forced compliance paradigm of dissonance theory have manipulated reward magnitude as one means of varying justification for the counterattitudinal behavior. Many other variables have also been manipulated in attempts to provide differential degrees of justification for a given behavior. Among these variables are the number of reasons the subject is given to induce him to perform the behavior; the degree to which the subject perceives that his decision to engage in the behavior was his own (freedom of choice); the amount of effort expended in performing the behavior (the lower the effort, the less the behavior has to be justified); and the prestige, status, or attraction of the person requesting performance of the behavior. The first direct test of the forced compliance paradigm is the now classic study by Festinger and Carlsmith (1959), to which we have already referred several times. It may now be instructive to examine this study in some detail.

Male undergraduates participated in an experiment described as dealing with "measures of performance." They performed two repetitive and boring manual tasks for about a half hour each while the experimenter appeared to measure their performance, using a stopwatch and making notations on a sheet of paper. Subjects were led to believe that working on these tasks constituted the total experiment. Actually, there was much more to come. After the subject had completed the second task, the experimenter explained that the major purpose of the experiment was to compare performance of individuals under two different conditions and that the subject had served in one of these conditions. They were further told that while the participants in the other condition were waiting for the experiment to begin, a confederate (ostensibly another student who had just taken part in the experiment) had told them that "the experiment was very interesting and enjoyable, I had a lot of fun, I enjoyed myself, it was very interesting, it was intriguing, it was exciting."

Up to this point all subjects had received exactly the same treatment. They were now divided into one control and two experimental conditions. Control subjects were at this point led to another room, where a person other than the experimenter interviewed them under the pretext of a departmental survey unrelated to the present study.

In the experimental conditions the experimenter explained that his assistant could not come today and that another student was already waiting to take part in the experiment. He then proposed to hire the subject to perform the role of the assistant on this occasion and in the future should the regular assistant be again unavailable. In one experimental condition subjects were offered payment of one dollar, and subjects in the second experimental condition were to receive twenty dollars.

Once a subject had agreed, he was led to the waiting room, where a female

student (presumably a subject but actually the experimenter's assistant) was waiting. The experimenter introduced them, and in accordance with instructions, the subject attempted to convince the "new subject" that the experimental tasks she was going to work on were interesting and enjoyable. As in the control condition, the subject was then interviewed in an unrelated context.

The interview consisted of the following four questions, to which the subjects responded on 11-point scales.

1. Were the tasks interesting and enjoyable?
2. Did the experiment give you the opportunity to learn about your own ability to perform these tasks?
3. Would you say the experiment was measuring anything important?
4. Would you have any desire to participate in another similar experiment?

To summarize, subjects in the one-dollar condition were hired to tell a waiting subject that tasks which were rather boring were interesting and enjoyable; subjects in the twenty-dollar condition were hired to do the same for twenty dollars; and subjects in the control condition did not tell the waiting student that the tasks had been enjoyable.

Two features of this experiment are worth noting. First, the study involves an elaborate cover story, and the subjects are deceived in various ways. This is quite typical of research using the forced-compliance paradigm. Second, although the investigators realized that the four questions asked in the interview "varied in how directly relevant they were to what the subject had told the girl" (Festinger and Carlsmith, 1959, p. 206), they are all considered measures of attitude toward the experimental tasks or the experiment itself. From our point of view, of course, the first three questions appear to measure different beliefs, and the fourth an intention.

The results of the study are summarized in Table 10.2. A significant difference between the one-dollar and twenty-dollar conditions was found only with respect to the first question. Subjects in the one-dollar condition rated the tasks as more interesting and enjoyable than did subjects in the twenty-dollar condition. This difference supports the predicted dissonance effect. In comparison with subjects in the control condition, who rated the tasks as mildly uninteresting and unenjoyable, the amount of change was inversely related to reward magnitude. No significant differences were obtained with respect to the remaining three items; for two items the results were in the predicted direction, and the remaining item showed a tendency in the opposite direction.

Although the results of this study did not fully support the dissonance theory prediction, the conclusion that reward magnitude is inversely related to amount of change created considerable interest. As noted, this conclusion appeared to contradict the generally accepted reinforcement position, as well as an incentive hypothesis, both of which predict that amount of change should increase with magnitude of reward. Many subsequent experiments have therefore attempted to

Table 10.2 Average Ratings of Interview Questions for Each Condition (From Festinger and Carlsmith, 1959)

Question on interview	Experimental condition		
	Control condition ($N = 20$)	One-dollar condition ($N = 20$)	Twenty-dollar condition ($N = 20$)
How enjoyable tasks were (rated from −5 to +5)	−.45	1.35	−.05
How much they learned (rated from 0 to 10)	3.08	2.80	3.15
Scientific importance (rated from 0 to 10)	5.60	6.45	5.18
Participate in similar experiment (rated from −5 to +5)	−.62	1.20	−.25

confirm the "counterintuitive" dissonance hypothesis by varying magnitude of reward for counterattitudinal behavior.

In an early attempt to confirm the Festinger and Carlsmith findings, Cohen (1962) asked his student subjects to write an essay justifying police actions in a campus disturbance for a reward of ten dollars, five dollars, one dollar, or fifty cents. Actually, the students were very much opposed to the police action. After writing the essay, subjects were asked to indicate whether the police action had been justified, on a 31-point scale ranging from *not at all justified* to *completely justified*. Consistent with dissonance theory, the perceived justification of the police action decreased as a function of reward magnitude. That is, the less money a subject received for writing the essay, the more he changed his belief in the direction of the adopted position.

One interesting implication of dissonance theory is that change in the dependent variable can be brought about even without actual performance of the counterattitudinal behavior. According to Brehm and Cohen (1962), the mere fact that a person commits himself to engage in a counterattitudinal behavior should be sufficient to arouse dissonance and hence produce "attitude" change. In a study designed to test this hypothesis, Rabbie, Brehm, and Cohen (1959) asked college students to write an essay supporting the elimination of intercollegiate athletics. Justification for this counterattitudinal behavior was manipulated not by varying magnitude of reward but instead by providing either many or few reasons for performing the behavior. After agreeing to write the essay, half the subjects completed a questionnaire measuring their attitudes toward elimination of intercollegiate athletics on a seven-point scale ranging from *extremely like* to *extremely dislike* and then wrote the essay; the remaining subjects first wrote the essay and then completed the questionnaire. Consistent with dissonance theory, more change in the direction advocated was found under low than under high justification. Further, consistent with the argument that commitment to engage in counterattitu-

dinal behavior is sufficient to produce dissonance and consequent attitude change, this effect was significant even when attitudes were measured prior to the writing of the essay. In fact, the results for the two conditions were quite similar.

A large number of subsequent studies, however, attest to the difficulty of obtaining the dissonance effect consistently. For example, also using an essay-writing task, Janis and Gilmore (1965) offered students one dollar or twenty dollars for writing a short essay in favor of the proposition that a year of physics and a year of mathematics should be added as a requirement for all college students. Although care was taken not to pressure subjects into consenting to this request, all subjects agreed to write the essay, and they were immediately paid the money promised.[13] As in the Rabbie, Brehm, and Cohen (1959) study, half the subjects then completed a posttest questionnaire. The remaining subjects were given 10 minutes to write the essay, and only then did they complete the same questionnaire. The questionnaire consisted of five objective items (not specified) and an open-ended question, all assessing the subject's "present attitude" toward the proposed policy. The two dependent variables of this study were two measures of the same attitude, one obtained by summing over the five objective items and the other based on responses to the open-ended question.[14] Contrary to the dissonance hypothesis, whether or not subjects actually wrote the essay, magnitude of reward had no significant effects on either of the two measures of attitude. In fact, subjects in the twenty-dollar condition tended to have somewhat more favorable (or less unfavorable) attitudes than subjects in the one-dollar condition.

Partly in response to the difficulty of obtaining a consistent dissonance effect when magnitude of reward is manipulated, many investigators have turned to other variables that could also influence justification for performing the counterattitudinal behavior. These variables were expected to interact with reward magnitude and thus mediate the dissonance effect. For example, in addition to manipulating reward magnitude, studies using counterattitudinal essays have looked at such factors as freedom to participate (Holmes and Strickland, 1970; Sherman, 1970a, b), time of payment (Rossomando and Weiss, 1970; Sherman, 1970b), audience position (Nel, Helmreich, and Aronson, 1969), audience awareness that the subject is not presenting his own views (Helmreich and Collins, 1968; Steiner and Field, 1960), reason given for the assigned task (Collins and Helmreich, 1970; Janis and Gilmore, 1965; Elms and Janis, 1965), and time of dependent variable measurement (Crano and Messé, 1970). To be sure, some of these variables were found to interact with reward magnitude. For example, the three studies cited above which manipulated the subject's freedom to participate, in ad-

13. The students were contacted at their residences, and about 10 percent refused to talk to the experimenter and thus were never even asked whether they would be willing to write the essay.

14. The number of arguments unfavorable toward the proposed policy was subtracted from the number of favorable arguments expressed in response to the open-ended question.

dition to varying reward magnitude, reported the same significant interaction: A negative relationship between reward magnitude and change (i.e., a dissonance effect) was found in the choice condition, whereas a positive relationship (i.e., an incentive effect) was found in the no-choice condition. Unfortunately, this cannot be taken as an indication that dissonance effects will always be obtained under high-choice conditions (e.g., see Calder, Ross, and Insko, 1973). In fact, most studies on forced compliance attempt to convince the subject that his participation is voluntary. Yet these studies often do not produce the predicted effect of reward magnitude. For example, in the Janis and Gilmore (1965) study described above, every effort was made to ensure a high degree of decision freedom. Nevertheless, we saw that reward magnitude had no effect on the amount of attitude change produced by a counterattitudinal essay (cf. Collins and Helmreich, 1970; Collins, *et al.,* 1970; Nel, Helmreich and Aronson, 1969).

Much the same conclusions are reached with respect to research on other variables that were expected to interact with reward magnitude. Indeed, Collins and his associates (Collins *et al.,* 1970; Helmreich and Collins, 1968) have performed a large number of experiments dealing with forced compliance and have found it all but impossible to develop a paradigm that will consistently produce a negative relationship between reward magnitude and amount of change, irrespective of the kind of counterattitudinal behavior involved (see also Calder, Ross, and Insko, 1973).

Our discussion so far has centered on the effects of reward magnitude on changes produced by counterattitudinal behavior. As indicated above, many other variables that were assumed to influence justification have also been investigated. For example, not only has perceived freedom to participate been viewed as a factor interacting with reward magnitude, but it has also been studied in its own right. Similarly, the effects of varying the number of reasons given for the assigned task, time of dependent variable measurement, etc., have also been studied independent of reward magnitude. These manipulations have sometimes supported dissonance theory predictions, but they have usually been found to produce neither a main effect nor an interaction with other variables. The overall pattern of results is thus ambiguous and inconclusive.

This state of affairs has led to an ever increasing list of requirements, each of which is assumed to be a necessary but not sufficient condition for the arousal of dissonance. At last count, in order for the dissonance effect to be obtained, subjects must commit themselves to perform the counterattitudinal behavior in full awareness of the kind of behavior they will be asked to perform and the amount of reward they are to receive; they must commit themselves voluntarily with a maximum of subjective decision freedom; they must feel personally responsible for the aversive consequences of their behavior; the behavior to be performed must violate an expectancy related to the self-concept; and it must be impossible for subjects to justify their counterattitudinal behavior on any other grounds. The assumption is that in the absence of these conditions little dissonance is created, and hence no change in the dependent variable is to be expected. Unfortunately,

even when investigators have attempted to meet all these conditions, the dissonance effect has not always been observed. More important, if all these requirements were accepted as necessary conditions for the arousal of dissonance, it is doubtful that any situation could be found in which dissonance plays an important role in determining social behavior.

Analysis of Counterattitudinal Behavior

We have noted earlier that the kind and amount of information generated within an active participation situation are crucial factors in determining amount of change. In our analysis of role playing studies we have discussed the ways in which the informational items generated by the role player or provided by the experimenter can influence proximal beliefs and related dependent variables. Dissonance theory suggests, however, that factors other than the information generated by the counterattitudinal behavior may be of primary importance in bringing about change. That the information generated by counterattitudinal behavior is accorded little importance is demonstrated by the fact that actual performance of the behavior is not considered to be a necessary condition for change; the subject's commitment to perform the behavior is assumed to be sufficient to produce dissonance and consequent change in the dependent variable.

Justification, incentive, and reinforcement. We saw above that studies of forced compliance have usually manipulated magnitude of reward in an attempt to influence justification for performance of a counterattitudinal behavior. We have also noted, however, that a reward may sometimes act as an incentive and that it may have reinforcing properties. Which of these effects will be most pronounced depends on three aspects of the reward manipulation: (1) The person may or may not know in advance that performance of the counterattitudinal behavior will be rewarded. (2) The reward may or may not be made contingent upon the quality of the person's performance. (3) The reward may or may not be administered prior to measurement of the dependent variable.

When reward is neither expected nor administered, no reward manipulation has taken place, and reward magnitude is irrelevant. When a reward is not expected but is nevertheless administered, it should provide neither incentive nor justification for performing the behavior; its sole effect should be to reinforce the behavior that has occurred. The four remaining ways of manipulating reward magnitude in the forced-compliance situation are shown in Table 10.3. In each of the four possibilities, variations in reward magnitude influence *justification.* That is, whenever a person performing a counterattitudinal behavior expects to be rewarded, the reward can serve to justify his behavior. The greater the expected reward, the greater the justification. The *reinforcement* value of a reward also increases with its magnitude. However, for this variation in reinforcement value to have an effect on a dependent variable, the reward must actually be administered, and it must be administered prior to assessment of the dependent variable. Finally, variations in reward magnitude also affect the reward's *incentive* value. However,

Table 10.3 Effects of Reward Magnitude When Reward Is Expected

Reward contingent upon quality of performance	Reward administered after counterattitudinal behavior but prior to dependent variable measurement	
	Yes	No
Yes	(1) Incentive Reinforcement Justification	(2) Incentive Justification
No	(3) Reinforcement Justification	(4) Justification

our analysis suggests that a reward will serve as an incentive only to the extent that it is made contingent upon the quality of performance. It follows that increasing the magnitude of a reward will not raise its incentive value when the reward is administered prior to performance of the counterattitudinal behavior or when the subject expects to obtain a given reward irrespective of the quality of his performance.

Table 10.3 shows that it may be impossible to predict the effects of variations in reward magnitude in many forced compliance situations. Consider, for example, an experiment employing the following procedure. All subjects are promised a reward if they write a counterattitudinal essay of high quality. In one condition they are told that the amount of money each can earn is $1 whereas in a second condition the amount of money each can earn is $10. All subjects then write the counterattitudinal essay and are given their respective rewards. Following administration of the reward, the dependent variables are assessed. In this situation (Cell 1 in Table 10.3) the variation in reward magnitude will have incentive and reinforcement, as well as justification or dissonance effects.

The main point to be made is that reinforcement and incentive effects on the one hand and dissonance effects on the other, need not be viewed as mutually exclusive. Instead, two or all three of these effects may be operative, sometimes canceling each other and at other times leading to either a positive or a negative relation between magnitude of reward and amount of change. A clear dissonance effect can theoretically be obtained in two ways. One is to administer the reward prior to performance of the counterattitudinal behavior. The second is to promise the reward irrespective of quality of performance and to measure the dependent variable before the reward is administered. Under these conditions reinforcement and incentive effects are not expected, and reward should serve only to justify the behavior. Note that a test of incentive predictions versus dissonance predictions would be inappropriate under these circumstances. Nevertheless, many studies have used precisely these procedures to test the competing hypoth-

eses. For example, subjects have often been paid immediately after agreeing to perform the counterattitudinal behavior (e.g., Carlsmith, Collins, and Helmreich, 1966; Elms and Janis, 1965). In other studies (e.g., Linder, Cooper, and Jones, 1967) subjects were not paid prior to assessment of the dependent variables, but their rewards were not explicitly made contingent upon quality of performance. In fact, we have not been able to find a single study in which the incentive effect should have been clearly operative. Most studies fall into Cell 4 of Table 10.3, and a few studies fall into Cell 3. From the point of view of our analysis, therefore, studies using the forced compliance paradigm have not provided a crucial test between dissonance and incentive theories. Moreover, even under the conditions most favorable to the dissonance hypothesis (Cell 4), the predicted inverse relation between reward magnitude and amount of change has not been consistently obtained.

The forced compliance situation. In order to understand why conflicting results have been obtained in the forced compliance paradigm, it may be instructive to examine a situation which should maximize the likelihood of demonstrating the dissonance effect. Not only must this situation ensure that reward has no incentive or reinforcement effects, but it should also eliminate the possibility that the dissonance effect will be confounded with the informational items generated during performance of the counterattitudinal behavior. Let us therefore consider the situation in which subjects commit themselves to perform a counterattitudinal behavior for a given reward, and the dependent variable is assessed immediately after commitment. Thus, although expecting a reward, at the time of measurement the subject has neither performed the behavior nor received the reward.

According to Festinger's (1957) dissonance theory, a forced compliance situation of this kind involves two basic cognitive elements: (1) I committed myself to perform behavior X, and (2) I believe Y. Dissonance is assumed to exist when X is the "obverse" of Y, i.e., when "not-X follows from Y." For example, the belief "I agreed to write an essay in favor of eliminating intercollegiate athletics" is assumed to be dissonant with the belief "I am opposed to eliminating intercollegiate athletics." In practice, therefore, the investigator selects a behavior which, if performed, would be dissonant with the subject's position on the dependent variable. The magnitude of dissonance associated with the cognitive element K "I committed myself to perform behavior X" increases with the number and importance of all other cognitive elements that are dissonant with element K (e.g., "I believe Y") relative to the total number and importance of relevant cognitions (see Chapter 2). Equation 10.1 is a more formal statement of this definition, where D_K is

$$D_K = \frac{\Sigma I_d}{\Sigma I_d + \Sigma I_c}, \tag{10.1}$$

the magnitude of dissonance associated with element K, I_d is the importance of a dissonant element d, and I_c is the importance of a consonant element c. Equation 10.1 suggests that any cognitive element consonant with the commitment to per-

form a counterattitudinal behavior (element K) should reduce the magnitude of dissonance associated with that commitment. The belief "I was promised \$X for performing the behavior" is viewed as one such consonant element. Increasing magnitude of the promised reward is assumed to increase its importance and thus to lower the overall amount of dissonance. The growing list of conditions necessary for dissonance arousal mentioned above can be viewed as an attempt to specify other cognitions that may be consonant with the commitment. If these conditions are not met, consonant cognitions may be formed and may serve to reduce or eliminate the dissonance associated with commitment to perform the counterattitudinal behavior. For example, if a person did not believe that he agreed freely to perform the behavior, the cognitive element "I was forced to agree to perform the behavior" could reduce his dissonance. According to dissonance theory, if dissonance has been aroused, the person should try to reduce his dissonance by changing one or more of the dissonant elements. The difficulty encountered by most dissonance research is the need to ensure that no dissonant element other than the element corresponding to the dependent variable can change.

From the point of view of dissonance theory, then, there are a number of target beliefs in the forced compliance situation. The first is the person's belief that he has committed himself to perform (or actually has performed) a given behavior. All other beliefs that are consonant or dissonant with this knowledge are also considered to be target beliefs. The experimental manipulation is designed to attack certain target beliefs either directly (e.g., "I was promised \$10") or indirectly (e.g., "I had free choice"). Other target beliefs are directly or indirectly attacked by elaborate cover stories that often accompany forced compliance experiments. For example, subjects may be told that they are taking part in an undergraduate's pilot study for a term paper. A change in this proximal belief may increase the belief that "the experiment has no scientific value," a target belief which is assumed to be dissonant with the behavior. In fact, cover stories are frequently used in an attempt to ensure that all target beliefs, with the exception of those attacked by the manipulations, will be dissonant with the commitment to perform the behavior in question.

The almost unlimited number of potential target beliefs in the forced compliance situation has been recognized as one of the major problems in dissonance research since it is always possible to argue that one or more (unidentified) target beliefs are consonant with the counterattitudinal behavior. This argument can therefore always be used as a post hoc explanation whenever the dissonance effect is not obtained.

The dependent variable in a forced compliance situation is either a belief, an attitude, or an intention that is assumed to be dissonant with the target belief "I committed myself to perform behavior X." As we saw in Chapter 2, the original definition of a dissonant relation led to some confusion since investigators could not always agree that "the obverse" of performing a given behavior would follow from the person's initial belief or attitude. Aronson's (1968) rule of thumb that dissonance exists only when an expectation has been violated, i.e., when a person

holding a given attitude would not be expected to perform the behavior, has thus far relied on the investigator's intuition. Not only can investigators disagree with respect to an attitude-behavior relation, but as we saw in Chapter 8, an investigator's intuition that some attitudes should be related to a given behavior is often fallacious.

We noted in Chapter 2 that dissonance theory deals exclusively with cognitive elements, i.e., beliefs. It may therefore be argued that the most appropriate dependent variable in any dissonance study is a measure of belief. Within the forced compliance paradigm, the relevant belief is the person's subjective probability that he holds a certain belief, attitude, or intention (i.e., that he has some disposition, D), given that he has committed himself to perform (or has actually performed) a behavior, B. This description of the dependent variable can be expressed as the conditional probability $p(D|B)$. However, dissonance theory is primarily concerned with the change from some prior belief, $p(D)$, to the posterior belief $p(D|B)$.

Although there has been some confusion concerning the definition of a dissonant relation, it is possible to translate Festinger's (1957) original statement into a conditional probability. Festinger stated that cognitive elements A and B are dissonant if not-B follows from A. Consider, for example, a person who has a negative attitude toward legalization of marijuana ($A-$) and who is induced to write an essay in favor of legalizing it ($B+$). Dissonance may be defined by the conditional probability $p(B+|A-)$.[15] This implies that we can define *degrees* of dissonance rather than merely stating that two cognitive elements are dissonant or consonant. Specifically, dissonance should be an inverse function of $p(B+|A-)$; the lower the probability of writing an essay in favor of legalizing marijuana ($B+$), given a negative attitude toward legalization ($A-$), the more dissonance should be aroused by commitment to perform (or actual performance of) this counterattitudinal behavior.

Another difficulty confronting dissonance theory is the concern that unidentified beliefs may be consonant with commitment to perform the behavior. This problem can also be analyzed in terms of the conditional probability $p(B+|A-)$. Each of the consonant beliefs could serve as an additional reason for commitment, thus increasing the probability that the person would commit himself to perform the behavior ($B+$) even if he had a negative attitude ($A-$). That is, factors which may serve to "justify" commitment to perform a behavior should increase the conditional probability $p(B+|A-)$, thereby reducing amount of dissonance.

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15. Festinger's definition of dissonance as "not-X follows from Y" can also be translated into the conditional probabilities $p(B-|A+)$, $p(A-|B+)$, and $p(A+|B-)$. This illustrates the unclarity associated with Festinger's definition since these conditional probabilities are not equivalent. We could have selected $p(B-|A+)$ as a definition of dissonance in the forced compliance situation; the conclusions would be the same.

The definition of dissonance in terms of a conditional probability makes it possible to employ Bayes's theorem (described in Chapter 5) to further examine the forced compliance situation. When applied to this situation, Bayes's theorem can be stated as follows:

$$\frac{p(A+|B+)}{p(A-|B+)} = \frac{p(B+|A+)}{p(B+|A-)} \cdot \frac{p(A+)}{p(A-)}. \tag{10.2}$$

The amount of revision in beliefs favoring the hypothesis that the actor holds a positive attitude increases with the diagnostic value of the counterattitudinal behavior $B+$, that is, with the likelihood ratio $p(B+|A+)/p(B+|A-)$. The amount of change in belief produced by committing one's self to perform this behavior should therefore increase with the diagnostic value of the commitment. This implies that the conditional probability $p(B+|A-)$, which defines dissonance, is only one factor involved in the forced compliance situation. Not only must this conditional probability be low, but the conditional probability $p(B+|A+)$ should be relatively high. To return to our example, the probability of writing an essay in support of legalization of marijuana should be high, given that the person has a positive attitude toward legalization. In other words, the belief, attitude, or intention which constitutes the dependent variable must be relevant for the behavior under consideration. The notion that active participation in a forced compliance situation must involve a behavior that is clearly counterattitudinal corresponds to this requirement.[16]

In Chapter 5 we described the process of self-attribution in terms of Bayes's theorem, and we discussed various factors that can influence the likelihood ratio. These factors include perceived decision freedom, the behavior's utility or desirability, and consistency of behavior across objects, actors, and occasions. We also saw that the greater the number of plausible causes for the behavior, the lower its diagnostic value. This interpretation is similar to the self-attribution approach adopted by Bem (1965, 1967, 1972), Steiner (1970), and Trope (1973).

In terms of a Bayesian analysis, then, there are only two primary beliefs in a forced compliance situation, namely, the two conditional probabilities that make up the likelihood ratio. A given manipulation should influence amount of change in the dependent variable only if it affects this ratio. For a large revision to occur, $p(B+|A+)$ should be high and $p(B+|A-)$ low. Although the manipulation may influence the extent to which a given behavior allows an inference to be made with

16. The requirement that the behavior be counterattitudinal implies not only that it should be dissonant with the actor's own position $(A-)$, but that it should also be consonant with a position contrary to the actor's position $(A+)$. Thus dissonance theory also implies that revision in an actor's beliefs will be maximal when $p(B+|A+)$ is high and $p(B+|A-)$ is low.

respect to one dependent belief, the manipulation may have little effect on the behavior's diagnostic value for some other belief. Thus telling another person that the experiment was interesting may have diagnostic value for the the belief "The experiment was interesting," but it may not influence the belief "I liked the experiment" or the intention "I would participate in similar experiments in the future." [17]

The advantage of a Bayesian analysis, therefore, is that it specifies the two primary beliefs that should serve as the target beliefs beliefs in an attempt to influence a given dependent variable. The next step in the analysis concerns the extent to which changes in proximal beliefs will influence these primary beliefs. Earlier we reviewed some of the proximal beliefs that are attacked in the forced compliance paradigm. These proximal beliefs correspond to informational items provided by the manipulation and the cover story. As we saw, the informational items provided are primarily directed at proximal beliefs that are assumed to be related to $p(B+|A-)$. Thus offering a reward is assumed to increase the likelihood that the person will commit himself to perform the behavior even if he does not have the appropriate disposition. When $p(B+|A-)$ is relatively low, an experimental manipulation (such as varying reward magnitude) may raise this primary belief to varying degrees, and it may thus have an effect on the likelihood ratio. However, if $p(B+|A-)$ is high to begin with, the manipulation will have little effect. Indeed, Steiner (1970) has argued that subjects in a laboratory investigation of forced compliance never feel really free to decline participation. This implies that $p(B+|A-)$ will usually be high, and the experimental manipulation which is designed to increase this probability can have little effect on the likelihood ratio. In fact, it may be argued that there are few if any situations in which a person cannot find one or more external justifications for his counterattitudinal behavior. The likelihood ratio will therefore usually be close to 1, and little revision in dispositional probabilities can be expected.

To make matters worse, even when circumstances are such that a given manipulation can influence the likelihood ratio, not only may it affect proximal beliefs but it may also have impact effects on relevant external beliefs. For example, offering a person a $10 reward may lead not only to the proximal belief "I was promised $10" but also the inference "I am being bribed" (cf. M. J. Rosen-

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17. Unipolar belief measures should therefore reflect changes in beliefs for which commitment to perform a counterattitudinal behavior has diagnostic value. The dependent measure, however, is usually a bipolar scale. So long as one of the endpoints on this bipolar scale defines one of the relevant beliefs, change in the belief should also be reflected in responses to the bipolar scale. When the dependent variable is measured by summing across a set of items, however, the resulting index may not reflect changes in the belief. For this reason, measures of attitude other than a single bipolar evaluative scale may be inappropriate dependent variables in a dissonance or attribution experiment.

berg, 1965b). Instead of increasing $p(B+|A-)$, the inference produced by the reward may lower this conditional probability.[18] Contrary to its intended effect, a high reward may thus serve to raise, rather than lower, the likelihood ratio (i.e., the dissonance).

From our point of view, then, it is highly unlikely that any situation can be found in which the mere commitment to perform a counterattitudinal behavior for some reward will have *consistent* effects on the likelihood ratio. Since it is impossible to specify in advance the effects, if any, of a given manipulation on the commitment's diagnostic value, inconsistent findings are to be expected.

So far we have discussed only the basic forced compliance situation in which a person commits himself to perform a counterattitudinal behavior as a result of a certain degree of pressure. Since conflicting findings are to be expected even in this relatively simple situation, introduction of additional factors will obviously serve to further confound the issue. As we have noted earlier, subjects may actually be asked to perform the counterattitudinal behavior. Making the reward contingent upon quality of performance may serve as an incentive and thus influence the performance; administration of the reward may then reinforce the behavior; and the nature of the informational items generated during performance may themselves be responsible for increases or decreases in the dependent variable, irrespective of the reward manipulation. In these forced compliance situations, therefore, no clear predictions can be made about the effects of any given manipulation. It appears that research within the forced compliance paradigm is unlikely to uncover any systematic relations between a manipulation and changes in beliefs, attitudes, or intentions.

This state of affairs is perhaps again attributable to the fact that intervening processes have received little systematic treatment. The experimental manipulations, the cover story, and performance of the counterattitudinal behavior itself provide informational items that may influence proximal beliefs. Changes in these proximal beliefs may have impact effects on external beliefs. The effect of forced compliance, including the manipulation, will depend on the degree to which changes in relevant proximal and external beliefs produce a chain of effects ranging from primary beliefs through the immediate determinant of the dependent variable to the dependent variable itself. As we have repeatedly pointed out, when these intervening processes are not taken into account, apparently conflicting findings are unavoidable.

Before we attempt to provide an overall evaluation of research generated by dissonance theory, it may be useful to examine the fourth active participation situation in which a person is confronted with a choice between two or more alternatives.

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18. The inference might also lower $p(B+|A+)$ since a person who feels he is being bribed may refuse to perform the behavior $B+$ even if he has the appropriate attitude $A+$. This would constitute an impact effect consistent with the intended purpose of the reward manipulation.

CHOICE BEHAVIOR

The forced compliance paradigm discussed above can be viewed as a special case of a choice situation, in which the person chooses to perform or not to perform a counterattitudinal behavior. Whereas early research on choice behavior was concerned primarily with factors influencing a person's decision, dissonance theory drew attention to the possible effects of the choice on the person's beliefs, attitudes, and intentions. In Chapter 2 we noted that whenever a person makes a choice between two or more alternatives, dissonance is assumed to be aroused: Knowledge that the chosen alternative has some unfavorable aspects and that the unchosen alternatives have some favorable aspects is presumed to be dissonant with knowledge of the choice. The theory predicts that the person can reduce his dissonance by increasing his evaluation of the chosen alternative, decreasing his evaluation of the unchosen alternatives, or both.[19] "Since the dissonance exists in the first place because there were cognitive elements corresponding to favorable characteristics of the unchosen alternative and also cognitive elements corresponding to unfavorable characteristics of the chosen alternative, it can be materially reduced by eliminating some of these elements or by adding new ones that are consonant with the knowledge of the action taken." (Festinger, 1957; p. 44)

In a typical experiment on postdecision dissonance, subjects first rate the attractiveness of several objects or alternatives. They are then given a choice between two of the alternatives, such as two household products (Brehm, 1956), two records (Harris, 1969; Brehm and Jones, 1970), two Papermate pens of different colors (Gordon and Glass, 1970), or two swimming suits (Mittelstaedt, 1969). In the high-dissonance condition, subjects are asked to choose between two alternatives of approximately equal attractiveness. In the low-dissonance condition, one option is highly attractive, and the other is low in attractiveness. After making their choices, subjects again rate the attractiveness of the different alternatives. An increase in the attractiveness of the chosen option, and/or a decrease in that of the unchosen option, are taken as evidence in favor of the dissonance hypothesis.[20]

For example, in the first investigation of postdecisional dissonance reduction Brehm (1956) asked female subjects to rate eight articles (automatic toaster, stopwatch, portable radio, etc.) on an eight-point scale ranging from *definitely not*

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19. Two additional ways of reducing postdecision dissonance have been suggested by Festinger: The person may psychologically change or revoke his decision, or he may establish cognitive overlap among the alternatives involved in the choice, thereby making the alternatives more similar.

20. Oshikawa (1968) has pointed out that this paradigm entails methodological problems since differential regression effects are to be expected in the high- and low-dissonance conditions. Thus changes in evaluations that have been taken as indications of dissonance reduction or of postdecisional regret may be confounded with regression effects, especially when changes in both alternatives are combined into a single index.

at all desirable to *extremely desirable*. Subjects were then told that as compensation for participating in the research, they could choose between two of the articles rated. One of these alternatives had been rated as desirable (that is, 5, 6, or 7 on the eight-point scale). For a condition of high dissonance, the other alternative offered was between ½ and 1½ scale points lower in desirability; in the low-dissonance condition, the second alternative was between 2 and 3 scale points less desirable than the first. After choosing, subjects again rated the desirability of all eight articles on the eight-point desirability scale described above.[21] The dependent variable in this study was an index of dissonance reduction obtained by subtracting changes in the unchosen alternative from changes in the chosen alternative. Although the results were in the predicted direction, the amount of dissonance reduction was not significantly greater in the high- than in the low-dissonance condition.

Although some later studies have reported significant changes in attitudes toward chosen and unchosen alternatives (e.g., Brehm and Cohen, 1959; Festinger, 1964), others have not been able to obtain the effects predicted by dissonance theory. For example, in addition to varying the *relative* attractiveness of choice alternatives, investigators have looked at variables such as the *absolute* attractiveness of choice alternatives (e.g., H. J. Greenwald, 1969), similarity of alternatives (Brehm and Cohen, 1959), involvement (Gordon and Glass, 1970), confidence (Greenwald, 1969), time of reevaluation measurement (Brehm and Wicklund, 1970), "salience" (i.e., leaving or removing photos of the choice alternatives during rating—Brehm and Wicklund, 1970), and telling or not telling subjects that a reward was contingent upon their choice and actually rewarding or not rewarding them (Brehm and Jones, 1970). Some of these studies have compared postdecisional dissonance reduction with predecisional changes (Davidson and Kiesler, 1964) or with changes due to postdecisional regret (Festinger and Walster, 1964; Brehm and Wicklund, 1970). Generally speaking, studies dealing with changes following a decision have found neither consistent nor significant effects, although auxiliary data analyses sometimes have led to apparently significant findings. In a systematic investigation of choice processes, Harris (1969) concluded that there was very little evidence in his data for postdecisional dissonance reduction. In fact, he found no significant differences between subjects who made repeated choices between pairs of records and a no-choice control group.

Analysis of Choice Behavior

Viewed within our conceptual framework, these inconsistent findings are again not unexpected. As in the forced compliance situation, research on postdecisional changes has tended to neglect the processes intervening between the choice and the dependent variable. Here, perhaps more than in other areas of research, the distinction between target beliefs and dependent variable is clearly revealed. As

21. In two additional conditions not considered here, subjects received some information about the articles following their choices but prior to the second rating.

we saw at the beginning of this section, Festinger argued that postdecision dissonance exists whenever the person believes that the chosen alternative has negative attributes and/or the unchosen alternative has positive attributes. According to the theory, dissonance can be reduced by "reevaluating the alternatives"; i.e., the person can reduce dissonance by eliminating some of these dissonant beliefs or by adding new consonant beliefs.[22] Similar to our conceptual framework, dissonance theory thus appears to suggest that attitude toward (or evaluation of) a given object is a function of the person's beliefs linking the object to positive and negative attributes. The appropriate target beliefs for a study on postdecisional attitude change, therefore, are the person's primary beliefs about the chosen and unchosen alternatives. In order to understand the effects of a given (dissonance) manipulation on attitude, one must assess its effects on these primary beliefs. Yet we know of no study in this area that has actually examined changes in the person's beliefs about the alternatives involved in the choice.

Our approach suggests, that in order to study changes in attitudes due to a choice between alternatives, one must assess the person's beliefs about each alternative.[23] This can be done at various stages of the experiment: (1) before the subjects see the alternatives; (2) after being exposed to the alternatives but before being told that they would have to choose; (3) after receiving this information but prior to making the decision; (4) immediately after choosing; and (5) after obtaining and in some way interacting with the chosen alternative. Consider, for example, a child who is offered a choice between a stuffed animal and a toy car. He can be asked to elicit his beliefs about "stuffed animals" and about "toy cars." These beliefs may differ greatly from the beliefs he would elicit after having a chance to examine a particular stuffed animal and a particular toy car. By being able to observe the objects, he may gain new information about them, thus changing some of his prior beliefs or adding new beliefs about the objects. After being told that he can choose one of the toys, he may reexamine both toys in a more critical fashion, and further changes in beliefs may result. According to dissonance theory, after the decision—but prior to interaction with the toy—additional revisions in beliefs should occur in an attempt to reduce postdecision dissonance. Finally, the child may acquire additional information about the chosen toy after he has had a chance to play with it.

Measuring the person's attitudes toward the choice alternatives at different stages in the decision process may yield different results. The appropriate com-

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22. We noted previously (Chapters 2 and 5) that Bem (1965, 1967) has suggested a self-attribution explanation to account for attitudes following a choice, as well as other dissonance phenomena. According to this explanation, a person uses his own choice to infer that he must like the chosen alternative more than the unchosen alternatives. We saw in Chapter 5 that this view is consistent with a Bayesian analysis of self-attribution processes.

23. It would be desirable to use a free-elicitation procedure; alternatively, a standard set of modal salient beliefs might be obtained in a pilot study.

parison for a test of dissonance theory is between attitudes immediately prior to the choice (in full awareness that a choice will be made—Stage 3) and after the choice has been made but prior to interaction (Stage 4).[24] Any other comparison confounds the effects of dissonance with other processes. For example, most studies obtain their first measure of attitudes at Stage 1 or Stage 2 (prior to knowledge that a choice is called for). A postdecisional measurement (at Stage 4) may then reflect changes due to reexamination of the alternatives (at Stage 3) rather than a dissonance effect. It may however be extremely difficult to obtain an uncontaminated measure of attitude at Stage 3 (immediately prior to the decision) since one cannot be sure that the person has not already made an implicit choice prior to the measurement (cf. Festinger, 1964). Procedural variations with respect to time of measurement are therefore likely to produce apparently inconsistent findings.

To make matters worse, the dependent variables in studies on postdecision changes have not been primary beliefs about the alternatives; rather, they have been attitudes, preferences, intentions, or actual choice of an alternative on some future occasion. We have noted repeatedly that even if postdecision changes in primary beliefs do occur, there is no guarantee that changes in any of these variables will follow. Indeed, one repeated problem in studies of postdecision dissonance is that a large proportion of subjects have to be eliminated because they fail to choose the alternative they rated as more attractive on the pretest. This finding indicates that attitudes toward alternatives may be unrelated to choice between them. Clearly, then, many inconsistent findings may be due to differences in the dependent variables measured in different studies.

General Comments about Dissonance Research

Since the early 1960s, a large body of research has been generated in an attempt to provide support for the major dissonance principle according to which any treatment that produces dissonance between two cognitions will lead to attempts to reduce the dissonance. We have briefly considered the two most frequently studied paradigms: forced compliance and decisions between alternatives. The findings have been largely inconsistent and disappointing.

Part of the problem is that many dissonance studies are basically attempts to account for previously obtained inconsistent or negative findings. Many of the independent variables introduced in dissonance research were studied in attempts to account for failures to support the dissonance hypothesis. Although studies of this kind may sometimes be useful and necessary, it is unfortunate that they all too often result in an accumulation of reactive studies that are much more concerned with methodological details than with theoretical issues. Indeed, recent

24. The measurement at Stage 4 should probably be performed after a short interval since it has been argued that immediately following the choice, "postdecisional regret" may actually work against the dissonance hypothesis (cf. Festinger, 1964; Walster, 1964).

research investigating the effects of active participation on beliefs, attitudes, or intentions within the dissonance framework has not significantly advanced our understanding of the conditions under which such effects will be observed. This state of affairs may reflect shortcomings of dissonance theory, the reactive nature of much of the research, or the unusually weak methodology that has tended to characterize this body of research. It is perhaps in this area, more than anywhere else, that one encounters misuse of statistics, incomplete experimental designs, conclusions based on nonsignificant findings, partial and internal data analyses, etc. Although it is doubtful that greater methodological rigor would make up for the general shortcomings of reactive research, such an approach might at least serve to eliminate some of the apparent inconsistencies.

CONCLUSION

We have seen that active participation can sometimes be an effective strategy of change. The active participant is exposed to a variety of informational items, and direct experience of this kind tends to produce changes in corresponding proximal beliefs. The problem is to ensure that changes in proximal beliefs will have the desired effects on the dependent variable. To this end, it is first necessary to identify the primary beliefs that provide the immediate informational foundation for the dependent variable in question. These primary beliefs should serve as the targets of the influence attempt. The informational items to which active participants are exposed should either directly attack some of these target beliefs, or they should attack other proximal beliefs that are functionally related to the target beliefs. Since they are assumed to serve as primary beliefs, changes in target beliefs should be reflected in the dependent variable.

Most investigators, however, have not undertaken such a detailed analysis of their active participation situations. Usually, target beliefs are not made explicit, nor are changes in these beliefs assessed. Further, no attempts are made to identify the proximal beliefs in the situation, or to examine the relations between proximal and target beliefs. In fact, in some active participation situations, particularly in the interpersonal contact situation, the investigator has only limited control over the items of information to which participants are exposed. Clearly, when the proximal beliefs are neglected or not under the investigator's control, the effects of active participation on some dependent variable cannot be anticipated. Sometimes it may produce the desired change, but at other times it may have undesirable effects or no effects at all.

In many situations involving active participation, however, the proximal beliefs attacked can and should be identified. We have seen that this is true for many role playing situations, for studies using the forced compliance paradigm, as well as for research on the effects of choosing between available alternatives. The failure to explicate target beliefs, to identify proximal beliefs, and to consider the relations between proximal and target beliefs has led to largely inconsistent findings in these areas of investigation. Our analysis suggests that neither forced

compliance nor choice between behavioral alternatives is likely to have strong and systematic effects on the dependent variables measured. In contrast, there is reason to believe that active role playing can greatly facilitate change. In comparison with a passive observer, the active role player is often forced to search through his own belief hierarchy in order to produce arguments in favor of the assigned position. This active search may increase, at least temporarily, the strength with which the previously nonsalient beliefs are held. Moreover, the role player is likely to perceive these beliefs as related to the primary beliefs and the dependent variable.

Much research on active participation has been concerned with the effects of independent variable manipulations. The assumption is that such manipulations will influence the amount of change produced by an active participation experience. There can be little doubt that manipulations do at times affect amount of change in a given dependent variable, but empirical findings have been far from consistent, and little systematic knowledge of such effects has accumulated. Two reasons for this failure may be suggested. First, we have just noted that the active participation situation has usually not been subjected to a careful analysis in terms of the information available to participants. Proximal beliefs have not been identified, and their relations to target beliefs and dependent variables have been left unspecified. Clearly, if the assumed relation between active participation and change in the dependent variable is not well understood, manipulations of factors designed to influence the strength of this relation cannot be expected to have systematic effects. Second, our analysis suggests that the active participation experience itself may not have a consistently facilitating effect because of the investigator's incomplete control over the situation. It follows that in these situations, manipulating an independent variable can produce only inconsistent findings.

We can thus conclude that the search for factors that systematically affect the amount of change due to active participation can be successful only when two conditions are met: First, the processes intervening between active participation and change in the dependent variable must be well understood; and second, the investigator must be able to exercise sufficient control over the items of information to which subjects are exposed, so that the active participation experience will consistently facilitate the desired change in the dependent variable under investigation.