

Subject Population, Thought Modality, and Cognitive Dissonance

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Research on cognitive dissonance has fallen into several traditions. One, stimulated by Festinger and Carlsmith (1959), exposes subjects to experiences of induced compliance. A second, reflecting Brehm (1956), requires subjects to choose among alternative courses of action. It is argued that choice-among-alternatives experiments reflect only inconsistent preferences, whereas induced-compliance experiments involve normative elements, and that we should not expect these two traditions to generalize equally to all populations. Our hypotheses were tested with two subject populations: university undergraduates and older church members (the latter chosen for greater sensitivity to norms). Results confirmed that older church members were more likely to resolve dissonance when subjected to an induced-compliance design but indicated that the members were only minimally affected by a choice-among-alternatives design. Results are discussed for their theoretical and practical implications.

The concept of cognitive dissonance has been one of the most popular in the history of social psychology, and research on this topic has been conducted for more than 25 years. Several traditions can be discriminated in cognitive dissonance research. Among them, one tradition, originally stimulated by an early study by Festinger and Carlsmith (1959), is characterized by study designs in which the subject is persuaded to give testimony that contradicts his or her own preexisting preference. Studies in this tradition have often found that induced compliance

will cause people to adjust their preferences, provided that their decisions are motivated by advocacy alone and are not supported by external sanctions (Collins & Hoyt, 1972).

A second tradition within cognitive dissonance research concerns postdecision changes in the evaluation of choice among alternatives and first appeared in a study by Brehm (1956). Studies in this latter tradition have led subjects to believe they can choose which of several approximately equally valued conditions they will subsequently experience. Such studies have found that people will often reevaluate their choices when they believe they have made a selection among alternatives of nearly equal attractiveness (Wicklund & Brehm, 1976).

Both of these research traditions are presumed to provide support for cognitive dissonance theory, and both are assumed to generalize equally to most subject populations. Nevertheless, these two traditions represent different means for generating the experience of cognitive dissonance, and the fact is that most of the research for both traditions has involved undergraduate subjects only. We argue in this article that these traditions reflect different modes of thought about behavior and that some populations may be more susceptible to one type of dissonance over the other.

THOUGHT MODALITIES AND COGNITIVE DISSONANCE

The concept of cognitive dissonance was proposed by Festinger (1957), who observed that people are often troubled by inconsistent thoughts. Thoughts are deemed inconsistent if one of them implies some event that is denied by another. Inconsistency of expectations may be judged for thoughts applying to impersonal events, to other persons, or to oneself. As a rule, however, cognitive dissonance effects have been found only for inconsistency of thoughts about one's own behaviors (see Aronson, 1969). This suggests that cognitive dissonance is a tension state that appears when a person holds two (or more) inconsistent thoughts, at least one of which concerns the person's own conduct. This tension state can lead the person to adopt any of several strategies for resolving the inconsistency. In particular, should the person subsequently decide to adopt a behavior that is aligned with one of the inconsistent thoughts, his or her prior tension state may cause the person thereafter to embrace or overvalue the thought aligned with the behavior and to debunk or devalue the other, inconsistent thought(s).

So much for the basic argument, but what kinds of thoughts are we talking about? Presumably cognitive dissonance can be generated by any thought mode that can motivate behavior. Several such modes have been discriminated, although distinctions and vocabulary have tended to vary among theorists. Many social psychologists have argued that behaviors are motivated by the person's preferences or "attitudes" (see Cialdini, Petty, & Cacioppo, 1981; Petty & Cacioppo,

1981; Rajecki, 1982; Reardon, 1981; Zajonc, 1980).¹ In contrast, other theorists have argued for the motivational properties of norms or standards for conduct—either norms that are attributed to others (Allen & van de Vliert, 1984; Gross, Mason, & McEachern, 1958; Jackson, 1960) or personal norms that are held for oneself (Schwartz, 1977). And still others have argued that behavior is motivated by self-labeling (Gecas, 1982; Rosenberg, 1981; Stryker, 1968; Wylie, 1979) or by the combination of behavioral expectancies and values (Atkinson, 1964; Feather, 1975). Moreover, several theorists have argued that behavior is motivated by a combination of several modally distinct thought forms. Fishbein and Ajzen (1975; Ajzen & Fishbein, 1977, 1980) argued for a model that combined preferences with attributed norms; Fishbein (1967; also see Kilty, 1978) suggested a model that combined preferences, attributed norms, and personal norms; Triandis (1977) reasoned that behaviors were generated by social, affective, and cognitive thoughts; and Biddle (1979, 1986) advanced a model that combined preferences, norms, and beliefs, particularly beliefs about the self (see Biddle et al., 1985). If we assume that n thought modes capable of generating cognitive dissonance are available and that the typical form of cognitive dissonance involves the juxtaposition of two inconsistent thoughts that may or may not share the same modality, then a total of $n!$ “types” of cognitive dissonance are generated. As it turns out, research in the induced-compliance and choice-among-alternatives research traditions may be interpreted as representing two of these modal “types.”

Interpretation of the choice-among-alternatives paradigm is presumably straightforward (Wicklund & Brehm, 1976). Subjects in such experiments are required to choose among two (or more) alternatives for behaving; thus, they may be said to experience inconsistency among preferences for their own behavior. When they have made their choice among those inconsistent preferences, they resolve the dissonance created by the need to choose by enhancing their evaluation of the chosen alternative and by lowering their evaluation of the alternatives not chosen.

Interpretation of the induced-compliance paradigm is more problematic (see Cooper & Fazio, 1984). Subjects in such experiments are normally subjected to an aversive experience that presumably leads them to form a negative preference. They are then exposed to persuasion from another—which urges them to testify concerning the pleasures of that experience. The traditional interpretation of such an event in role theory would be that the other’s persuasion leads the subject to attribute to that other a norm matching the behavior being urged (see Biddle, 1979; Parsons, 1951). Then, provided that the other’s urging is not sup-

¹As has often been observed, the term *attitude* has been defined many ways, and some theorists continue to use the attitude concept as a bushel basket that subtends several modally distinct ideas (see Allport, 1935; Eagly & Chaiken, 1984; McGuire, 1969, 1985). We believe that most attitude researchers are now focusing their efforts on the preferential “component” of attitudes alone, but some persons (e.g., Kandel, 1974) have continued to assume that “attitudes” are normative. To reduce ambiguity, we chose to use the term *preference* throughout this article.

ported by external sanctions, subjects may internalize that norm as their own (Kelman, 1958). Given such an interpretation, the subject experiences inconsistency between a norm and a preference—the norm urging the person to engage in a behavior that he or she would prefer to avoid. Subjects who decide to accede to the other's request resolve the dissonance associated with this inconsistency by raising their evaluation of the experience they had originally considered aversive.

An alternative interpretation of the induced-compliance paradigm is generated by Fazio and Cooper (1983), who argued that simple opposition of inconsistent, self-referent expectations is insufficient to produce the tension state of dissonance and subsequent attempts to resolve it through cognitive adjustment. Instead, they argued, that dissonance appears only when the person must take action that has aversive consequences. In the case of induced-compliance research, aversive implications are generated because the subject must tell a lie that may lead to harmful consequences for another person (see Calder, Ross, & Insko, 1973), thus violating widely held constituting norms (O. K. White, 1972) or universal values for conduct. The subject who goes along with the other's request, then, must contend not only with specific norms that are inconsistent with his or her own preference but also with the knowledge that he or she is about to violate these (truthfulness or not-harming-others) norms. Both problems are "solved" when the subject elevates his or her evaluation of the crucial experience. (We return to the differences between these two interpretations later.)

Whichever interpretation one favors, it is clear that the induced-compliance paradigm involves *normative* elements that are not present in the choice-among-alternatives paradigm. The former involves at least one norm, whereas the latter involves preferences alone. We now argue that this difference is substantive and that different groups of subjects may be expected to respond differentially to these two paradigms.

MODALITY AND BEHAVIOR

Preferences and norms are assumed to motivate behavior for differing reasons. Preferences are thought to have intrinsic, motivational properties (Petty & Cacioppo, 1981). After all, what can be more reasonable than that persons will do what they prefer to do and avoid those behaviors they dislike? Given such arguments, it is surprising to learn that many early studies found only weak relationships between preferences and behaviors (see Deutscher, 1966; Wicker, 1969). In retrospect, many of these early findings seem to have reflected poor research designs, and recent studies have now reported strong associations between preferences and conduct for a wide variety of topics and subject populations (Ajzen & Fishbein, 1977; Cialdini et al., 1981).

The theory of normative influence states that persons' conduct is affected by norms concerning what they and others should or should not do (Jackson, 1960).

These norms may either be learned from experiencing the consequences of acting or by incorporating the arguments of others. In particular, others often urge us to follow a given course of action, either because we will avoid aversive consequences if we do so or because they will sanction us if we do not conform. In contrast, other norms are internalized and are accepted into the person's own moral code. Again, considerable research supports the thrust of these arguments. Gross et al. (1958) first showed that persons were likely to conform to norms they attribute to powerful others, and this finding has since been replicated many times (see van de Vliert, 1979). Schwartz (1977) reported an extensive program of research on the impact of moral (i.e., internalized) norms on behavior.

These arguments suggest that preferences motivate for reasons that are largely intrinsic; once we know that a given person experiences a preference, it should also follow that conformity to the preference is likely. In contrast, normative motivation is more often a contingent matter, and normative motivation should be greater in contexts in which fear of consequences is salient or for persons for whom the norm in question is viewed as a moral issue or is central to fundamental values. One implication of this is that subject populations may differ in the degree to which they are motivated by norms. Another is that different situational factors may make norms more or less salient for a given population. Persons having had more experience with consequences, persons reared in contexts that emphasize traditions, and persons who are currently involved with institutions that stress moral commitments should all be more sensitive to norms. Moreover, indirect evidence is available supporting these propositions. Kilty (1978) found the impact of norms for drinking behavior to be stronger for older subjects, Turner (1976) and Zurcher (1977) both advanced evidence suggesting that earlier generations of Americans were more sensitive to norms than young persons today, and Schwartz (1977) reported that persons are more likely to conform to a norm when they are morally committed to it.

To apply these arguments to the field of cognitive dissonance, we must assume that persons are more likely to experience a tension state when the inconsistent thoughts they experience have greater motivating potential. If so, then induced-compliance and choice-among-alternatives designs have differing implications. The latter involve the opposition of inconsistent preferences; if preferences are intrinsic motivators, choice-among-alternatives designs should generate cognitive-dissonance effects for a wide variety of topics and subject populations. The former designs, however, involve inconsistencies between norms and preferences and should have more contingent applicability; thus, cognitive-dissonance effects should be stronger for induced-compliance designs among persons who are more motivated by morality or concern for consequences.

METHODS

These propositions were tested in an experiment that applied either an induced-

compliance or choice-among-alternatives experience to subjects representing two populations. One subject population (university undergraduates) was chosen for ease and comparability with prior studies, whereas the other (older church members) was chosen for greater presumptive sensitivity to norms.

Procedure

Two experimental conditions were created: one replicating induced-compliance designs, the other replicating choice-among-alternatives techniques. Care was taken to make the two conditions similar in all features except the method of inducing dissonance. This was done by exposing all subjects to an initial set of boring tasks. All subjects were also asked to rate those tasks on a series of judgmental scales. Subjects in the induced-compliance condition were then urged to write an essay stating that the tasks were fun and interesting, whereas subjects in the choice-among-alternatives condition had to choose which of the tasks they would repeat for an additional 30 boring min. Tasks were then rerated after the essay was written or the choice was made, and subjects were debriefed.

The induced-compliance condition thus created was quite similar to that used in the original Festinger and Carlsmith (1959) design. The choice-among-alternatives condition differed from that used by Brehm (1956), and in most other studies in the latter tradition, in that choice was made among disliked rather than liked behavioral alternatives. Prior evidence is mixed as to whether the valence of choice alternatives makes a difference in generating cognitive dissonance. W. G. Walster and E. Walster (1970) found no evidence for dissonance effects for disliked alternatives, but G. L. White and Gerard (1981) found that liked and disliked alternatives were both able to generate dissonance effects. Given this issue, it was crucial in the present study that the choice-among-alternatives condition generate dissonance effects.

All experimental sessions involved small groups of subjects and were conducted by Pinkerton. The cover story for the experiment told subjects that there was a need to establish base rates for average levels of activity of several tasks. Subjects were then asked to perform four separate boring tasks for 10 min apiece in order "to establish the average amount of work a normal person can do in a specified time." Task 1 involved the solving of several similar mazes. Task 2 required subjects to alphabetize a series of four-letter, nonsense-syllable words in reverse order. Task 3 presented subjects with a set of four- or five-letter scrambled words, and subjects were to unscramble each word. In Task 4, subjects were given lists of five-digit numbers that had been generated by random means and were told to reorder the lists beginning with the smallest number in each case. Pretests indicated that these four tasks were, indeed, disliked by undergraduate subjects, and Tasks 2 (alphabetizing) and 4 (number ordering) were judged coequally the most aversive. The first rating of tasks was obtained in an "experimenter's questionnaire" and asked subjects to rate each task for "interest,"

“enjoyability,” “scientific importance,” “effort,” and “familiarity.” Ratings were indicated using 7-category Semantic-Differential-type scales ranging from, for example, *not at all interesting* to *very interesting*.

Subjects in the induced-compliance condition were then told that the experimenter was having difficulty recruiting subjects and needed help from those who had already completed the experiment in the form of essays that could be used with subject recruitment. Subjects were asked to write specifically about the number-ordering task and to stress the interest and enjoyability of it for potential subjects. Subjects were given the option of not writing the essays, but most not only wrote the required essays but also complied with the experimenter’s request to make positive statements about the task.²

Subjects in the choice-among-alternatives condition were told that the experiment would continue with the collection of additional “retest data” in which they had to continue doing one of the tasks for 30 min. They were told that “retesting” was necessary to establish reliability of work rates. Subjects had the option of choosing the task they would do, but the experimenter already had “sufficient data” on the other tasks, so subjects had to choose between alphabetizing and number ordering. To make the choice a believable and serious issue, subjects were handed two printed booklets in which apparently endless examples of the boring tasks appeared. Subjects handed back the booklet for the task not chosen (thus allowing the experimenter to note the chosen task) and were led to believe that they would begin the “retest session” shortly. (In fact, the “retest session” never occurred.)

Subjects in both conditions were then asked to fill out a “departmental questionnaire,” presumably assembled by a Human Subjects Committee, that asked them to supply information concerning the experiment. Among other data collected, demographic information, judgments about the experiment, and additional evaluations of the four experimental tasks were given by the subjects. Due to concern for possible impression-management effects, care was taken to construct the latter questionnaire so as to mask its relationship to the original experimenter’s instrument. In addition, the “departmental questionnaire” was administered by a confederate in all experimental sessions. Subjects were given 7-category Likert-type scales to indicate their responses (although the first and last categories of each scale matched the endpoints for the Semantic-Differential-type scales used in the first questionnaire). As well, the “departmental questionnaire” asked respondents to judge four qualities for each “task or test involved

²In all, 9 (13%) of 70 undergraduates originally exposed to the induced-compliance condition were discarded from the study—4 because they failed to write essays and 5 because they wrote negative statements. (In addition, 4 undergraduates were also discarded for failure to provide complete data—2 from each of the treatment conditions.) Three (16%) of 19 older adults exposed to induced compliance were also dropped—2 who did not write an essay and 1 who wrote negative statements. It is important to note that these rates are comparable to those in previous dissonance studies and were not significantly different in the two populations.

in the research”: “enjoyability,” “intrigue,” “interest,” and “scientific value.” Thus, before-and-after evaluations were available for each task using two words that were presumed to reflect subjects’ preferences for task—“enjoyability” and “interest”—and care was taken to match the first and second questionnaires for all subjects.

As soon as “departmental questionnaires” were completed, the experimenter terminated each session, debriefing all subjects. All deceptions were exposed, the true purpose of the experiment was revealed, and subjects were asked to avoid discussing the experiment with others lest later experimental sessions be contaminated.

Subjects

Two populations of subjects were used in the experiment—university undergraduates and older church members. Subjects representing these two populations were not mixed in experimental sessions. Subjects in both samples were randomly assigned to treatment conditions.

University undergraduates were chosen for both ease and comparability with earlier studies of cognitive dissonance effects. Undergraduates were recruited from an introductory class in sociology and received extra course credit for their participation. As in most experiments with undergraduates, participation in the study was voluntary, and students who did not participate in the experiment had other ways of earning course credit. Thus, the undergraduate sample was not random. Undergraduates were also largely unmarried and living away from their parental homes. The sample was mostly White and from upper- or middle-class homes and represented approximately equal numbers of men and women. The sample averaged 19.8 years of age, and usable data were obtained from 107 undergraduate subjects.

Older church members were chosen for greater presumptive sensitivity to norms. To obtain appropriate subjects, the investigators approached a leading Baptist church in the local community and received permission from its Minister of Education to recruit subjects from its adult Sunday school classes. Such a population would presumably have more sensitivity to norms than undergraduates because it is older, it represents an earlier generation, and it is regularly involved with an institution that stresses moral commitments. Subjects were recruited through personal contact and appeals, although motivation to participate was encouraged by presentation of a \$300 donation to the church. Despite effort on the part of the investigators, less than half those persons contacted agreed to participate, so the sample obtained was also not random. (In fact, it might be argued that those who were willing to participate were more likely to be normatively oriented than those who did not.) Nearly all members of the older sample were married and living in their own homes. The older sample was also predominantly White and from upper- or middle-class homes and represented approximately

equal numbers of men and women. It averaged 48.4 years of age, and usable data were obtained from 36 subjects.

Supplementary data were collected to assess the proposition that older church members were more normatively oriented than undergraduates. All subjects of the experiment were asked a series of questions about their "true selves," as originally suggested by Turner (1976). As expected, older church members were more likely to agree that the way to find out who they really were was to "help someone who needs your assistance" ($p < .05$) and less likely to agree that they would find out by "forgetting duties and inhibitions" and just doing whatever they felt like doing ($p < .05$). As well, subjects were asked, "When you find yourself in situations in which you *want* to do one thing and you think you *should* do something else, how likely are you to do the thing you think you *should* do?" As predicted, older church members were more likely to say they would choose to do what they *should* do ($p < .01$). Thus, the older church members appeared to be more sensitive to norms, on average, than the undergraduates.

RESULTS

Manipulation Checks

Creation of cognitive-dissonance effects in the reported experiment would be expected only if the experimenters succeeded in imposing tasks on subjects that the latter considered aversive. Two scales were available for checking subjects' preferences for tasks—ratings for "interest" and ratings for "enjoyability." When initial ratings for these scales were examined, experimenters were surprised to discover that the two tasks had been given largely neutral ratings by subjects in both samples, although the ratings assigned to the crucial tasks were lower than those for the other two tasks. In addition, older subjects also gave slightly higher ratings to both crucial and noncrucial tasks than were given by undergraduates ($p < .05$). (We return to this latter effect in the Discussion.)

Our finding for initial task ratings might have indicated that the crucial tasks were not considered aversive or that subjects were merely being "polite" to the experimenter in the ratings they gave. Although the latter interpretation seemed likely (because the experimenter was a "nice" young woman), the investigators decided to cover all bases by analyzing data twice: first for the total samples and second for subsamples—within both groups of subjects—of persons who indicated clearly that they did *not* like the crucial tasks on their initial ratings. Because Festinger (1957) stated that cognitive dissonance is greater when persons feel more strongly about an issue, it was presumed that dissonance-resolution effects would be greater for subsamples than for the samples as a whole. In all, 42 persons appeared in the undergraduate subsample, whereas 11 older church members were also found who said that they disliked the crucial tasks.

Findings for Total Samples

As already indicated, ratings for the "interest" and "enjoyability" of tasks were obtained both before and after subjects were exposed to treatments designed to induce cognitive dissonance. If subjects were to resolve dissonance, they would give more positive subsequent ratings to crucial tasks using these scales. To assess changes, then, we calculated regressed mean scores for the second ratings given in each treatment group, using a statistical control for the first ratings. Such scores have the advantage of direct comparability both with each other and with a common reference point consisting of the average before-treatment score. Separate analyses were originally conducted for "interest" and "enjoyability," but these generated similar findings so scores for these two scales were summed to give a joint indication of task preference.

The first question to be answered, then, was whether our treatments produced significant dissonance effects for the undergraduate sample. As it turns out, significant effects of nearly identical size were generated for undergraduates in the two treatment conditions. Those subjects exposed to the induced-compliance condition increased their preference for crucial tasks by a regressed mean score of +.98 scale points ($t = 3.79, p < .001$), whereas those exposed to the choice-among-alternatives condition increased their regressed mean preference score by +.80 ($t = 2.56, p < .02$). These results indicate that the experimental treatments were both effective for the type of subject commonly used in dissonance-inducing experiments and indicate that we obtained effects for undergraduates that are similar to those normally reported for induced-compliance and choice-among-alternatives studies. In particular, they indicate that we were able to induce the experience of dissonance among undergraduates in the choice-among-alternatives condition even though subjects exposed to it were required to choose among disliked alternatives.

Our first substantive hypothesis stated that *older church members will suffer more dissonance when induced to comply than will undergraduate students and hence will make greater positive changes in their preferences for crucial tasks in the induced-compliance condition*. Data testing this hypothesis are displayed in Figure 1. As can be seen, older church members made significant positive changes in their preferences for the crucial task in the induced-compliance condition, and these changes were significantly larger than those made by undergraduates, on average ($t = 2.21, p < .05$). Thus, Hypothesis 1 was supported.

Our second substantive hypothesis stated that *older church members will not suffer more dissonance when choosing among alternatives than will undergraduate students and hence will not make greater or lesser changes in their preferences for crucial tasks in the choice-among-alternatives condition*. Data testing this hypothesis are also displayed in Figure 1. As can be seen, although undergraduates significantly increased their ratings for crucial tasks in the choice-among-alternatives condition, within this condition older church members made only non-significant changes in their preferences for crucial tasks. Unfortunately, the differ-

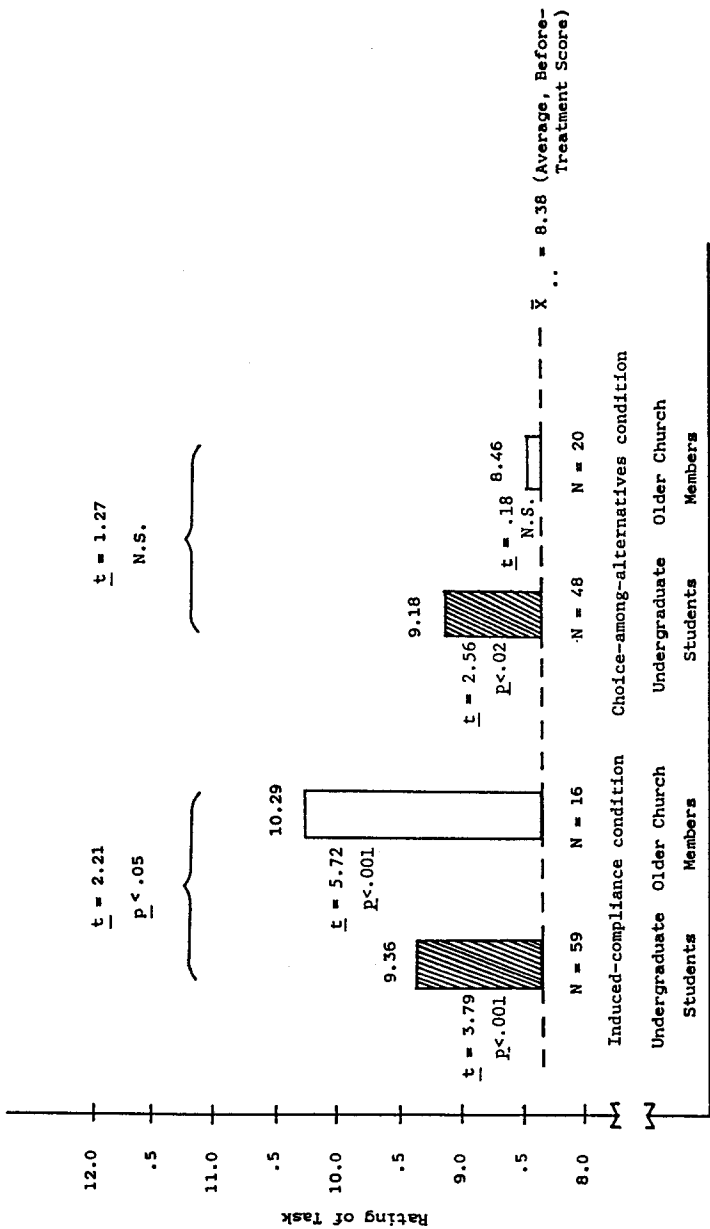


FIGURE 1 Regressed mean preferences for crucial tasks following dissonance-inducing experiences—total sample.

ence between the two samples exposed to this condition did not reach statistical significance ($t = 1.27$, ns). In short, although older church members experienced more dissonance than undergraduates in the induced-compliance (normative) condition as expected, they tended to suffer less dissonance in the choice-among-alternatives (preference) condition.³

Findings for Subsamples

As already indicated, subsamples were also chosen of persons who gave clearly negative initial ratings of preferences for crucial tasks. We predicted that dissonance-resolution effects would be greater among members of the subsamples.

This expectation may be assessed in Figure 2, which presents regressed mean scores for each of the four subsamples. As can be seen, each of the changes in preference rating was larger for the subsample than for the equivalent total sample. Moreover, some of the effects displayed achieved higher levels of significance, despite the smaller frequencies involved. In particular, the difference between subsamples for the choice-among-alternatives condition was now nearly significant ($t = 2.01$, $p < .06$). In short, the subsample analysis provided additional support for our conclusions concerning the substantive hypotheses.

DISCUSSION

Results were consistent with our general argument that the distinction between induced-compliance and choice-among-alternatives "types" of cognitive dissonance is substantive and that these two "types" may not have the same implications for all subject populations. As we have shown, the two treatment conditions generated sharply differing tendencies to resolve cognitive dissonance among undergraduate students and older church members. To the best of our knowledge, our results are the first ever published in which it was shown that two subject populations differ antithetically in their responses to contrasting dissonance manipulations. At the same time, our substantive hypotheses were only partly supported. In particular, our hypothesis that the two subject samples would respond similarly to the choice-among-alternatives condition, in which inconsistent prefer-

³Studies in the choice-among-alternatives tradition sometimes have reported that subjects also resolve dissonance by reducing their preferences for nonchosen alternatives. We examined this possibility among our choice-among-alternatives subjects but found only nonsignificant differences for the nonchosen and the other two noncrucial tasks. To our surprise, however, subjects in the induced-compliance condition significantly increased their preferences for the three noncrucial tasks despite the fact that they were not required to write about them. Evidently, subjects' tendency to reevaluate their experiences in our induced-compliance design generalized from crucial to noncrucial tasks (or to the entire experiment). To the best of our knowledge, such tendencies to generalize have neither been reported nor been systematically examined in previous induced-compliance research.

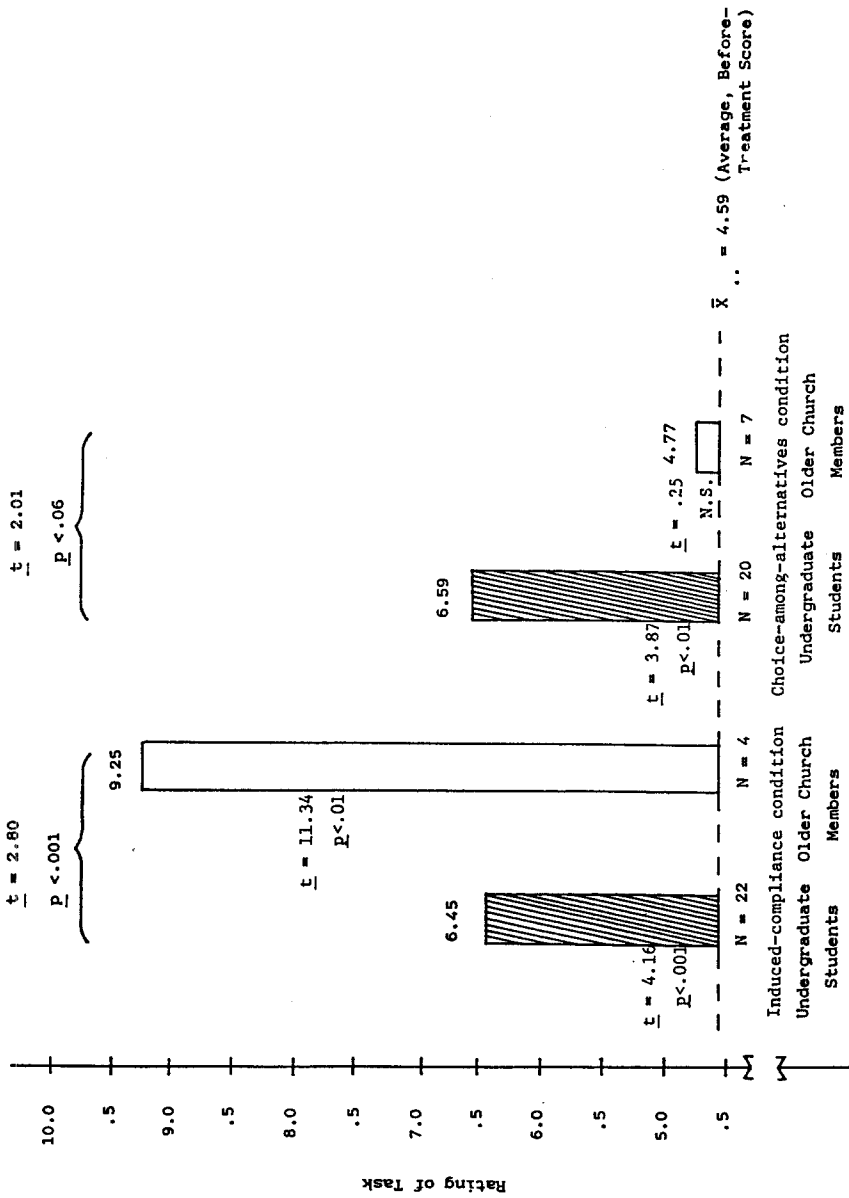


FIGURE 2 Regressed mean preferences for crucial tasks following dissonance-inducing experiences—"task-negative" subsample.

ences are opposed, was not truly confirmed. Although we found no statistically significant differences between groups, as predicted, the trend was clear that the older population would show a smaller dissonance effect than the undergraduates. These results have several implications.

For one thing, our results provide a demonstration of the potential importance of modality distinctions for research on thoughts, attitudes, cognitions, and related topics. For many years, some psychologists have argued or assumed that preferences, norms, beliefs, or other modal forms have similar implications for behavior or can be substituted for one another in global attitude scales (see Bank, Biddle, D. M. Keats, & J. A. Keats, 1977). Moreover, many early theories in cognitive social psychology (e.g., dissonance theory) were often stated in modally ambiguous terms. Our results suggest that social psychologists need to pay more attention to modality. Preferences and norms are *not* the same types of cognitions (see also Fishbein & Ajzen, 1975). They are generated by different experiences, and they motivate behaviors for different reasons. Although social psychologists may not yet agree on the exact numbers and types of thought modes needed in models for predicting behavior, it is clear that it is unwise to confuse preferences and norms in those models.

That our two subject groups were found to differ in their reactions to the induced-compliance condition is consistent with our view that they differ also in their general sensitivity to normative advocacy. Many social psychologists, following Parsons (1951), have stated theories that assume the universal importance of others' norms for various subject populations. Our results suggest that this assumption may be in error. We suspect that sharp differences can be found among subject populations in sensitivity to normative messages; indeed groups can presumably be found who are even more or less sensitive than the two we studied. In addition, sensitivity to others' norms almost certainly varies depending on social context. To illustrate, many people seem willing to follow immoral or unwise orders in authoritarian contexts that would give them qualms in other settings (e.g., Milgram, 1974).

If our reasoning is correct, differences in normative sensitivity among subject populations would *not* predict differences in their reactions in the choice-among-alternatives condition. Why then did we also find nearly significant differences in the latter case? Let us first examine the possibility that those were artifactual. As we know, older church members also gave slightly higher initial ratings to crucial tasks than undergraduates, which means that the crucial tasks might have been, for them, insufficiently aversive to generate cognitive dissonance. Yet, in the induced-compliance paradigm, older subjects experienced significantly *more* dissonance than undergraduates. In the choice-among-alternatives paradigm, the overall attractiveness of the items involved in the choice is not essential, but rather dissonance is induced by the relative desirability of the objects involved in the choice (see Wicklund & Brehm, 1976). On this crucial dimension, the two populations did not differ. In short, the overall difference in initial preference provides an unlikely reason for the effects we observed.

If not artifactual, then our unexpected finding is substantive and deserves exploration of possible reasons for its appearance. Perhaps the simplest explanation is to presume that responses to preferences may also be (like responses to norms) a contingent matter and that our older subjects were both more normatively and less preferentially sensitive. Why should response to preferences be contingent? One reason is suggested in a thesis that is argued, by implication, in both Turner (1976) and Zurcher (1977). These authors suggested that generational differences appear in the modally specific responses of persons and that the present generation of youth is both more preferentially and less normatively oriented than earlier generations. If the thesis is correct, it may help to explain why earlier studies tended to find fewer significant relationships between preferences (or attitudes) and behavior than more recent research. And, if correct, the thesis also implies that the efficiency of predictive models focused on preferences alone is also historically limited and will tend to decline as we pass out of the "me generation." One way to test this thesis would be to repeat the present study with a series of subject populations, assessing the hypothesis that dissonance-reducing response to induced compliance varies inversely with response to choice among alternatives.

Alternatively, sensitivity to choice dilemmas may simply decline with increasing age and experience. (Thus, whereas once the adolescent may have agonized over choices made among foods or garments, with greater experience the adult makes these choices more easily.) If this latter thesis is correct, older subject groups would all tend to respond minimally to the choice-among-alternatives condition, whereas the same groups might vary considerably in sensitivity to induced compliance.

Another possible reason for our unexpected finding reflects the second interpretation of induced-compliance dissonance effects that we discussed earlier. As will be recalled, Fazio and Cooper (1983) argued that the simple opposition of inconsistent self-referent expectations is insufficient to produce the tension state of dissonance. Instead, dissonance appears within induced-compliance research because subjects must tell a lie that may cause harm to others, thus violating a widely held norm.

Choice-among-alternatives research is not discussed by Fazio and Cooper (1983), but if we apply similar reasoning to the latter, it may be that dissonance effects are generated by the need to rationalize the potentially harmful consequences to oneself of making an incorrect decision or choice (Petty & Cacioppo, 1984). This interpretation is supported, at least indirectly, by Wicklund and Brehm (1976, Chap. 14), who reviewed studies suggesting that subjects who are more extraverted and more "tolerant" of the experience of cognitive dissonance are less likely to resolve it through cognitive change. Assuming this thesis, one presumes that our older subjects were not only more bothered by the necessity to lie but were also less afflicted with needs to rationalize their decisions. This thesis might be explored further by conducting additional studies in which subject needs were measured with standardized instruments and need scores were com-

pared with responses to both induced-compliance and choice-among-alternatives conditions.

The study we report in this article cannot tell us which of these explanations is more attractive. Additional research is obviously needed on the factors that are associated with strength of response to the choice-among-alternatives paradigm. But clearly, our findings indicate that response to dissonance-inducing experiences should not be assumed to generalize across subject populations with impunity. Thus, our findings illustrate a problem that is generated when social scientists rely solely on any one subject population (e.g., undergraduates) as experimental subjects. To illustrate this problem, consider what might have been the history of dissonance research had early researchers relied solely on older church members as subjects. Our results suggest that research in the induced-compliance tradition would have been even more popular, whereas choice-among-alternatives studies might never have been published at all! This does not mean that all experiments conducted with undergraduates are specious; indeed, many studies initially conducted with undergraduates have since been replicated with other subject populations. In fact, if our theorizing is correct, it should be possible to replicate our results by isolating subgroups of undergraduates who are normatively and preferentially oriented.

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