JOURNAL OF EXPERIMENTAL SOCIAL PSYCHOLOGY 11, 490–499 (1975)

On the Inconclusiveness of "Crucial" Cognitive Tests of Dissonance Versus Self-Perception Theories

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Several recent experiments are claimed to have tested conflicting predictions of cognitive dissonance and self-perception theories. It is argued that these claims fail to take into account the capacity of each formulation to account adequately for results "predicted" by the other. This argument is then continued, at a metatheoretical level, to reach the conclusion that the two theories are not capable of producing unequivocally contradictory predictions of cognitive consequences of experimental procedures.

Recently, several articles (e.g., Snyder & Ebbesen, 1972; Ross & Shulman, 1973; Green, 1974) have purported to provide crucial tests of dissonance (e.g., Aronson, 1968) versus self-perception (Bem, 1967, 1972) predictions of cognitive consequences of induced compliance.[2] Bem's (1967) self-perception reinterpretation of cognitive dissonance phenomena had earlier led to a number of empirical attempts to make these two theories compete in an empirical arena. This earlier flurry of activity died down appreciably following publication of an article (Bem & McConnell, 1970) stressing the view that the choice between the formulations was one that resolved "to a matter of loyalty or aesthetics (p. 30)" rather than data. The more recent empirical activity has been rekindled by apparent derivations of competing predictions for the dissonance and self-perception theories by Snyder and Ebbesen (1972) and

Preparation of this report has been supported in part by Grants NSF GS-3050 and PHS MS-20527. I am grateful to Robert B. Cialdini, Ellen Berscheid, Timothy C. Brock, Mark Snyder, Michael S. Pallak, Richard Harris, Daryl J. Bem, David R. Shaffer, Michael Ross, and James D. Laird for providing comments on an earlier draft.

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[2] These published articles may represent only the visible portion of an iceberg. A few unpublished studies are: Laird, J. D. & Berglas, S., "Awareness of dissonance, dissonance-related cognitions, and 'dissonance' produced change" (unpublished, Clark University, 1973); Pallak, M. S., Sogin, S. R., & Cook, D., "Dissonance and self perception: Attitude change and belief inference for actors and observers" (unpublished, University of Iowa, 1973); Shaffer, D. R., "Attitude extremity as a determinant of attitude change in the forced compliance experiment" (unpublished, Kent State University, 1973); Shaffer, D. R., "The salience of initial attitude after consonant and dissonant attitudinal advocacy" (unpublished, University of Georgia, 1974).

Ross and Shulman (1973). Significantly, an endorsement of these new crucial tests was provided by Bem's (1972, p. 31) most recent (and presumably last) word on this controversy. The aim of the present note is to attempt to reestablish more firmly the position stated by Bem and McConnell (1970), to the effect that the dissonance and self-perception theories do not generate unequivocally conflicting predictions. Hopefully this note will forestall effort on further "crucial" experiments that turn out not to be crucial after all and particularly on ones that have little to offer once it is demonstrated that they are not crucial.

The argument presented here consists of three components: (a) presenting the reasoning that led Snyder and Ebbesen (1972) and Ross and Shulman (1973) to their competing predictions for dissonance versus self-perception formulations, (b) demonstrating that it is possible to make these competing predictions while making the rather significant change of substituting the self-perception predictions for the dissonance predictions and vice versa, and (c) observing that the dissonance and self-perception theories are instances of a broader class of theories that should not, in principle, be capable of generating unequivocally conflicting predictions.

How the Competing Predictions Were Generated

The major predictions made by Snyder and Ebbesen and by Ross and Shulman to distinguish the dissonance and self-perception theories concerned the effect of *initial attitude salience* on attitude change in a counterattitudinal advocacy (or forced-compliance) experiment. In the conditions that were critical, subjects were induced to choose to write an essay opposing student control over university curriculum. To make initial attitudes salient, Snyder and Ebbesen asked their subjects (before giving them the essay position assignment) to think a few minutes about their views on student control of curriculum and not to proceed to further instructions in the booklet "until you have fully organized your thoughts on this issue." This procedure was skipped to provide low salience of initial attitude for other subjects. Ross and Shulman used a different salience operation, either reminding or not reminding subjects of 1-wk-previously stated attitudes just before final attitude assessment (i.e., after essay writing). The different operations for producing salience (thinking about unstated initial attitudes vs being reminded of previously stated ones) and the different times of administering these (before vs after essay writing) were possibly responsible for the different patterns of results obtained in the two studies. The patterns of results are, however, irrelevant to the present argument, which is concerned only with the reasoning used to generate the competing predictions.

According to Snyder and Ebbesen (see also Ross & Shulman, 1973, p.

140), the dissonance prediction is for more attitude change with initial attitude salient, since,

> . . . as the awareness or salience of cognitive dissonance increases, dissonance reduction through attitude change will increase. One way of increasing a subject's awareness of dissonance will be to increase the salience of the cognitions which are producing the dissonance (Snyder & Ebbesen, 1972, p. 503).

On the other hand, the self-perception prediction is for less attitude change when the initial attitude is salient, since

> Self-perception theory proposes that people infer their attitudes from their behavior only "to the extent that information from internal cues is weak, ambiguous, or uninterpretable" (Bem & McConnell, 1970, p. 23) . . . To the extent that the initial attitude cues are salient the subject's postmanipulation attitude should agree with his initial one (Snyder & Ebbesen, 1972, p. 504).

Snyder and Ebbesen obtained findings that provided better confirmation of their self-perception than of their dissonance prediction, while Ross and Shulman obtained good support only for their dissonance prediction. This conflict in outcomes for the test of the same conceptual predictions is not terribly disturbing because of already-noted differences between the studies in the salience operations. It is, to repeat, not the data but the predictions that are of present concern.

Why Not Predict Just the Reverse?

In generating the above predictions for the dissonance formulation, the several authors appear to have overlooked some familiar reasoning by dissonance analysts (Brehm & Cohen, 1962):

> . . . the most general factor controlling dissonance reduction is the resistance to change of relevant cognitions (p. 64). . .
>
> . . . commitment increases the resistance to change of an element (or set of elements) and thereby affects the kinds of attempts to reduce dissonance that may occur (p. 8).

There is, perhaps regrettably, no standard operation for rendering an initial attitude salient (cf., above comparison of Ross & Shulman, 1973, with Snyder & Ebbesen, 1972). While commitment should not be identified with salience, commitment to an attitude statement is certainly a procedure that would render an attitude salient. Accordingly, it is apparent that a dissonance analysis isn't compelled to espouse the above "dissonance prediction" of greater attitude change when initial attitude is salient. The salient initial attitude may, that is, provide a cognitive element that resists change. In fact, it is possible to follow this reasoning to conclude that less attitude change might occur (in comparison to a nonsalient attitude condition) if the salient initial opinion is highly resistant to change.

Can we be equally dextrous and reverse the self-perception prediction of the Snyder–Ebbesen and Ross–Shulman studies? Yes! A common prediction from the self-perception analysis is that judgments of current attitude (or, more generally, internal disposition) are inferred from observed behavior to the extent that the observed behavior is not seen as called for by the situation in which it occurs. One way in which an observed behavior may be seen as discrepant from a situational demand is if the situation includes a clear (i.e., salient) expression of the actor's conflicting prior attitude. Accordingly, a self-perception analysis can legitimately predict greater change on an attitude measure following counterattitudinal behavior when the behavior is counter to an initial salient attitude that when the initial attitude is not salient. (Lest the reader question the plausibility of this derivation being made within a self-perception context, I offer the following example: Consider a person whom you observe at a public demonstration carrying a picket with a proabortion message. If I tell you that this person is a priest who has long been known as an opponent of abortion legislation, is it not plausible that you may infer a greater strength of proabortion opinion for this apparent convert than for another picketer with an equivalent proabortion message?)

What Does it All Mean?

It is, of course, distressing when a theoretical formulation proves capable of accomodating itself to almost any data that may result from a given experimental manipulation. Adherents of the two formulations would respond readily to this distress, however, by observing that the prediction is not indeterminate. Rather, they would say quite correctly, the outcome of the experiment depends on other situational factors that I have failed to mention. The crucial question then becomes: Do the dissonance and self-perception formulations have different expectations regarding the other situational manipulations that are required to produce a given effect? The answer to this question would seem to be "no."

In the Snyder–Ebbesen and Ross–Shulman experiments, for example, both theories would expect subjects' final opinions to be close to initial opinion to the extent that other situational factors indicate greater commitment to the initial opinion than to the opinion-discrepant behavior, or to be altered from the initial opinion to the extent that the other factors indicate greater commitment to the opinion-discrepant behavior. An alternate statement of this point in currently fashionable attribution language is: The prediction for either theory depends on whether the experimental circumstances foster a dispositional (attitude change) or situational (no change) attribution for the counterattitudinal behavior. While rendering the initial attitude salient might often foster a situational attribution, it

needn't invariably do so, and both formulations would account equally well for these exceptions.

One method of proceeding from the above arguments would be to consider, in turn, how the cognitive effects of a variety of experimental manipulations would be predicted from the dissonance and self-perception perspectives. It would be preferable, however, to attempt to deal with the problem of comparing the two formulations in a more general fashion. This is the goal of the remainder of this article.

Competing Predictions and Level of Disconfirmability of Theories

In order to approach the question of the possibility of competing predictions of dissonance and self-perception theories at a general level, it is useful to introduce the notion of levels of disconfirmability of theories. When a theory applies to an empirical area in which there are strongly established operational definitions linking theoretical concepts to research procedures, the effect of data disconfirming a prediction is to call into question the theoretical conceptualization underlying the prediction. When operational definitions are not so firmly established, it is a reasonable response of the theorist to interpret unexpected data as calling into question the appropriateness of research operations before abandoning the theoretical conceptualization. When the relation between theory and data is characterized by questionable operations of the latter sort, so that unexpected data are not necessarily disconfirming of conceptualization, the theory will be said here to be characterized only by *operational disconfirmability*. When the link between concepts and operations is more confidently established, the theory will be said to be characterized by the stronger level of disconfirmability, *conceptual disconfirmability*.

Some theories may be left more or less permanently at the level of operational disconfirmability. The example par excellence of such a theory in psychology is Skinner's (1938) analysis of operant reinforcement. The theory (interestingly, Skinner has avoided calling it such) defines a reinforcer as an event that increases the probability of a response on which it is contingent. Should an event that is believed to be a reinforcer turn out not to increase the rate of a response on which it is contingent, this is not considered occasion for reconceptualizing the effect of reinforcers but, rather, for concluding that the event was not, indeed, a reinforcer. Hull's (1943) Postulate 4 was, by contrast, a conceptually disconfirmable theory of reinforcement. It asserted that habit strengthening required occurrence of an event that served to reduce a biological need. This conceptualization could be (and was) disconfirmed by empirical results indicating that habits were strengthened in the absence of need reduction (e.g., when saccharine was the reinforcer or when food was presented to an already sated animal). It is interesting

that some psychologists preferred to believe that results inconsistent with predictions from Hull's Postulate 4 indicated the existence of previously undetected needs that were being reduced. These psychologists were apparently converting Hull's theory from a conceptually disconfirmable one to one that was only operationally disconfirmable.

Suppose, now, that there exist two theories, characterized by operational but not conceptual disconfirmability, and applying to the same data domain. Since, by definition (i.e., of the theories as only operationally disconfirmable), there are no experimental results that would unequivocally require the modification of either theory's conceptualization, it follows that no experiment could provide a crucial confrontation between the theories. At most, an experiment would require alteration of theoretical interpretation of operations for one or both theories.

It is my intention to make the case for the impossibility of a crucial confrontation between dissonance and self-perception theories by showing that, in the domain of *cognitive* effects of experimental operations, each is an operationally, but not conceptually, disconfirmable theory. (I think it may be reasonable to believe that dissonance theory is conceptually disconfirmable in the domain of physiological or other noncognitive performance consequences of experimental operations. Therefore, the confinement of the present argument to cognitive consequences—see the title of this article—is both intentional and important.)

For the purpose of evaluating disconfirmability status of the two theories, the recent statement of self-perception theory by Bem (1972) and Aronson's (1968) statement of dissonance theory's responses to its critics will be adopted as authoritative references.

Disconfirmability Analysis of Self-Perception Theory

Bem has asserted as postulates of self-perception theory that:

> Individuals come to "know" their own . . . internal states partially by inferring them from observations of their own overt behavior and/or the circumstances in which this behavior occurs . . .
>
> To the extent that internal cues are weak, ambiguous, or uninterpretable, the individual is functionally in the same position as an outside observer, an observer who must necessarily rely upon those same external cues to infer the individual's inner states (1972, p. 5).

It would appear that these postulates might be capable of conceptual disconfirmation by manipulating the quality and strength of internal cues available to a subject and then comparing judgments of the subject's inner states as made by the subject himself vs another observer. However, Bem's other statements make it clear that, although such evidence could support the conceptualization, the lack of such evidence cannot disconfirm it! In discussing the method of *interpersonal simulations*

(Bem's name for the procedure in which judgments of the subject's inner states are made by an observer) Bem asserts that failures of the observers to match the judgments of actual subjects "are not, in fact, informative with respect to the validity of the theory" (1972, p. 26). The reason for this is that such failure may mean only that the inputs provided to the observers did not correspond to the cues to which the actual subject responded in identifying his own internal states—in other words, that the research operations may not have corresponded to the theoretically required ones.

Bem and McConnell (1970, p. 30) surmised that crucial confrontations between dissonance and self-perception might not be possible but, later, Bem discussed the Snyder–Ebbesen experiment as being a "possible" (1972, p. 31) crucial test. Bem's endorsement of the Snyder–Ebbesen experiment was apparently based on his acceptance of their derivation that has been discussed above (together with the comparable one of the Ross–Shulman experiment). I have already tried to show that neither the dissonance nor self-perception predictions for those experiments can be regarded as rigorous derivations from the respective formulations. This judgment may be tested by observing whether or not adherents of self-perception theory are prepared to treat the Ross and Shulman experiment (in which greater initial attitude salience was associated with greater attitude change following counterattitudinal behavior) as a conceptual disconfirmation of self-perception theory. I think it is not unreasonable for these adherents to declare, instead, that the self-perception formulation was misapplied in deriving a "prediction" that turned out to be at odds with the obtained data.

Disconfirmability Analysis of Dissonance Theory

Festinger (1957) originally intended dissonance theory to be a source of conceptually disconfirmable predictions of cognitive effects of experimental manipulations. However, this intention has not been realized in the history of research on the theory. One problem was the difficulty of preventing subjects from "reducing dissonance" by means other than predicted changes on a cognitive dependent measure. A more important one was the difficulty of specifying on a priori grounds whether or not given conditions should produce dissonance and, if so, how much. It was notorious among would-be dissonance experimenters in the early 1960s that one had best check with one of the theory's leading spokesmen to determine whether given operations should be expected to produce dissonance, and with what cognitive effect. Aronson (1968) responded admirably to this difficulty by proposing a questioning method (cf. also Abelson, 1968, p. 128) that could be used to diagnose whether a given procedure should be expected to be dissonance-arousing:

> A rule of thumb which I have found useful is to state the situation in terms of the violation of an expectancy. For example, one might issue the following instructions: "Consider Thurgood Marshall. I'm going to tell you something about his beliefs about the native I.Q. of Negroes relative to that of Caucasians. What do you expect those beliefs to be?" I imagine that most people would have a firm expectancy that Justice Marshall would have said that there are no innate differences. Consequently, one could then conclude that if individuals were exposed to a statement by Justice Marshall to the effect that Negroes were innately stupider than Caucasians, most would experience dissonance (p. 9).

Unfortunately, Aronson's questioning method for diagnosing dissonance has important limitations. The most obvious limitation is that the diagnosis of dissonance does not suffice to allow a prediction as to how that dissonance will be reduced. The best the experimenter can do is to close off all recognizable avenues of possible dissonance reduction save one or more on which his dependent measures focus. The problem here is that a failure to obtain an effect on the focal dependent measure(s) can be interpreted as meaning only that some other usable route was not adequately obstructed. A less obvious, but equally serious, limitation of Aronson's method is the difficulty of applying it in situations involving self-relevant cognitions, such as the situations of the Snyder–Ebbesen and Ross–Shulman experiments. To apply it to these experiments, for example, members of the potential subject population would have to be asked a question such as:

> Consider that you are in favor of student control over university curriculum and that a researcher has just asked you to write an essay that takes a position on this issue. The researcher has pointed out that it would be useful to him to have you write in opposition to student control, since most students have been writing in favor, but that the choice of essay position is entirely up to you. What position do you think you would endorse in this essay? (Subjects check either the alternative "pro-student control" or "anti-student control.")

We see from this question that the respondent is in effect being asked to role play his reactions to the specified situation—to guess about what his expectations would be if he were actually in the situation described by the question. It might be that the determinants of expectation in the *actual* situation would be somewhat different from those in the *hypothetical* form of the situation stated in the question (cf. Freedman, 1969). Accordingly, should the results of an actual experiment turn out to be inconsistent with predictions based on applying the questioning method, the dissonance theorist can escape with his conceptualization intact by appealing to this limitation in the method. This limitation is a near-exact parallel to the

above-noted limitation of Bem's interpersonal simulation method. The consequence of the limitations in each case is that unexpected empirical results produce operational, but not conceptual, disconfirmation.

The operationally disconfirmable status of dissonance theory is suggested in another way by examining the historical evolution of the theory. Some of the high points in this evolution were Brehm and Cohen's (1962) conclusion that choice and commitment were important aspects of situations that led to dissonance arousal, and Aronson's (1968) proposal that dissonance arousal was particularly likely only when a self-relevant cognition was one of the dissonant elements. These redefinitions of dissonance were certainly not anticipated in Festinger's (1957) original statement of dissonance theory, and they are quite clear evidence that the response of dissonance theorists to unpredicted experimental data has been to incorporate the unexpected result into the operational definition of dissonance rather than to regard the theoretical conceptualization as disconfirmed.

Postscript

I have argued that, because the dissonance and self-perception formulations are not conceptually disconfirmable within the domain of cognitive consequences of experimental operations, they cannot be expected to lead to experiments that might allow clear preference for one of the two conceptualizations within this domain. I would like to make two additional closing observations. First, the categorization of these theories as operationally disconfirmable is not intended to be disparaging. It is quite evident that operationally disconfirmable theories can have immense heuristic and practical value by providing useful ways of organizing experience. Second, it is conceivable that some readers will disagree with my excluding one or both of these theories from the conceptually disconfirmable category. If so, a useful result of this article may be its service as a prod to state sufficiently unequivocal operational definitions of theoretical concepts to establish clearly the conceptual disconfirmability of one or both theories.

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(Received April 4, 1974)