The Trapped Administrator: Effects of Job Insecurity and Policy Resistance Upon Commitment to a Course of Action

Author(s): Frederick V. Fox and Barry M. Staw

Source: *Administrative Science Quarterly*, Sep., 1979, Vol. 24, No. 3 (Sep., 1979), pp. 449-471

Published by: Sage Publications, Inc. on behalf of the Johnson Graduate School of Management, Cornell University

Stable URL: https://www.jstor.org/stable/2989922

The Trapped Administrator: Effects of Job Insecurity and Policy Resistance upon Commitment to a Course of Action

Frederick V. Fox and Barry M. Staw

This study operationalizes and tests Campbell's trapped administrator effect. In an experimental simulation, job insecurity and policy resistance were manipulated and their effects were measured upon commitment to a course of action. Results showed that as job insecurity and policy resistance increased, so did commitment to a previously chosen course of action. These results support the idea that the trapped administrator is one who is most likely to become committed to a policy position and remain inflexible to change in the face of negative consequences.

Campbell's (1967, 1969, 1977) persistent and global argument for an "experimenting society" has been instrumental in launching the evaluation research movement in the United States.

> The United States and other modern nations should be ready for an experimental approach to social reform, an approach in which we try out new programs designed to cure specific social problems, in which we learn whether or not these programs are effective, and in which we retain, imitate, modify, or discard them on the basis of apparent effectiveness on the multiple imperfect criteria available (Campbell, 1967: 409).

No doubt the two most fundamental assumptions of the kind of experimenting society proposed by Campbell are (1) that it is feasible to measure and evaluate social programs and (2) that organizational administrators are capable of being flexible in their decision making. There already has been a great deal of methodological work addressing the first of these assumptions since this has been the primary focus of evaluation research activity in the United States. However, to date, there has been little systematic research designed to test the behavioral assumptions of an experimenting society. This paper reviews prior research and provides new data on one possible behavioral limitation to an experimenting society — that of an administrator's commitment to a course of action.

In an experimenting society, ideally administrators would sequentially test many policy alternatives and shift to new policies whenever outcomes were not satisfactory. Such administrative experimentation may be difficult to achieve, however. If a program or policy were not found to work effectively, it is not at all certain that it would be replaced or altered since administrators may become committed to a course of action and refuse to admit its failure. Campbell, of course, recognized some of the difficulties that commitment poses for the implementation of an experimenting society.

> If the political and administrative system has committed itself in . advance to the correctness and efficacy of its reforms, it cannot tolerate learning of failure. To be truly scientific we must be able to experiment. We must be able to advocate without that excess of commitment that blinds us to reality testing (Campbell, 1969: 410).

Self-Justification as a Source of Commitment to a Course of Action

One source of administrative inflexibility may lie within administrators themselves. One might expect individuals to reverse decisions or change policies which do not result in

positive consequences. Yet, when the actions of administrators lead to negative consequences, they may, instead of changing their behavior, cognitively distort the negative consequences to more positively valued outcomes (e.g., Freedman, 1963; Weick, 1964; Pallak, Sogin, and Van Zante, 1974; Staw, 1974). The mechanism underlying this biasing of behavioral outcomes is often characterized as a self-justification process in which individuals seek to rationalize their previous behavior or psychologically defend themselves against a perceived error in judgment (Festinger, 1957; Aronson, 1968).

In a series of research studies, Staw and his associates (Staw, 1976; Staw and Fox, 1977; Staw and Ross, 1978) have also utilized a self-justification framework in investigating whether decision makers can become overly committed to a course of action. The basic hypothesis underlying this work was that administrators may go beyond the passive distortion of adverse consequences in an effort to rationalize a behavioral error. For example, a high level decision maker who had suffered a setback might try to recoup his or her losses through an even greater commitment of resources to the same course of action. By committing new and additional resources one can attempt to "turn the situation around" or to demonstrate the ultimate rationality of an original course of action.

Prior Research

Using a simulated business decision case, Staw (1976) experimentally tested for the tendency to escalate commitment following the receipt of negative consequences. In this study, one group of business school students was asked to allocate research and development (R&D) funds to one of two operating divisions of a company. They were then given the results of their initial decisions and asked to make a second allocation of R&D funds. A second group of students was also assigned to a condition in which they did not make the initial allocation decision themselves, but were told that it was made earlier by another financial officer of the firm. The results of the experiment were as follows: (1) there was a main effect of responsibility such that subjects allocated more money when they, rather than another financial officer, had made the initial decision; (2) there was a main effect of consequences such that subjects allocated more money to the declining rather than improving division; and (3) there was a significant interaction of responsibility and consequences such that subjects allocated the most money when they were personally responsible for negative consequences. These findings supported the self-justification prediction that administrators may seek to justify an ineffective course of action by escalating the commitment of resources to it.

In a follow-up study (Staw and Fox, 1977), negative consequences were allowed to persist over three time periods. Time was extended to see if commitment would persist in high-responsibility subjects or whether it might develop over time in low-responsibility subjects. The effect of personal responsibility on commitment was clearly replicated in the first time period. However, high-responsibility subjects, who committed the most resources following the initial receipt of

negative consequences at Time 1, invested the least after finding out (at Time 2) that their additional commitment did not turn the situation around. But, after receiving further negative results (at Time 3), these same high-responsibility subjects increased their commitment slightly. In contrast, low-responsibility subjects, who committed few resources following the initial set of negative consequences, first maintained and then slightly increased their commitment after further negative consequences. The results of this study showed that commitment did not diminish over time as one might expect when individuals are given negative feedback or "punishment" over repeated trials. Instead, it appeared as though individuals were actively attempting to probe and learn from the system over time. When high commitment was followed by further negative consequences, commitment was generally decreased. But, when low commitment was followed by negative consequences, commitment was generally increased.

The results of the Staw (1976) and Staw and Fox (1977) studies, when considered together, do not provide evidence for a totally self-justifying administrator. The replicated effect of personal responsibility did demonstrate that ego defensiveness may motivate the commitment of resources to a course of action. However, when choosing to commit resources, subjects did not appear to persist unswervingly in the face of continued negative results or to ignore information about the possibility of future returns. These inconsistencies led Staw and Ross (1978) to a third study designed specifically to find out how individuals process information following negative versus positive feedback. In the Staw and Ross (1978) study, both prior success/failure and causal information about a setback were experimentally varied. Results showed that a prior failure experience led to increased sensitivity to information about the causes for a subsequent setback. Like earlier results, the data did not show a self-justifying decision maker who persisted in a course of action irrespective of negative feedback or causal information relevant to future rewards.

To date, our experimental simulations, unlike classical dissonance experiments, have not shown administrative commitment to run counter to reward/cost contingencies and other aspects of rationality. Yet, these studies have also failed to support the notion that commitment to a course of action can be explained by a simple economic decision model. Previous losses or sunk costs do not appear to be sunk psychologically, but appear to continue to motivate future behavior. The fact that an outsider (i.e., low-responsibility subject) will generally allocate fewer resources to a losing course of action than the individual who was responsible for the losses should attest to the motivational significance of sunk costs. However, like the literature on selective exposure (cf., Freedman and Sears, 1975), we are less confident that individuals will seal themselves off from relevant information in the decision process or fail to act in their self-interest when information is clearly available.

Toward a Theoretical Framework

To construct a model that would be most useful for studying escalating commitment, we would need to account for both

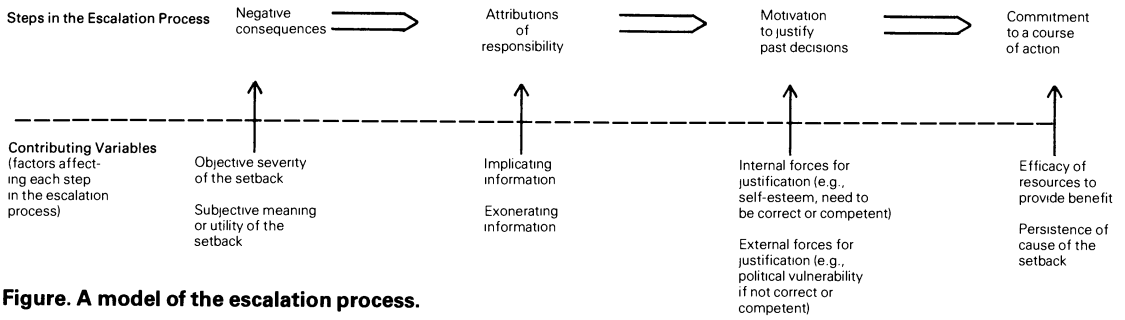

Figure. A model of the escalation process.

the tendency of individuals to justify their behavior and their use of relevant information. We have proposed such a multivariate model in the Figure. This figure emphasizes the role of self-justification in explaining the phenomenon of escalating commitment, yet also illustrates its limitations. Escalating commitment is seen as a product of several fundamental steps and we have presented these factors in a sequential form to imply that a break in the sequence would lead to a lesser degree of commitment to a course of action. In addition to these basic components, we have also listed some contributing variables which may amplify or inhibit each step of the commitment process.

In the Figure, negative consequences are seen as the initiator of the escalation process. If a setback is objectively severe and/or has subjective meaning for the individual, it will likely trigger attributions of responsibility. The individual is then posited to search for and be confronted with both exonerating and implicating information (such as that manipulated in the Staw [1976] study). If, after such an attribution process is completed, the individual does feel personally responsible for the negative consequences there should exist motivation to justify past decisions. Motivation to justify one's behavior is shown in the figure to be moderated by the strength of self-esteem (Aronson, 1968, 1976) and any individual need to be correct or competent (White, 1959), but it could also be amplified by any external demands for accurate decision making. Finally, commitment is illustrated in the Figure as a joint function of motivation to justify past decisions *and* objectively relevant information. That is, when data on the likelihood of future returns or the persistence of a setback are presented to individuals (e.g., Staw and Fox, 1977; Staw and Ross, 1978), they will probably factor these into their decisions. Yet, at the same time as this rational information processing may be occurring, there can also be an underlying tendency to justify past decisions (as shown by Staw, 1976). In sum, commitment to a course of action may, *depending on the strength of its contributing forces,* be subject to the influences of both rationality and justification.

Internal and External Justification

A close examination of the Figure shows motivation to justify decisions to be dependent upon many necessary conditions. Thus, if any variable or set of variables inhibits the justification process (e.g., low personal responsibility), there would be little force for justification and little resultant commitment to a course of action. We do not think justifica-

tion effects are such a weak underlying force, however. The reason for our belief is that prior research has only tapped what could be labeled an *internal justification* process.

When justification is considered primarily as an intra-individual process, individuals are posited to attend to events and to act in ways to protect their own self-images. But within organizational settings, justification may also be directed externally. When faced with an external threat or evaluation, individuals may be motivated to prove *to others* that they were not wrong in an earlier decision and the force for such *external justification* could well be stronger than the protection of individual self-esteem. Whereas the internal form of justification refers to private monitoring and self-inflicted costs if a decision fails, the external form of justification refers to the public surveillance of one's decisions and the imposition of sanctions by others if errors are detected. Thus, we would expect that both forms of justification may lead individuals to attempt to protect themselves from the exposure of error and both forms to lead to attempts to save prior decisions by escalating commitment.

The Trapped Administrator

In proposing an extension of the justification framework, we are advocating the inclusion of social and political variables in the commitment process. We are hypothesizing that administrators may often be forced to defend failing programs, and that such defense might stem as much from the need for political survival as from any need to bolster their self-esteem.

In discussing problems of implementing an experimenting society, Campbell also frequently focused upon the political realities of organizations as a primary barrier. As Campbell has noted, administrators are frequently evaluated by the success or failure of their programs, thus trapping them into a position of having to justify the continuation and even expansion of ineffective programs.

> In the U.S. one of the pervasive reasons why interpretable program evaluations are so rare is the widespread resistance of institutions and administrators to having their programs evaluated. . . . An evaluation of a program under our political climate becomes an evaluation of the agency and its directors. (Campbell, 1977: 67).

> . . . knowing outcomes has immediate political implications . . . there is a source of vulnerability in that the facts relevant to experimental program evaluation are also available to argue the general efficiency and honesty of administrators. The public availability of such facts reduces the privacy and security of at least some administrators (Campbell, 1969: 409–410).

In this study, we have attempted to operationalize the notion of the trapped administrator and to measure its effects upon commitment to a course of action. We have conceptualized the trapped administrator as an individual in need of external justification — one who stands to lose (politically) if a particular program does not work and who has little choice but to remain fully committed to it, even in the face of failure. The trapped administrator who increases his commitment to a failing program would, of course, be acting rationally from his or her own individual perspective. However, this form of rationality is still one in which sunk costs

are not sunk psychologically; it is a form of rationality in which the incentive of salvaging past decisions may be more salient than any alternative future course of action.

In practical terms, commitment to a failing program may appear to be the logical path to follow for the trapped administrator, but the benefits of this action may be more illusory than real. Increased commitment may only lead to further losses and a worse state of affairs for the administrator than a more immediate admission of error and radical change in behavior. However, the political vulnerability of administrators may heighten the salience of immediate losses for the admission of failure and preclude a shift in action. Individuals may, as noted by Platt (1973), be subject to a trap in which long-term outcomes are not attained precisely because decision making has been governed by more salient, short-run contingencies.

In the experiment to be described here we operationalized the notion of the trapped administrator by manipulating two concrete variables which should heighten the political vulnerability of administrators. Through an experimental simulation, we placed subjects into an administrative situation in which they were under high or low job insecurity and in which they received high or low resistance to their policies. If an individual is vulnerable to job loss or demotion, he is likely to be highly motivated to protect his position in the organization and therefore likely to attempt to save a failing policy by escalating the commitment of resources. Likewise, we would predict that resistance of others in the organization to an administrator's policies might also contribute to an escalation effect. If an administrator implements a policy that he knows is unpopular within the organization, he may be especially concerned to protect himself against failure. Thus, if negative results are incurred, an administrator who is both insecure in his job and who faces stiff policy resistance may be most prone to escalate his commitment and become locked-in to a course of action. The experiment described here was designed to probe this hypothesis through a 2 x 2 factorial design. In addition, two comparison conditions consisting of alternative forms of policy resistance were also manipulated in the study.

METHOD

As in previous work on policy commitment (Staw, 1976; Staw and Fox, 1977; Staw and Ross, 1978), an experimental simulation was used to test the research hypotheses. The subjects of this experiment were 160 undergraduate students enrolled in the College of Commerce and Business Administration at the University of Illinois, Urbana-Champaign. There were an equal number of males and females selected for the study as a whole and an equal number assigned to each experimental condition.

General Instructions to Subjects

Subjects were told that they would be participating in an industrial training exercise, which was developed and used by a large industrial corporation in its management training program and which had been found to be a successful learning device. Subjects were also told that the purpose of the

study was to see whether this exercise could be successfully developed as a selection device for hiring new graduates. This description was provided in order to secure high involvement of the students participating in the study. As in the Staw (1976) and Staw and Fox (1977) studies, subjects were asked to work on "The Adams and Smith Decision Case," and were provided with the following general instructions:

> This exercise is concerned with managerial decision making. You are asked to play the role of Financial Vice President of Adams and Smith, Inc. Your task is to make a series of decisions concerning the investment of organizational funds. However, the case recognizes that good management decisions frequently involve much more than the ability to evaluate financial information and economic conditions. On occasion, relationships with other organizational members such as superiors, peers, and subordinates must be considered along with other elements.
>
> As mentioned, you will be asked to make a series of funding decisions in the case. There is ample information contained in the case to make a high quality decision. After each decision, you will receive feedback on the degree of success or failure of your decision. This feedback is based on a complex computer simulation of the situation described in the case and takes account of a wide variety of information: sales and earnings figures, economic conditions prevailing at the time, competition in the industry, and relationships between the principal actors in the case, to name a few. *All of these factors are important determinants of the success of your investments and should be considered.* Successful managerial decision making requires skill at knowing what information to attend to and how to interpret it correctly.

Overview of the Financial Decision Case

The Adams and Smith Case describes a hypothetical corporation in 1971. The case presents the financial history, including the 10 preceding years of sales and earnings data, of the company, and a scenario in which the subject is asked to play a major role in financial decision making. The case states that the profitability of the company, a large technologically-oriented firm, has started to decline over several preceding years (see Table 1). It is stated that the directors of the company have agreed that one of the major reasons for the decline in corporate earnings (and a deterioration in competitive position) lies in some aspect of the company's program of research and development. It is further stated that the company's Board of Directors have concluded that $10 million of additional R&D funds should be made available to its major operating divisions, but, that for the present, the extra funding should be invested in only one of the corporation's two largest divisions, Consumer Products or Industrial Products. Subjects were then asked to act in the role of the Financial Vice President in determining which of the two corporate divisions should receive the additional R&D funding. A brief description of each corporate division is included in the case material, and subjects were asked to make the financial investment decision on the basis of the potential benefit that R&D funding would have on the future earnings of the divisions.

In making their recommendations for funding, subjects completed a memo to the president of the Adams and Smith Company. In the memo subjects stated that they

have reviewed the available information on both the Consumer and Industrial Products divisions and specified to which division the $10 million of additional funding should be allocated. After completing this memo, the subject received a communication back from the president indicating either support for the subject's recommendation by the corporation's Board of Directors or resistance to it. The president's communication also requested that the subject write a brief report explaining his or her reasons for recommending funding for Consumer or Industrial Products. Finally, after submitting this second report in defense of their decisions, subjects were informed of the Board's action. Although all subjects were told that the Board had approved their recommendations, they were also informed that the Board members were either still critical or supportive of their recommendations.

As described above, subjects made initial funding decisions, defended them, and received either support for or resistance to their views from the Board of Directors. After these procedures were completed, subjects were given feedback on the results of their decisions. All subjects received data (see Table 1) showing *no discernible effect* of the R&D expenditure. However, in spite of such negative results, participants received another communication from the president stating that the Board of Directors was still convinced that there was a need for greater expenditure on R&D. This communication pointed out that the Board of Directors had in fact created a general fund of $20 million for R&D and other uses. As Financial Vice President, it was again the subjects' responsibility to make funding recommendations. Subjects were told that, because the Board wanted to limit additional funds to one division for the first few years, they should decide how much should be allocated to *the originally chosen division.* Subjects could then allocate any amount from $0 to $20 million to their previously chosen

Table 1

Sales and Profit Data Used in the Adams and Smith Decision Case

	Consumer Products		Industrial Products	
Fiscal Year**	Sales*	Earnings*	Sales*	Earnings*
1960	624	14.42	670	15.31
1961	626	10.27	663	10.92
1962	649	8.65	689	11.06
1963	681	8.46	711	10.44
1964	674	4.19	724	9.04
1965	702	5.35	735	6.38
1966	717	3.92	748	5.42
1967	741	4.66	756	3.09
1968	765	2.48	784	3.26
1969	770	(.12)***	788	(.81)***
1970	768	(.64)	791	(.83)
January 1971: Decision to allocate additional R&D funding to either consumer or industrial products divisions				
1971	770	(.74)	794	(.95)

*In millions of dollars
**Fiscal year ending December 31
***Parentheses denote net losses in earnings

division; any remaining funds would be retained for other uses. For this second funding recommendation, subjects again completed a memo to the president and wrote a paragraph defending their decisions.

Manipulation of Job Insecurity

All subjects participating in this study received the following description of their role early in their case materials:

> The role you are asked to assume is that of a vice president in charge of finance for Adams and Smith, Inc. — a new position in the company. Many of your responsibilities were previously assigned to the comptroller and other corporate executives before being consolidated in your present position. You have been with Adams and Smith for 10 years; the experience has been mostly successful and satisfying. You are happy to have received this significant promotion and you want to keep it.

However, some important additional information was also randomly assigned to participants. For 80 subjects assigned to the *high-insecurity* condition, the following description of the Vice President's situation was presented to the subjects:

> Unfortunately, you have only been temporarily assigned to fill the position (your official title is Acting Financial Vice President). A complete evaluation of the reorganization which resulted in your promotion will occur in the future and your job will become permanent or you will be demoted, depending on your performance. In the interim, you have to deal with other executives who are well-qualified and envious of your position. Indeed, they were unhappy that you were chosen over them to fill the temporary position. Thus, you cannot expect support and assistance from your peers, especially if you do not perform well immediately.

For the 80 subjects randomly assigned to the *low-insecurity* condition, the following role descriptions were received:

> You have been permanently assigned to fill the position (your official title is Financial Vice President). A complete evaluation of the reorganization which resulted in your promotion will occur in the future, but you will only be asked what changes in your job you would like to have. In the interim, other executives feel you are well-qualified for the job. Indeed, they were happy that you were chosen to fill the position. Thus, you can expect support and assistance from your peers, especially if you do not perform well immediately.

Resistance Manipulations

As explained earlier, subjects also received either support for or resistance to their funding decisions. Forty subjects were randomly assigned to a *low-resistance* condition. In this condition, participants received a very positive communication after their initial decision to recommend Consumer or Industrial Products for additional funding. The memo read as follows:

> Thank you for your recommendation concerning the additional research and development funds. However, the Board of Directors adopted a cautious approach and decided not to vote on your recommendation until their next meeting. Having attended the meeting, I can tell you firsthand that several Board members were highly satisfied and supportive of your recommendation and were enthusiastically prepared to vote in favor of it. I consider it *highly likely* that your recommendation would have been approved if they had voted on it. But the Board decided they should have more

information about the reasons behind your recommendation before accepting it. In order that the Board might be better informed, please prepare a report which I can distribute to the Board members before their next meeting. The report should explain your reasons and justify your recommendation to allocate the research funds to Consumer or Industrial Products.

After subjects completed the second report explaining the reasons underlying the choice of Consumer or Industrial Products, they received a second memo back from the president. In the *low-resistance* condition, this communication was again very positive in tone. The memo read as follows:

Thank you for your report explaining your reasons behind your recommendation for allocating the additional research funds. The Board of Directors met this morning and approved your recommendation, and the mood of the Board was exactly the same as last time. The Board members were highly satisfied and supportive of your recommendation and were firmly convinced you had recommended the correct course of action. In the final analysis, the Board completely supported your judgment.

In the *high-resistance* condition, 40 randomly assigned subjects were also presented with two memos from the president of Adams and Smith Company. However, both of these communications were negative in tone. The first memo, received after the subjects' initial recommendations of Consumer or Industrial Products, read as follows:

Thank you for your recommendation concerning the additional research and development funds. However, the Board of Directors decided not to act on your recommendation until their next meeting. Having attended the meeting, I can tell you firsthand that several Board members were very dissatisfied and critical of your recommendation and were firmly prepared to vote against it. I consider it *highly unlikely* that your recommendation would have been approved if they had voted on it. But the Board decided they should have more information about the reasons behind your recommendation before rejecting it. In order that the Board might be better informed, please prepare a report which I can distribute to the Board members before their next meeting. The report should explain your reasons and justify your recommendation to allocate the research funds to Consumer or Industrial Products.

The second communication received by subjects in the *high-resistance* condition reiterated a lack of support for the Vice President's decision. It read as follows:

Thank you for your report explaining your reasons behind your recommendation for allocating the additional research funds. The Board of Directors met this morning and approved your allocation, although the mood of the Board was exactly the same as last time. The Board members were highly skeptical and critical of your recommendation and were firmly convinced you had recommended the wrong course of action. In the final analysis, the Board reluctantly deferred to your judgment.

Comparison Conditions

Eighty subjects were also randomly assigned to one of two different comparison conditions. In one condition, 40 randomly assigned subjects received neither supportive nor resistance communications during the simulation. After the initial recommendation of Consumer or Industrial Products, subjects were simply requested to provide additional information. In this *no-feedback* condition, the president's memo read as follows:

Thank you for your recommendation concerning the additional research and development funds. However, the Board of Directors decided not to act on your recommendation until their next meeting. The Board decided they should have more information about the reasons behind your recommendation before considering it. In order that the Board might be better informed, please prepare a report which I can distribute to the Board members before their next meeting. The report should explain your reasons and justify your recommendation to allocate the research funds to Consumer or Industrial Products.

After defending their decisions, *no-feedback* subjects received the following communication:

Thank you for your report explaining your reasons behind your recommendation for allocating the additional research funds. The Board of Directors met this morning and approved your allocation.

Although the no-feedback group was similar to a standard control group, 40 subjects were also randomly assigned to a more specialized comparison group. Instead of receiving little or no evaluative information about their initial decisions, these subjects were given both positive and negative information. After the initial recommendation of Consumer or Industrial Products, these comparison subjects received the same negatively worded memo as subjects in the high-resistance condition. However, after defending their decisions by writing the requested explanation, they received the following positive response:

Thank you for your report explaining your reasons behind your recommendation for allocating the additional research funds. The Board of Directors met this morning and approved your allocation, and the mood of the Board was a complete reversal from last time. The Board members were very satisfied and supportive of your recommendation and were firmly convinced you had recommended the correct course of action. In the final analysis, the Board completely supported your judgment.

We have labeled this comparison group as the *overcome-resistance* group. Conceptually it is a hybrid of both social support and resistance. Whereas the *no-feedback* group experienced an absence of either social support or resistance, the *overcome-resistance* group received both resistance *and* support.

Dependent Variable

As in previous studies, the major dependent variable was the individual's commitment to a previously chosen investment alternative. This variable was operationalized by the amount of money subjects allocated on the second R&D funding decision to the corporate division initially chosen for funding. In the present study, however, this dependent variable was operationalized in three conceptually similar ways. Subjects provided a recommended funding figure (as in previous studies) and also a minimum and maximum recommendation. Participants completed the following form as part of a memo to the president:

I have reviewed the available information on the division I previously selected for funding. I recommend $_____ million (enter the amount you select from $0 to $20 million) be allocated to Consumer Products or Industrial Products with the balance (if any) of the general fund being reserved for other uses. I realize the Board may wish to modify my recommended allocation. I believe

firmly that the allocation should not be *less* than $_____ million (enter amount) and should not be *greater* than $_____ million (enter amount) if we are going to achieve the desired effect on research and development.

Manipulation Checks

In order to check on whether or not the different forms of the case produced the intended psychological states, several face valid questions were asked on a questionnaire. The questionnaire consisted of a number of statements to which subjects responded on a 7-point scale from strongly agree to strongly disagree. The questionnaire was administered directly following the experimental simulation but before subjects were debriefed by the experimenter. The attitudinal statements are listed below under the relevant independent variables.

Job Insecurity

1. I felt secure in my job as vice president.
2. Poor outcomes from my recommendations clearly would have meant losing the job of vice president.
3. I needed to protect my position as vice president in the company.

Policy Resistance

1. The Board of Directors was supportive of my recommendations.
2. There was much resistance to my recommendations.
3. The Board of Directors was reluctant to accept my recommendations.

In addition to these manipulation checks, there were also several exploratory items on the questionnaire to assess feelings of personal responsibility as well as Schulze's (1962) shortened version of Rokeach's (1960) dogmatism scale.

Overall Design of Experiment

As described, the overall design of this experiment consisted of a 2 x 4 factorial. In order to manipulate the independent variables, subjects were randomly assigned to two levels of job insecurity and four types of policy resistance. However, within this overall design, only two levels of job security and policy resistance were to be used for a priori, theoretical tests, while the remaining cells would be used for a posteriori comparisons. The dependent variable of interest was the amount of money allocated to the initially chosen alternative.

RESULTS

Experimental Manipulations

The three measures of job insecurity were all significantly intercorrelated ($p<.01$) with a mean interitem correlation of .35. As a result, these manipulation-check items were combined to form an index of job insecurity (coefficient alpha = .62). A 2 x 2 analysis of variance (high and low job insecurity by high and low policy resistance) was performed on the job insecurity index. As expected from the experimental design, high job insecurity (mean = 4.58) subjects reported significantly greater insecurity than low insecurity (mean = 3.74) subjects ($F = 8.62$, $df = 1/76$, $p < .004$).

The three measures of policy resistance were also significantly intercorrelated ($p < .001$), the mean interitem correlation being .78. These items were also combined to form an index of policy resistance (coefficient alpha = .92) and subjected to a 2 x 2 analysis of variance (high and low job insecurity by high and low policy resistance). Again, as expected, low policy resistance subjects (mean = 1.70) reported significantly less resistance than high-resistance (mean = 5.53) subjects ($F = 282.81$, $df = 1/76$, $p < .001$).

Although there were significant effects of the independent variables upon the relevant manipulation check items, these effects did not generalize beyond the variables of interest. That is, the variance analysis showed no main effect of the job insecurity manipulation on the policy resistance index, nor was there a main effect of the policy resistance manipulation on the job insecurity index. This pattern of results suggests that the manipulations of job insecurity and policy resistance were relatively independent of each other.

Check on Initial Divisional Choice

A preliminary analysis was conducted to test whether the division that a subject initially recommended (Consumer or Industrial Products) affected subsequent investment decisions. If there was a main effect of initial choice, all data would have to be analyzed separately for these two groups. As in the two prior studies using the Adams and Smith Case (Staw, 1976; Staw and Fox, 1977), analysis of data from the 160 participants showed no differences by division. Consequently, all subsequent data are collapsed on this factor in the analyses reported here.

Test of the Theoretical Hypotheses

The strongest test of the trapped administrator hypothesis would be a 2 x 2 analysis of variance, using high and low levels of job insecurity and policy resistance as independent variables. We had predicted two main effects of these independent variables on commitment. As both job insecurity and resistance increased, we had hypothesized increases in commitment to a course of action. Table 2 presents the means for each of the three operationalizations of commitment: recommended amount of investment, minimum acceptable investment, and maximum acceptable investment. Also shown in Table 2 are means for an index of commitment. Because each of the three indicators of commitment was highly interrelated (mean interitem correlation was .82), an index was constructed by taking the mean of amount, minimum, and maximum for each subject. The lowest item-total correlation for this index was .93.

Inspection of Table 2 shows the same pattern of results for all measures of commitment. The commitment of resources was highest in the high job insecurity-high resistance condition, and lowest in the low job insecurity-low resistance condition. Table 3 presents the analysis of variance for each dependent measure and indicates significant main effects of job insecurity and policy resistance on the amount of money committed as well as on the minimum and maximum allocations. As predicted, under high job insecurity, subjects committed more money than under low job insecurity, and

Table 2

Mean Amount of Money (in Millions of Dollars) Committed by Subjects in Conditions of Job Insecurity and Policy Resistance

Job Insecurity	Policy Resistance	
Low*	Low*	High*
Amount	12.13	12.98
Minimum	8.00	10.48
Maximum	14.35	15.45
Commitment Index	11.49	12.97
High*		
Amount	12.89	16.18
Minimum	10.05	13.50
Maximum	15.10	17.65
Commitment Index	12.68	15.78

*$N=20$ for each cell

high resistance resulted in greater commitment than low resistance. There was only one effect which failed to reach the .05 level of significance. The analysis of variance revealed no significant interactions.

In order to examine differences among the four cells in Table 2, Neuman-Keuls mean comparisons (Winer, 1971) were also computed for the commitment index. The mean comparisons showed a significant difference ($p < .05$) between the high insecurity-high resistance condition and each of the other three treatment conditions. The contrast between the high insecurity-high resistance and the low insecurity-low resistance condition was highly significant ($p < .01$).

Analysis of Comparison Conditions

A 2 x 4 analysis of variance was conducted using all treatment and comparison groups. This analysis is an extremely conservative test of the theoretical hypotheses, since two comparison groups are included among the independent var-

Table 3

Summary of Analysis of Variance for Job Insecurity and Policy Resistance

Source	Operationalization of Commitment	Means Square	*F*	Level of Significance *P*
Job Insecurity	Amount	78.41	5.86	<.02
	Minimum	128.78	9.37	<.003
	Maximum	43.51	3.35	<.07
	Index	79.80	6.90	<.01
Policy Resistance	Amount	85.70	6.40	<.02
	Minimum	175.53	12.77	<.001
	Maximum	66.61	5.14	<.03
	Index	104.50	9.04	<.004
Interaction	Amount	29.77	2.22	
	Minimum	4.75	.35	
	Maximum	10.51	.81	
	Index	13.15	1.14	
Error	Amount	13.38		
	Minimum	13.75		
	Maximum	12.97		
	Index	11.56		

Table 4

Mean Amount of Money (in Millions of Dollars) Committed by Subjects in Comparison Conditions

Job Insecurity	No Feedback*	Overcome Resistance*
Low*		
Amount	13.00	12.30
Minimum	9.85	8.30
Maximum	14.93	14.25
Commitment Index	12.59	11.62
High*		
Amount	13.20	12.63
Minimum	10.03	10.43
Maximum	15.63	14.98
Commitment Index	12.95	12.68

*$N = 20$ in each cell

iables. Nonetheless, the data still showed a significant main effect of job insecurity ($F = 5.24$, $df = 1/152$, $p < .02$) and policy resistance ($F = 3.24$, $df = 3/152$, $p < .02$) on the commitment index. Once again, there was no significant interaction.

Table 4 shows the mean values on commitment for the two comparison groups. Simple inspection indicates that the overcome-resistance group was more similar to the low-resistance group than the high-resistance group. The overall mean for the overcome-resistance condition on the commitment index was 12.15. In comparison, the overall mean for the low-resistance group was 12.23 on the commitment index, whereas the overall mean for the high-resistance group was 14.38 on the same index. There was no statistically significant difference between the overcome-resistance and low-resistance groups, while the overcome-resistance group did differ statistically from the high resistance group (Neuman-Keuls, $p < .05$).

The no-feedback group was also quite similar to both the overcome-resistance and low-resistance groups. Its overall

Table 5

Means of Manipulation Check Items for Each Policy Resistance Condition*

Policy Resistance Condition	Low Resistance	High Resistance	No Feedback	Overcome Resistance
Questionnaire item: The Board of Directors was supportive of my recommendations.	1.53	5.33	1.95	2.43
There was much resistance to my recommendations.	1.78	5.10	2.33	3.60
The Board of Directors was reluctant to accept my recommendations.	1.80	6.10	2.43	3.93
Index of above items	1.70	5.51	2.23	3.32

*Higher numbers in this table represent higher resistance reported by respondents to each questionnaire item.

mean on the commitment index was 12.77 and this value did not differ statistically from the means for either the overcome-resistance or low-resistance groups. The no-feedback group, however, did differ marginally ($p < .10$) from the high-resistance group.

In an effort to discover exactly how close the comparison conditions were to the high- and low-resistance conditions, the manipulation check data were reanalyzed. If the no-feedback and overcome-resistance conditions were closer to the low-resistance than high-resistance condition, this would corroborate and add interpretive meaning to the above results. We would then know that subjects psychologically interpreted these conditions similarly in addition to knowing that the conditions created similar commitment effects. Examination of Table 5 shows this, in fact, to be the case. The no-feedback condition was much closer to the low-resistance than to the high-resistance condition. The overcome-resistance condition was approximately midway between the low- and high-resistance conditions on the manipulation check data.

Effects of Individual Differences

Because an equal number of males and females were assigned to each of the experimental conditions, it was possible to examine whether there were sex differences in the overall results of the study. The data showed no main effects of sex on any of the measures of commitment. Moreover, in a 2 x 2 x 2 (job insecurity x resistance x sex) analysis of variance, there were no significant interactions of sex and the other treatment variables on commitment.

There was no significant main effect of the dogmatism measure (Schulze, 1962) on commitment when subjects were divided into high and low dogmatism groups on the basis of a median split of the data. In addition, a 2 x 2 x 2 (job insecurity x resistance x dogmatism) analysis of variance failed to find any significant interactions of dogmatism with the other treatment variables.

DISCUSSION

The results of this study showed that job insecurity and policy resistance do affect individual commitment to a course of action. When subjects faced a condition of high job insecurity and high policy resistance, they invested the greatest amount of money in their prior courses of action, whereas when they were in a condition of low job insecurity and low resistance, they invested the least amount. These results were quite strong statistically and were consistent across three operationalizations of commitment.

In terms of comparison groups, the data showed that no-feedback was similar to the low-resistance condition. This was not surprising given the composition of these two manipulations. In the no-feedback condition, subjects were informed of neither support nor resistance to their policy recommendations. However, as outlined in the Method section of this paper, subjects were simply told that the Board of Directors had met and approved the subjects' allocation decision. Such approval no doubt carries implicit support, al-

though it was not so explicit as in the low-resistance condition.

In the overcome-resistance condition, it will be recalled that the manipulation consisted of both support and resistance. In this condition, subjects were first informed of resistance by the Board to their policy recommendations, but after the opportunity to further explain their reasoning, subjects were informed that the Board had reversed its position and decided to support the subjects' recommendation. Thus, it could be argued that overcome-resistance would create a high degree of psychological commitment on the part of individuals. Having to argue a case and eventually winning that argument might psychologically bind individuals to their positions (cf., Kiesler, 1971; Salancik, 1977). However, as the data on commitment showed, the effect of the overcome resistance condition was between that of the low- and high-resistance conditions. This effect on commitment, together with the manipulation check data, strongly suggests that the overcome-resistance condition was a hybrid condition in both its psychological meaning and impact.

Sources of Administrative Inflexibility

The results demonstrate the effect of political vulnerability upon commitment to a course of action. When an administrator is worried about keeping his job or fending off critics within an organization, he is less likely to be flexible in his decision making. Thus, the trapped administrator can be thought of as one who is most likely to increase rather than decrease his commitment to a previously chosen policy and most likely to become inflexible in his defense of such positions.

In considering further the issue of administrative inflexibility, we decided to investigate a speculative feature of our dependent measures of commitment. It was reasoned that, as individuals increase their commitment to a course of action, they may also reduce the flexibility of their positions (cf., Sherif, Sherif, and Nebergall, 1965). For example, in addition to advocating a larger amount of money to either Consumer or Industrial Products, individuals may also narrow the range of the funding allocations acceptable to them. By computing the difference between minimum and maximum allocation figures, we could readily formulate such a measure of flexibility. When these range data were subjected to 2 x 2 analysis of variance, there was a marginally significant main effect of job insecurity ($F = 3.25$, $df = 1/76$, $p < .08$), with low job insecurity subjects reporting a larger range (mean = 5.59) than high insecurity subjects (mean = 4.56). There was also a marginally significant main effect of policy resistance ($F = 3.73$, $df = 1/76$, $p < .06$), with low-resistance subjects (mean = 5.70) reporting a larger range than high-resistance subjects (mean = 4.56). Thus, in addition to increasing the absolute level of funds committed to a policy, job insecurity and resistance may have also narrowed the range of acceptable alternative funding levels. Under high job insecurity and resistance, subjects advocated more investment and appeared to be somewhat firmer in this conviction than under other experimental conditions. This conclusion, however, should be viewed as a tentative finding that must be subjected to further research.[1]

[1] It is possible that the results of the range analysis were also influenced by the presence of a ceiling effect. The mean maximum allocation actually committed by subjects in the high job insecurity-high resistance condition (17.65) was very close to the maximum possible figure of $20 million.

Comparison of Present Results to Previous Research Findings

Because the present experiment utilized the same decision case (Adams and Smith) as two previous studies (i.e., Staw, 1976; Staw and Fox, 1977), it is possible to compare results across experiments. Although some changes in the format and administration of the case have occurred with each study, the financial information about Consumer Products and Industrial Products (see Table 1) and the form of the decision elicited from participants have remained unchanged.

Collectively, the results of the three studies using the Adams and Smith case appear highly consistent. In the Staw (1976) study, the mean amount allocated was $12.97 million for participants in the high personal responsibility, negative consequences condition. Staw and Fox (1977) also manipulated personal responsibility and all participants received negative consequences following the initial commitment of resources. The mean amount allocated by high personal responsibility subjects was $11.99 million in the experimental condition most similar to the Staw (1976) study. In the present study, all subjects participated under experimental conditions equivalent to high personal responsibility and negative consequences, while other factors (job insecurity and policy resistance) were varied. Since personal responsibility and consequences were held constant, the treatment cells most comparable to the previous studies are logically those in which the current independent variables were *least* obtrusive. Specifically, the low job insecurity-low resistance (mean = 12.13) and the low job insecurity-no feedback (mean = 13.00) conditions would seem most comparable to the previous experiments.

Because of the similarity of data across the three experiments (all within about $1 million of each other),[2] it is tempting to speculate about the relative impact of various independent variables across experiments. It appears that conditions necessary to evoke internal justification (high personal responsibility and negative consequences) may in this experimental situation (the Adams and Smith case) lead to a commitment of about $12 to $13 million. However, conditions posited to evoke external justification (high job insecurity and high policy resistance) may lead to a sizeable amount of commitment over this figure. In this study, participants committed more than $16 million when subjected to the conditions predicted to foster external as well as internal justification. Thus, it appears that both internal and external justification may influence commitment and that their effects may be additive. This conclusion must, of course, be validated by further research (manipulating both factors) since generalizing across experiments is quite speculative.

Rationality and Administrative Experimentation

In an effort to explain decisional commitment, Staw and Ross (1978) drew the distinction between prospective and retrospective rationality. The prospectively rational administrator, like economic man, would be expected to remain committed to a course of action so long as future revenue or gain exceeded future costs; that is, he or she would use

[2] It is not possible to include the results of the Staw and Ross (1978) study in these comparisons since that study used entirely different case materials.

past data only to help predict future outcomes and would not utilize past or sunk costs in deciding upon the investment of future resources. In contrast, when an administrator is retrospectively rational, sunk costs may remain a very important part of decision criteria. The retrospectively rational administrator may be most interested in turning a situation around so as to recoup certain sunk costs or to redeem an earlier error.

Campbell's notion of the trapped administrator can be clarified by the distinction between prospective and retrospective rationality. From the organization's point of view, resources should be allocated only to those programs that yield the highest future return. Yet, from the individual administrator's point of view, it is necessary to defend the usefulness of past projects so as to justify or demonstrate the rationality of *previous* allocations of resources. Thus, while a truly experimenting organization might wish to use prospective rationality in evaluating the use of resources, each suborganizational unit and its administrator may resort to a more retrospective form of rationality in their own decision making.

As noted by Staw (1979), the conflict between prospective and retrospective rationality seems to exist simply because goals and interests change across each level in an organization system. Prospective rationality at one level of the system can translate into self-protecting, retrospective rationality at lower levels. Because administrators at each level in an organizational system face their own ecology of forces, whether one views behavior as an outcropping of rationality or justification depends greatly upon the perspective taken. From the top of an organizational system, self-protective behaviors emitted by lower levels are frequently viewed as defensive reactions. However, the same behavior may be viewed by its source as highly rational and prospectively focused. As a result, the prospective-retrospective distinction is an imagery which is useful for thinking about the commitment process rather than a clear-cut categorization of behavior.

Practical Implications of the Results

Although an experimenting society requires that organizational administrators change their courses of action when negative results are obtained, the results of this experiment show that administrators may become trapped in the defense of a failing program. One fundamental cause of the trapped administrator problem seems to be due to the status of the administrator being tied to program performance. A program that fails is frequently treated as an administrative failure and is cause for demotion or dismissal. In contrast, a program success often leads to increased funding, power, and promotion in the organization. The present experimental manipulations of job insecurity and policy resistance tapped this more global construct of political vulnerability and showed how such vulnerability can lead to increased rigidity in decision making. Therefore, if evaluation activities can somehow be separated from political vulnerability, the need for justification on the part of individuals might be reduced.

Campbell has argued that organizations should evaluate programs and not people, and that decisions about the salary, grade, or promotion of administrators should be separated from program evaluation and reporting procedures. This solution is similar to that sometimes advocated for individual performance evaluation in organizations (e.g., Porter, Lawler, and Hackman, 1975). Unfortunately, however, in the contexts of both program evaluation and personnel evaluation, it is difficult to reduce defensiveness by simply separating program and personal evaluation on a procedural basis. Any perceived relationship between program and personal outcomes will continue to contribute to self-justification and the trapped administrator problem.

Perhaps one way of reducing political vulnerability and the trapped administrator problem that comes with it is to decouple the resource allocation and feedback processes in organizations. For example, summative or outcome evaluation could be deemphasized, and instead efforts could concentrate on formative evaluation in which a program is changed. Unfortunately, deemphasis of summative evaluation may also drastically reduce organizational efficiency or cost effectiveness. Thus, a better strategy for decoupling feedback and allocation processes might be for the organization to guarantee continued funding of a particular organizational unit, but to encourage the unit to experiment among various programs. If this idea were carried to its extreme, the organization could reward organizational units and administrators, not on their overall results, but on the quality of their experimentation and program evaluation techniques.[3]

A second possible solution to the trapped administrator problem might be to better synchronize the utility schedules facing organizations and subunit administrators. Organizations are frequently in a conflict position of attempting to maximize *future* returns in decisions to retain and expand programs, but at the same time holding administrators responsible for *past* errors. By shifting the evaluation of administrators from a cumulative basis (being responsible for previous performance) to a concurrent or future basis (being responsible for present and future performance), the trapped administrator problem might disappear.

Finally, there may be a solution to the trapped administrator problem which appears to take the opposite tack from the present results. It may be best to design organizational reward systems so that resources are highly contingent upon performance, even though it is clear that this design may increase individual needs for justification. At the same time, however, an evaluation research group might be instituted as an in-house consulting unit (Staw, 1977). The idea here is to actually increase pressure upon individuals and work units to perform, but also to offer evaluation consulting as an aid to improve local performance. If such a system functioned successfully, organizational administrators might be encouraged to experiment in order to increase their own monitored effectiveness. As noted by Staw and Ross (1978), administrators may be especially sensitive to new information and possible sources for improvement after suffering a previous failure. Thus, an increase in defensiveness on the part of administrators, coupled with a very clear avenue for reducing

3

This would be similar to the evaluation of professionals (e.g., physicians) on the basis of following appropriate procedures regardless of the ultimate utility of those procedures. As evaluation research becomes fully professionalized with its own ethics and procedures, this alternative may become more and more feasible.

the outside threat, might well be an effective design strategy for organizations.

External Validity of Findings

To date, our research on commitment has concentrated upon simulations, using a role playing methodology with experimental subjects. This simulation approach has allowed much greater control and precision in operationalizing and testing theoretical variables than would be allowed in field studies. However, we should address some of the issues in generalizing from simulations to the organizational context.

In generalizing from an experimental simulation, we should examine the similarity of subjects to outside populations and of experimental procedures to outside events. Subjects for this study were undergraduate students majoring in business. These individuals may vary in many ways from practicing administrators — they are no doubt different in age, interests, career stage, and competing family involvements. Nonetheless, we do have some confidence in the generalizability of our results across varieties of people. First, several individual differences have been tested in this series of studies, and no personality or sex difference variable has proven to be a robust moderator of commitment effects. Second, there has recently been conducted a commitment study using both undergraduate students and practicing managers (Staw and Ross, 1979). No significant differences were found between the reactions of managers and undergraduate business students to a commitment situation. Thus, we believe we have tapped effects which should generalize relatively well across individuals.

The generalization of our experimental procedures to real world events is of more concern to us. It is likely that some variables relevant to commitment have not been tapped in our simulations and even that some variables we have manipulated (or held constant at a high or low level) may not be relevant to field settings. Specifically, it might be determined in the future that the R&D case used in these studies contains certain features that heighten the escalation of commitment. Because R&D is an activity which may not manifest its results over the short run, individuals may, for example, be more prone to escalate commitment in this task than for other more tangible projects. Political vulnerability could also, for example, be oversimplified in the present study, since it lacks the subtleties of complex interpersonal relations and coalitions. We do not necessarily agree with these caveats, but they are important concerns and reason enough for conducting field replications. In our judgment, the experimental simulation is a rather conservative test of hypotheses, since variables such as political vulnerability should be even more salient in the real world than in a simulation. Also, because each field situation is loaded with its own set of idiosyncracies, laboratory simulations using simple face-valid operationalizations of variables may actually be applicable to a wider variety of situations than field data derived from a few specific localities.[4]

The Role of Applied Laboratory Research

Although our studies are laboratory-based, we have attempted to maximize the linkage between experimental pro-

[4] The authors wish to thank Philip Brickman for this idea.

cedures and real world events. For years, popular press articles have described events in both business and government situations that resembled escalating commitment, yet we have had little concrete information about how this phenomenon could be caused or whether it might simply be a result of a post hoc reconstruction of events. Therefore, independent variables were chosen that might parallel some of the real world conditions leading to escalation effects, and the general paradigm underlying these simulation experiments (i.e., decision making → negative consequences → opportunity to recoup losses) was designed to parallel the practical problem. Because the design of our studies has been shaped by external events rather than yoked specifically to a theoretical framework, these experiments represent a form of applied laboratory research.

In our view, applied laboratory research can provide a strong ''first'' and ''second'' test of phenomena already observed in the field. Because field research frequently lacks the internal validity to assure cause-effect relations, laboratory studies can first provide an opportunity to discover if an effect *can* be generated. Second, laboratory studies can help to isolate the key variables underlying an effect and the most important moderating conditions. Ideally, an experimental simulation should be designed to parallel important environmental conditions and make them subject to manipulation. The difficulty, of course, resides in ascertaining whether the key variables were manipulated and under the proper conditions. Therefore, cross-validation is always important. For example, after the causes of escalation behavior have been sufficiently isolated in an experimental context, the logical next step would be systematically to alter relevant variables within organizational settings. One special opportunity may be to ''piggyback'' studies of decisional commitment to evaluation research being carried out within governmental and industrial organizations. By measuring changes in administrators' commitment to projects under various conditions of evaluation, natural field experiments may result. It may also be possible to conduct evaluation research with systematic variations, so as to build in planned comparisons on behavioral as well as methodological questions. We would strongly encourage such efforts.

REFERENCES

Aronson, Eliot
1968 "Dissonance theory: Progress and problems." In R. Abelson, E. Aronson, W. McGuire, T. Newcomb, M. Rosenberg, and P. Tannenbaum (eds.), Theories of Cognitive Consistency: A Sourcebook: 5–27. Chicago: Rand McNally.
1976 The Social Animal, 2d ed. San Francisco: Freeman.

Campbell, Donald T.
1967 "Administrative experimentation, institutional records, and nonreactive measures." In J. C. Stanley and S. M. Elam (eds.), Improving Experimental Design and Statistical Analysis: 257–291. Chicago: Rand McNally.
1969 "Reforms as experiments." American Psychologist, 24: 409–429.
1977 "Keeping the data honest in the experimenting society." In H. W. Melton and D. J. Watson (eds.), Interdisciplinary Dimensions of Accounting for Social Goals and Social Organizations: 37–76. Columbus, OH: Grid.

Campbell, Donald T., and Julian C. Stanley
1966 Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally.

Festinger, Leon
1957 A Theory of Cognitive Dissonance. Stanford, CA: University Press.

Freedman, Jonathan L.
1963 "Attitudinal effects on inadequate justification." Journal of Personality, 31: 371–385.

Freedman, Jonathan L., and David O. Sears
1965 "Selective exposure." In L. Berkowitz (ed.), Advances in Experimental Social Psychology, vol. 2: 57–97. New York: Academic Press.

Kiesler, Charles A.
1971 The Psychology of Commitment: Experiments Linking Behavior to Belief. New York: Academic Press.

Pallak, Michael S., Susan R. Sogin, and A. Van Zante
1974 "Bad decisions: Effects of volition, locus of causality, and negative consequences on attitude change." Journal of Personality and Social Psychology, 30: 217–227.

Platt, John
1973 "Social traps." American Psychologist, 28: 641–651.

Porter, Lyman W., Edward E. Lawler, and J. Richard Hackman
1975 Behavior in Organizations. New York: McGraw-Hill.

Rokeach, Milton
1960 The Open and Closed Mind. New York: Basic Books.

Salancik, Gerald R.
1977 "Commitment and the control of organizational behavior and belief." In Barry M. Staw and Gerald R. Salancik (eds.), New Directions in Organizational Behavior: 1–54. Chicago: St. Clair Press.

Schulze, R. H. K.
1962 "A shortened version of the Rokeach Dogmatism Scale." Journal of Psychological Studies, 13: 93–97.

Sherif, Caroline W., M. Sherif, and R. E. Nebergall
1965 Attitude and Attitude Change. Philadelphia: Saunders.

Staw, Barry M.
1974 "Attitudinal and behavioral consequences of changing a major organizational reward: A natural field experiment." Journal of Personality and Social Psychology, 6: 742–751.
1976 "Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action." Organizational Behavior and Human Performance, 16: 27–44.
1977 "The experimenting organization: Problems and prospects." In Barry M. Staw (ed.), Psychological Foundations of Organizational Behavior: 466–486. Santa Monica, CA: Goodyear.
1979 "Rationality and justification in organizational life." In Barry M. Staw and Larry L. Cummings (eds.), Research in Organizational Behavior: vol. 2. Greenwich, CT: JAI (in press).

Staw, Barry M., and Frederick V. Fox
1977 "Escalation: Some determinants of commitment to a previously chosen course of action." Human Relations, 30: 431–450.

Staw, Barry M., and Jerry Ross
1978 "Commitment to a policy decision: A multi-theoretical perspective." Administrative Science Quarterly, 23: 40–64.
1979 "Commitment in an experimenting society." Working paper, Department of Organization Behavior, Northwestern University.

Weick, Karl E.
1964 "Reduction of cognitive dissonance through task enhancement and effort expenditure." Journal of Abnormal and Social Psychology, 68: 533–539.

White, Ralph W.
1959 "Motivation reconsidered: Concept of competence. *Psychological Review, 66: 297–*333.

Winer, B. J.
1971 Statistical Principles in Experimental Design, 2d ed. New York: McGraw-Hill.