Escalation of Commitment to an Ineffective Course of Action: The Effect of Feedback Having Negative Implications for Self-Identity

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Entrapment refers to the process by which organizational decision makers escalate their commitment to an ineffective course of action in order to justify the allocation of previous resources. This paper presents the results of two laboratory experiments that explored the effect on entrapment of individuals' perceptions that the ineffectiveness of prior resource allocations had negative implications for their self-identity. The first experiment showed that entrapment was greater when subjects were told that their ineffective performance reflected their self-identity than when they were told that it did not. The second experiment explored the joint effects on entrapment of performance feedback and the extent to which the feedback was perceived to have negative implications for self-identity. Feedback was manipulated so that half the subjects were told their performance was increasingly ineffective and half that it was increasingly more effective, though still not successful. Half of each group was told performance was due to skill and half that it was mainly due to luck. Entrapment was greater in the skill than the luck condition among those who received the somewhat positive feedback, but the skill-luck difference in entrapment was significantly reduced among those who received negative feedback. Practical and theoretical implications of these and other related findings are discussed.•

Organizational behaviorists and social psychologists have recently begun to study phenomena in which organizational decision makers escalate their commitment to an ineffective course of action. This process, which is common at both the individual and organizational levels, has been called "entrapment" (Brockner and Rubin, 1985), the "sunk cost" effect (Northcraft and Wolf, 1984), the "knee-deep-in-the-big-muddy" effect (Staw, 1976), and the "too much invested to quit" effect (Teger, 1980).

For example, the manager of employee relations has invested considerable resources in developing the organization's performance appraisal system. Indeed, much of the manager's work-role identity is based on having developed this system. Unfortunately, that system is becoming more ineffective with each passing day, and the manager is contemplating making a change. On the one hand, the manager may want to cut his or her losses at this point and discontinue the performance appraisal system. On the other hand, due to the magnitude of his or her prior commitment, the manager may feel compelled to justify (in his or her own and/or others' eyes) the appropriateness of the existing appraisal system. To the extent that the manager exercises the latter option, he or she may well be entrapped.

Steers (1984: 71) discussed an organizational example, the fate of the Women's Christian Temperance Union (WCTU):

> During the era of prohibition the WCTU was an active and powerful foe of the legalization of any type of alcoholic beverage. However, as environmental demands changed and popular support shifted in favor of the legalization of liquor, the WCTU remained firm in its opposition. . . . As a result the organization lost most of its popular support and virtually all of its power.

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One, but by no means the only possible explanation of the rigidity of the WCTU may relate to entrapment; that is, the WCTU may have perceived that it would lose its organizational identity (Albert and Whetten, 1985) if it were to shift its stance on prohibition, even though such a change was prudent. Chandler (1962) also wrote extensively about the failure of some organizations to alter their strategy and structure in response to environmental demands. The possible explanations of such organizational inflexibility are not necessarily due to entrapment. The point here is simply that the identity of organizations, much like that of individuals, may, because of past commitments, become inextricably bound with a course of action that is now ineffective. Consequently, the decision makers may be especially reluctant to depart from their prior course of action, for to do so would threaten the identity of the organizations.

Examples of ''throwing good money after bad'' in organizations could be greatly multiplied (Staw, 1976). In general, decision makers show evidence of entrapment whenever they escalate their commitment to an ineffective policy, product, service, or strategy in order to justify previous resources that have been allocated to that policy, product, service, or strategy. Such resources include tangible costs such as time, money, and training, as well as intangible ones such as self-identity.

Elsewhere, we and others have identified some of the defining elements of this dangerous form of conflict escalation (Rubin and Brockner, 1975; Staw, 1976; Teger, 1980). In addition, most of the empirical research has attempted to delineate the factors affecting whether decision makers escalate their commitment to or withdraw from an entrapping course of action (Fox and Staw, 1979; Conlon and Wolf, 1980; Brockner et al., 1984; Bazerman, Giuliano, and Appleman, 1986).

To date, there have been few attempts to integrate the antecedents of entrapment within a broader theoretical framework. Since entrapment is an example of the more general psychological process of commitment, the commitment literature may provide a useful context from which to explore the antecedents of entrapment. Building on the previous work of Kiesler (1971) and Salancik (1977), Staw (1982) developed a fourfold categorization of the variables affecting the commitment of individuals to their behaviors. All four of these categories refer to the more general notion of ''ego involvement,'' i.e., the tendency of individuals to attach psychological importance to their behaviors. These categories include: (1) responsibility for the action; for example, individuals generally feel more committed to those decisions that involved their participation (cf., Vroom and Yetton, 1973); (2) responsibility for the consequences of the action; for example, individuals' commitment to a behavior is apt to be greater when they are held accountable for the outcomes of the behavior; (3) the salience of the action; for example, individuals typically feel more committed to behaviors that are performed publicly rather than privately; and (4) the consequences of the action; for example, the more irrevocable the consequences are deemed to be at the time the behavior is performed, the greater is the individuals' commitment to the behavior.

Previous commitment research (e.g., O'Reilly and Caldwell, 1981) has supported some of the hypotheses set forth by Staw (1982). Moreover, some researchers have explored the antecedents of commitment as defined by Staw within the more specific context of entrapment. Indeed, it has been shown that decision makers are more likely to escalate their commitment to an ineffective course of action to the extent that they feel personally responsible for the action and/or the outcome of that action (Staw, 1976; Caldwell and O'Reilly, 1982; Bazerman, Giuliano, and Appleman, 1986). In addition, it has been shown that prior limit setting is a more effective deterrent to entrapment if decision makers set their limits publicly rather than privately (Brockner, Shaw, and Rubin, 1979).

No research, however, has explored the effect of factors pertinent to the *perceived consequences of the behavior* on decision making within the entrapment context. The present studies were designed to address this deficiency. As Staw (1982: 105) pointed out, "binding actions are thought to have implications beyond the behavior itself. They may have ramifications upon the individual's past performance or identity (e.g., 'if this decision doesn't work it proves I have the wrong skills for this job')." In essence, one consequence of the behavior is the extent to which the outcomes of prior resource allocations are seen by the allocator and/or others to be reflective of, and therefore have implications for, the allocator's self-identity. There are at least two components in this dimension:

(1) *Breadth.* The more an outcome or consequence is perceived to be revealing of a *wide variety* of self aspects, the greater is its *breadth*. For example, employees who receive a wanted promotion may (at least temporarily) infer that they are also desirable romantic partners, good athletes, and fine cooks.

(2) *Depth*. The more an outcome is perceived to be reflective of *central* aspects of the person's identity, the greater is its *depth*. For example, workaholics may attach considerable importance to their performance appraisal, in that the appraisal provides them with feedback about a central aspect of their identity.

It is worthwhile to explore the impact on escalation decisions of individuals' identification with the outcome, not only to fill the gap in prior experimentation, but also, and more important, because individuals or organizations may escalate their commitment to a previously chosen, though ineffective course of action in order to preserve their identity. Put differently, the *failure* to persist with a prior course of action — even one that is ineffective — may disturb the individual's (or organization's) identity to a great extent; to avoid this unsettling state of affairs, decision makers may instead choose to persist in pursuing their prior — though no longer functional — course(s) of action.

The present paper describes two laboratory experiments designed to study the effect of individuals' identification with previous outcomes on the escalation of commitment to an ineffective course of action. The unit of analysis in these studies is the individual decision maker, although, as sug-

gested above, it is possible that identification with prior outcomes may also affect group and/or organizational decision making. All resource allocation decisions made by individuals in organizations are associated with some degree of identification with outcomes.

Based on the commitment literature (Kiesler, 1971; Salancik, 1977; Staw, 1982), we posit that this variable can influence decision makers' tendencies to escalate their commitment to an ineffective course of action. More specifically, prior research is consistent with the notion that identification with outcomes *increases* individuals' tendencies to escalate their commitment to an ineffective course of action. In an organizational decision-making simulation, Staw (1976) found that subjects were more likely to become entrapped when *they* were responsible for making the initial investment which had hitherto not met with success (the personal-responsibility condition) rather than *their predecessor* in the organization (the no-personal-responsibility condition). One interpretation of this finding is that subjects perceived the negative feedback to be more reflective of themselves in the personal than in the no-personal-responsibility condition. Perhaps in order to prove that their prior resource allocation did not reveal their incompetence, subjects in the personal condition were more motivated to escalate their commitment.

Of course, alternative explanations may account for Staw's (1976) findings. For example, decision makers may have felt more personally responsible for the action and/or its consequences, and hence more committed, in the personal than no-personal-responsibility condition. In order to evaluate the impact of identification with outcomes on escalation of commitment, it is necessary to hold level of personal responsibility constant. Thus, in the present studies *all* participants were personally responsible for prior resource allocation decisions; but the extent to which subjects viewed the outcomes of the prior decisions to be reflective of their self-identity was experimentally varied.

EXPERIMENT 1

The first experiment tested the basic hypothesis that individuals' tendencies to view prior outcomes as revealing of their self-identity would heighten entrapment. All subjects took part in a potentially entrapping decision-making task, in which they incurred irretrievable costs while attempting to achieve the goal. Half of the subjects were informed that their task performance was reflective of important self aspects (diagnostic condition) whereas the other half were not (nondiagnostic condition). It was expected that entrapment (i.e., escalated commitment to the ineffective course of action) would be greater in the former than in the latter condition.

Method

Participants. Fifty-two (27 female, 25 male) introductory psychology students at Tufts University took part in the experiment, in partial fulfillment of a course requirement.

Procedure. Upon their arrival at the laboratory for what was announced as a perception experiment, subjects were ushered into a research cubicle and given an initial stake of

$3.50 in cash. They were then given a set of instructions to read, which informed them that the researchers were studying the effects of tangible rewards on perceptual processes and, in particular, the effects of money on their judgments of geometric patterns of various shapes. The instructions then continued:

On your table is $3.50 in cash. *This money is yours*. You are free to do with it as you wish. In fact, you can even keep this entire initial stake of $3.50 and not do the perception task. It is entirely up to you. If, however, you do take part you will have the opportunity to win additional money.

Here is how the task will work. You will be shown a series of white cards that have black geometric patterns on them. Your task is to judge the percentage of the card that has been blackened by the geometric pattern. You will have 15 seconds for each trial.

Subjects were shown a card that had been blackened in slightly more than half of the total area and were told, "For example, the sample card in front of you is about 55 per cent black." The instructions next informed participants:

Each time that you make an estimate, you have earned a certain number of points. If you earn a total of 1000 points you will win a jackpot worth $10.00. In order to do the task you will have to pay us a certain amount of money for each trial. The amount of money that you have to pay for each trial will vary. In fact, on the first few trials it will cost you little or no money to try to earn points. *The number of points that you will earn on each trial will depend upon the accuracy of your estimate in relation to those made by previous participants in this experiment*. Note that it would thus be possible for you to make a reasonably accurate judgment, but only earn a few points. If this were to happen, it would be because most people were also accurate on that trial. On the other hand, you can earn a substantial number of points with a fairly accurate estimate, provided that most people were even more inaccurate than you were.

These instructions were designed to heighten further the ambiguity of the "correct" response and thus strengthen the credibility of the feedback that subjects received. Because the task was very unfamiliar to the subjects, it should have been fairly difficult to determine the correct answer. In addition, by making their performance evaluation contingent upon a social comparison process, it was thought that virtually any type of evaluation would have been plausible to subjects. (Careful postexperimental probing revealed, in fact, that subjects did believe the performance feedback that they had received.) Subjects were then informed:

The number of points you can earn on each trial will range from 1 (for a relatively inaccurate estimate) to 200 (for a relatively accurate estimate). You will be told how much each trial will cost before the trial begins.

Several other ground rules should be mentioned. *First, whether or not you end up winning the jackpot, you must pay for each trial that you complete*. Second, if you do not want to continue the task you are free to quit at any time. If you do quit, you will still have to pay for the trials that you did complete before quitting. While you may quit at any time, we would appreciate it if you would at least start the perception task. As mentioned, it costs virtually nothing at first.

The identification manipulation was then introduced. In the diagnostic condition, subjects were told:

Before we begin, you may find it useful to learn what we know about this task. It has been given to over 100,000 people from all walks of

life, and has been used to make important judgments about people. Although it seems reasonably straightforward, it actually measures a number of significant traits. For one, it measures perceptual abilities and mathematical reasoning. In addition, and interestingly enough, how well people do on this type of perception task seems to be correlated with their performance on *social* perception tasks, that is, measures of how well they can 'figure out' what other people are really like. For instance, many employment agencies and businesses use tests very similar to this one when making hiring decisions. In short, high scores on this test are positively correlated with intelligence, personal happiness, and job satisfaction.

In the nondiagnostic condition, subjects were informed:

Before we begin, you may find it useful to learn what we know about the task. It has only recently been developed and tested on approximately 30 people. Needless to say, its usefulness in making judgments about people is very much in doubt at this point. It does not appear that this task measures any intellectual traits. It was developed by a graduate student who thought that this test might be related to performance on *social* perception tasks, that is, measures of how well an individual can 'figure out' what other people are really like. Even that idea seems a bit far-fetched at this point. In short, neither intelligence, nor personal happiness, nor job satisfaction are related to what this test measures.

Subjects in both conditions were then informed:

The experimenter will provide you with a sheet on which you can keep track of the amount of money that you have spent. If and when you have used up all of your $3.50, you may still continue by paying additional money of your own. This can be money that you brought with you today; or, if you do not have much money with you, but you still want to continue, we will send you a bill that can be paid later, if you end the experiment owing money.

The experimenter provided subjects with the record sheet and then asked them, ''Would you like to try the first card? It will cost you nothing.'' Before each trial, subjects were quoted the cost of the particular trial and were asked if they wished to continue. Table 1 indicates the cost of each particular trial, as well as the cumulative costs over trials. Table 1 reveals the following facts: (1) it cost the subject no money to complete the first two trials; (2) the costs associated with each trial increased from the third trial to the thirtieth trial, e.g., one cent for trial #3, 15 cents for trial #10, etc.; and (3) subjects had spent all of their $3.50 initial stake by the end of trial #21. Those who persisted beyond that trial were willing to invest money other than that which had been given to them at the outset of the experiment.

After subjects had completed each trial, the experimenter provided them with feedback about their performance for that trial. Unbeknownst to the participants, this feedback had been experimentally programmed to foster the impression that they were doing rather poorly at the task. The experimenter went to some length, however, to lead subjects to think that the feedback was, in fact, dependent on their performance. More specifically, after subjects made their estimates the experimenter appeared to enter their responses into a small computer (hidden from subjects), which then presumably indicated the number of points that subjects should receive for that trial. From Table 1 it can be seen that the number of points allocated ranged from 3–24. As a result, subjects never even approached the 1000 points needed to win the jackpot. For

Table 1

Cost per Trial and Points Received in Experiments 1 and 2

		Experiment 1		Experiment 2			
				Declining fortune		Increasing fortune	
Trial	Cost per trial	Points received	Cumulative points	Points received	Cumulative points	Points received	Cumulative points
1	0	5	5	185	185	1	1
2	0	10	15	163	348	2	3
3	1	3	18	141	489	1	4
4	2	7	25	178	667	1	5
5	3	15	40	132	799	3	8
6	4	5	45	28	827	1	9
7	5	12	57	71	898	2	11
8	6	23	70	11	909	5	16
9	8	5	75	40	949	1	17
10	15	10	85	3	952	2	19
11	18	4	89	1	953	4	23
12	19	11	100	3	956	11	34
13	23	4	104	4	960	132	166
14	24	6	110	1	961	44	210
15	26	13	123	1	962	185	395
16	27	7	130	1	963	178	573
17	28	15	145	2	965	163	736
18	29	20	165	1	966	151	887
19	30	6	171	2	968	28	915
20	32	9	180	1	969	54	969
21*	50	24	204	5	974	5	974
22	71	11	215	2	976	2	976
23	104	5	220	1	977	1	977
24	137	15	235	3	980	3	980
25	182	4	239	1	981	1	981
26	207	6	245	1	982	1	982
27	289	10	255	2	984	2	984
28	338	4	259	1	985	1	985
29	426	5	264	1	986	1	986
30	560	6	270	1	987	1	987

*Subjects had spent the initial stake of $3.50 after this trial; subsequent trials charged to them totaled $26.64 by the end of trial #30.

example, after the twenty-first trial had been completed, subjects had only been awarded a cumulative total of 204 points; in short, subjects received extremely negative feedback about their task performance and, hence, their progress toward the goal.

In no case did subjects ever win the jackpot. The behavioral dependent measure of entrapment was the number of trials that subjects completed in the face of mounting costs and negative feedback. The experiment was designed to end after the thirtieth trial, if subjects had not quit by that trial. It was never necessary to end the trials in this experiment, although it was in several instances in the subsequent experiment. (In such instances subjects were assigned a score of 30 trials.)

It may be worthwhile to make explicit how this experimental task captured the necessary characteristics of an entrapment situation. First, decision makers were required to make continuous (rather than one-shot) resource allocations if they wished to attain the goal. Second, there were mounting costs associated with each resource allocation. Third, subjects received feedback that their prior course of action was ineffective, which should have heightened their decisional conflict. On the one hand, they may have wished to continue in order to

attain the goal, and/or in order to justify their previous resource allocations; on the other hand, they may have wished to withdraw in order to cut their losses at that point and so save whatever remained of their initial stake. Fourth, in all instances subjects had free choice about whether to invest their money or to quit. Of course, the ultimate question is whether subjects actually experienced their task persistence as reflective of entrapment. Questionnaire data pertinent to this issue will be discussed in the upcoming results.

After subjects had quit the ''perception task'' they completed a brief questionnaire which included items assessing the importance of various motives underlying their behavior. Finally, subjects were fully debriefed about the true purposes of the experiment. Extra care was taken to reassure subjects in the diagnostic condition that their performance feedback was false. Those who quit with money remaining in their initial stake were paid those amounts. Those who had invested (and lost) more than $3.50 were not required to pay additional money to the experimenter, although this was not made known to them until the very end of the experiment.

Results

Behavioral data. Subjects escalated their commitment to a greater extent in the diagnostic than in the nondiagnostic condition, attempting 18.68 trials in the former and 16.19 trials in the latter condition, $t(50) = 2.26$, $p < .03$. Thus, our basic prediction received firm support: that decision makers are more prone to entrapment to the extent that they view the negative outcomes associated with prior resource allocations as reflective of their self-identity.

Questionnaire data. Subjects rated the importance of various motives for their behavior. Two items assessed perceived entrapment: ''I had already been in for so long that it seemed foolish not to continue,'' and ''Once I had stayed as long as I did I decided to keep going. Otherwise all of the previous effort would have been a waste of time and money.'' The other two items were, ''I wanted to win more money,'' and ''I wanted to help the experimenter with the research.'' The major purpose of these four questions was to determine the extent to which escalation behavior was motivated by perceived entrapment, the desire to make money, and the desire to be a ''helpful'' subject. The responses on the two entrapment items were significantly correlated, $r(50) = .58$, $p < .001$, and were thus summed into an index. The correlations between behavioral degree of entrapment (i.e., number of cards requested) and each of the three underlying motives, when computed, resulted in .25 ($p < .10$) for feeling entrapped, .17 for desire to make money, and .14 for desire to help the experimenter. The only correlation even to approach significance was that associated with the entrapment motive. We will return to these data in the subsequent experiment; fuller discusson of their significance will be deferred until that time.

EXPERIMENT 2

Experiment 2 was designed to explore the effect of identification with outcomes on escalation decisions under conditions of more highly variable feedback. Note that in Experiment 1 subjects received consistently negative feedback about their

task performance. However, in many organizational settings the feedback that decision makers receive about the consequences of their actions is much more variable. For example, what if the feedback became increasingly more positive over time, though still negative in an overall sense? Under such (increasing-fortunes) conditions it was predicted that identification with outcomes would increase escalation of commitment to the ineffective course of action. As discussed under Experiment 1, identification with outcomes should elicit greater commitment. In addition, the decision maker could equate improved outcomes with acquiring the skill needed for goal attainment. If the skill is perceived to be reflective of the self, then the individual stands to gain all of the positive regard (from self and/or others) associated with persisting in an initially dismal but subsequently improving course of action. Stated differently, the subsequent improvement in return on investment may serve to vindicate the previously poor returns, an outcome that is highly desirable if the feedback is seen as reflective of the self.

In Experiment 2, some subjects received feedback suggesting that their task performance was initially very poor but was then followed by a dramatic improvement. *In no instance, however, was their task performance successful in an overall sense.* Some were led to believe that their performance was reflective of themselves, whereas others were not. Subjects in the former condition were told that their performance was reflective of skill, while those in the latter condition were informed that it was due to luck. It was predicted that escalation would be greater in the skill than in the luck condition.

A second purpose of this experiment was to study the effect of the identification-with-outcome variable when performance feedback was initially positive but then became negative over time (declining-fortune condition). This type of feedback could elicit two very different responses. On the one hand, many decision makers cling steadfastly to outdated policies and/or technologies in the face of increasingly negative feedback. On the other hand, the contrast between positive and negative feedback may be so severe as to motivate decision makers to abandon their previously chosen course of action. In any event, it was expected that the effect of identification with outcomes would be to magnify whichever behavioral tendency was more dominant. Wortman and Brehm (1975) have suggested that individuals initially respond to negative feedback by increasing their persistence; moreover, the greater the importance of the feedback (e.g., if identification with outcomes is high) the greater the initial persistence. If individuals continue to receive negative feedback in spite of their heightened persistence then they reach a point of ''learned helplessness'' (Seligman, 1975), in which their persistence in the behavior is drastically reduced. Furthermore, the greater the importance of this more extended negative feedback (e.g., if identification with outcomes is high), the greater the drop in long-term persistence. In essence, the importance of the failure feedback amplifies both of these behavioral tendencies.

In short, the predicted effect of identification with outcomes on escalation decisions in the declining-fortune condition is more tentative than in the previous condition. It could be that identification with outcomes will lead to heightened rigidity or

perseverance (e.g., Staw, Sandelands, and Dutton, 1981). Alternatively, the prospect of being linked to a ''sinking ship'' in ways that reflect upon the self could be quite aversive and thus cause decision makers to terminate their commitment.

This experiment consisted of a 2 × 2 factorial design, in which the independent variables were performance feedback (increasing fortune vs. declining fortune) and identification with outcomes (high vs. low). As in Experiment 1, subjects were randomly assigned to condition, and the dependent variable was persistence in the perception task. The independent variables were expected to yield an interaction effect: within the increasing-fortune condition, persistence should be greater when subjects believed the outcomes to be more self-revealing; within the declining-fortune condition, this difference was expected to be significantly reduced, or even reversed.

Method

Participants. Forty-five (34 female, 11 male) introductory psychology students at Tufts University completed the experiment, in partial fulfillment of a course requirement. None of the participants had any knowledge of the previous study.

Procedure. The basic procedure was identical to that employed in the previous experiment. There were, however, some modifications which dealt with the implementation of the independent variables.

Identification with outcomes. Prior to taking part in the ''perception task,'' subjects were given information about the nature of the task. Essentially, this manipulation took place at a point in time comparable to the identification manipulation in Experiment 1. In the skill condition, subjects were told:

> Although the task seems reasonably straightforward it actually involves a number of basic skills, such as perceptual abilities, mathematical reasoning, and other intellectual skills. *Thus, how well you do is largely a matter of your own skill.* There is a small amount of luck in this task. But, for the most part, previous research has repeatedly demonstrated that this task is a good measure of a person's perceptual and mental skills.

In the luck condition, subjects were informed:

> The task does not seem to be a measure of any known perceptual or intellectual skills. *Thus, how well you do is largely a matter of luck.* There may be a small amount of skill involved in this task, such as the ability to make luckier estimates than other participants. But, for the most part, previous research has repeatedly demonstrated that this task does not involve any basic skills, and that how accurate a person's guesses are is mostly a matter of luck.

Performance feedback manipulation. The number of points that subjects earned for each trial (as well as the cumulative number of points earned) is shown in Table 1. Several elements are worthy of mention. In the declining-fortune condition the number of points earned was very high (when one considers that they thought they could earn a maximum of 200 points) on the first five trials but then began to taper off rapidly, so that by the tenth trial, subjects never received positive performance feedback again. In the increasing-fortune condition, subjects received very negative feedback for the first twelve trials but then received much more positive feedback

for the next eight trials, before their performance waned again. In both conditions the performance feedback was identical on trials 21–30, and subjects never attained their goal. The difference, then, was the pattern of feedback on the first twenty trials. Subjects were only included in the analyses if they had persisted until at least the thirteenth trial, because those who quit sooner were not fully exposed to the change in feedback, especially in the increasing-fortune condition. The data of six additional participants were discarded for this reason. These six subjects were nearly equally distributed between conditions: there were three in the skill and three in the luck condition, and four in the increasing-fortune and two in the decreasing-fortune condition. The external validity of the results thus pertains only to those individuals who persisted long enough to experience the full performance-feedback manipulation (i.e., 45 out of 51, or 88 percent of all participants).

The cost per trial was identical in both conditions and was based on the schedule used in Experiment 1 (see Table 1). After completing the task, subjects responded to a postexperimental questionnaire, which included manipulation checks on both independent variables and items assessing the importance of various motives for their behavior (i.e., the same four measures used in the previous experiment). Finally, subjects were fully debriefed and paid, as in Experiment 1.

Results

Behavioral data. A two-factor (skill-luck × performance feedback) unweighted-means analysis of variance revealed no main effects (both F values < 1), but a significant interaction, $F(1,41) = 7.76$, $p < .01$. As predicted, and as can be seen in Table 2, subjects in the increasing-fortune condition showed greater escalation of commitment in the skill than in the luck condition, simple main effect, $F(1,41) = 6.46$, $p < .025$. The means were in the opposite direction in the declining-fortune condition, though not significantly different from one another, simple main effect, $F(1,41) = 1.95$. To state the interaction effect differently, according to simple effect analyses, within the skill condition there was a significant performance-feedback effect, $F(1,41) = 4.95$, $p < .05$, with subjects showing greater escalation in the increasing- than in the declining-fortune condition. Within the luck condition, just the opposite result was obtained, which proved to be of marginal significance, $F(1,41) = 2.93$, $p < .10$. Including the data of the six participants who

Table 2

Task Persistence as a Function of Identification (Skill) and Nonidentification (Luck) with Outcomes as a Result of Performance Feedback Manipulation*

Experimental condition	Performance feedback manipulation: Increasing fortune			Decreasing fortune		
	N	Mean	S.D.	*N*	Mean	S.D.
Skill	11	22.46	3.33	12	18.75	4.03
Luck	9	18.22	3.87	13	21.08	4.29

*Scores could range from 13–30. Higher scores reflect greater escalation of commitment to the ineffective course of action.

quit prior to the thirteenth trial did not alter the results. In fact, the skill-luck × performance-feedback interaction effect increased slightly in magnitude.

Questionnaire data. Subjects were asked to indicate the extent to which their performance was reflective of their ''skill'' and ''luck.'' Separate questions were asked, and subjects' responses along the 7-point rating scales (used on these and all other questionnaire measures) could range from ''not at all'' (1) to ''to a great extent'' (7). Subjects' responses to these questions were significantly inversely related, $r(43) = -.42$, $p < .01$. To simplify the analysis, an index was computed for each subject (i.e., luck minus skill, with higher scores representing more of a luck-than-skill performance attribution). A two-factor analysis of variance yielded the expected skill-luck main effect, $F(1,41) = 5.05$, $p < .03$, and no other effects. Subjects made stronger luck-than-skill attributions for their performance in the luck than in the skill condition (Mean = 2.04 vs. .30, respectively).

The performance-feedback-manipulation-check questions were, ''How quickly did you seem to move toward the goal of 1000 points in the first half of the experiment?'' and ''How quickly did you seem to move toward the goal of 1000 points in the second half of the experiment?'' Responses could range from ''not at all quickly'' (1) to ''very quickly'' (7). Two-factor analyses of variance were conducted on each measure. In each instance there was a highly significant performance-feedback main effect and no other significant results. As expected, subjects reported much more rapid movement to their goal in the first half of the declining- than the increasing-fortune condition, Mean = 6.44 vs. 1.80, respectively; $F(1,41) = 121.64$, $p < .001$. Also, as expected, they reported much more rapid goal movement in the second half in the increasing- than in the decreasing-fortune condition, Mean = 5.58 vs. 1.36, respectively; $F(1,41) = 80.19$, $p < .001$. In summary, the manipulation-check data suggested that both independent variables were operationalized successfully.

The importance of various motives for subjects' behavior was also assessed (i.e., to help the experimenter, to make more money, and the two items measuring perceived entrapment). As in the previous experiment, the two entrapment items were significantly correlated, $r(43) = .49$, $p < .01$, and combined into an index. The relationship of each motive to degree of persistence was similar to those obtained in Experiment 1. That is, the entrapment index correlated with actual escalation of commitment ($r = .49$), whereas the other measures did not (helping experimenter, $r = -.30$; making money, $r = -.04$).

These data and similar results for Experiment 1 suggest that the decision-making task used in both studies did measure the process of escalating commitment that it was intended to explore. That is, the more subjects persisted, the more they reported feeling entrapped. Just as important, there was no consistently significant correlation between task persistence and other, highly plausible reasons for individuals to have persisted at the task.

There is an alternative explanation for subjects' endorsement of the entrapment items being significantly correlated with their degree of entrapment, whereas their ratings of the other

items were not. It could be argued that subjects did not believe that any of the motivation measures were particularly self-descriptive, but that the entrapment items were simply the best of a bad lot. However, all subjects in Experiment 1 were also asked to respond to the following open-ended measure of motivation: ''Please write in your own words any other reasons why you persisted with the task for as long as or as short as you did.'' (Unfortunately, this statement was omitted in Experiment 2.) Our point is that the significant correlations between the entrapment measures and behavior (and the nonsignificant correlations between the nonentrapment items and behavior) emerged in the context of subjects also having ''free rein'' to explain why they behaved as they did.

In Experiment 1 the modal response to the open-ended question ($N = 15$, out of 52) was to write nothing at all. The most frequently mentioned motives were (1) ''because I was performing so poorly'' ($N = 12$; these participants tended to quit relatively early), (2) ''to see if I could improve my performance'' ($N = 8$), and (3) ''to not spend more than the amount of the initial stake''($N = 6$).

One other alternative explanation for the persistence behavior of subjects in Experiment 2 should be considered. It could be argued that those in the increasing-fortune condition persisted not only because they felt entrapped but because they felt they were doing increasingly better and therefore would be quite certain to attain the goal. To evaluate this possibility, a third group of 46 subjects was run. In this study the performance feedback was identical to that employed in the increasing-fortune condition used in Experiment 2. All participants completed the questionnaire items used in the two experiments; in addition, they responded to the open-ended question used in Experiment 1. The pattern of correlations between task persistence and self-reported motives was identical to that found in Experiments 1 and 2; there was a significant relationship between task persistence and ''feeling entrapped,'' $r(44) = .34$, $p < .02$, but not with either of the other two motives, (rs) = .01 and .24 for the ''help experimenter'' and ''make money'' motives, respectively.

Furthermore, the modal response to the open-ended statement ($N = 11$) was to write nothing at all. The most frequently mentioned responses were (1) ''because I was doing so poorly'' ($N = 9$), (2) ''to not spend more than the amount of the initial stake'' ($N = 8$), and (3) ''because I was doing well''($N = 6$). The fact that only six out of forty-six participants reported persisting because they were doing well at the task strongly implies that perceived task success was not a primary determinant of the group's persistence behavior in the face of the increasing-fortune feedback.

The results on self-reported motives and the responses to the open-ended statement thus strongly suggest that the experimental procedure did, in fact, capture the necessary characteristics of an entrapment situation. Subjects in both studies, even those in Experiment 2, did experience the negative feedback. Moreover, subjects' *behavioral* degree of entrapment was significantly correlated with the extent to which they reported *feeling* entrapped. That is, the more subjects *acted* entrapped, the more apt they were to explain their behavior as

reflecting their need to justify past (failing) commitments by allocating additional resources.

In conclusion, the behavioral and questionnaire results of Experiment 2 largely confirmed predictions. The skill condition produced greater escalation of commitment to the failing course of action than did the luck condition when performance feedback went from very negative to very positive. This difference was reduced (indeed, slightly reversed) in the declining-fortune condition. The data from both Experiments 1 and 2 suggest that individuals' identification with outcomes markedly affects escalation decisions. Moreover, Experiment 2 identifies a moderator variable (i.e., performance feedback) that can affect the overly simplistic view that identification with outcomes will inevitably lead to *heightened* commitment to an ineffective course of action.

DISCUSSION

This paper began with the assumption that the process of escalating commitment to an ineffective course of action is potentially quite ubiquitous within organizational settings. In the earliest papers on this topic, Rubin and Brockner (1975) and Staw (1976) called for additional research exploring the factors that affect decision makers' tendencies to persist or withdraw. The present studies explored the impact of the diagnostic value of feedback for individuals' self-identities, a variable derived from a more general typology of factors affecting commitment (Staw, 1982). Experiment 1 showed that in the face of constantly negative feedback, decision makers were more prone to escalate their commitment under highly diagnostic than nondiagnostic conditions. The results of Experiment 2 showed that in the context of negative but improving task performance, highly diagnostic performance feedback engendered greater entrapment than did nondiagnostic feedback. However, this difference was significantly reduced in the declining-fortune condition. These findings have a host of practical and theoretical implications and may also set the stage for further research.

Implications for Practice

The tendency for decision makers to continue allocating resources to an ineffective course of action can be extremely maladaptive, both for individuals and organizations. If identification with outcomes is the underlying cause of such escalating commitment, then decision makers need to be aware of and perhaps even try to influence the aspects of their decisional context that foster such identification. For example, recall the case of the manager of employee relations who is caught in the conflict about whether to discontinue his ''pet project,'' i.e., the now-outdated employee appraisal system; to the extent that the manager's work, or even self-identity is inextricably bound to the existing system, it will be extremely difficult for him or her to recommend that the organization change to a new system, even though the old system has outlived its usefulness. Said differently, and perhaps more extremely, such identification may initiate an ''identity crisis'' of sorts. Such individuals may reason, ''If I am not the person who is associated with the development of this organization's performance appraisal system, then who am I?''

Although the individual decision maker has been the unit of analysis in the present studies, the concept of identification with outcomes may shed light on decision making at organizational levels of analysis. The organizational graveyard is replete with instances in which firms persisted with policies or strategies that had long since outlived their usefulness. Although a thorough analysis of the causes of organizational resistance to change is beyond the scope of this paper, the present experiments highlight one factor that could impede organizational flexibility or innovation: the implications of feedback for the organization's identity. An organization (like in the WCTU example described earlier) may perceive that its identity will be shaken or lost, *unless* it persists in its previously chosen, though possibly ineffective course of action. Moreover, such intransigence may be especially apt to occur if the negative feedback threatens the organization's core identity.

Implications for Theory

Commitment. The present findings suggest that analyses of the psychological process of commitment, originally proposed by Kiesler (1971) and Salancik (1977) and elaborated upon by Staw (1982), may provide a useful framework from which to explore the antecedents of entrapment. Decision makers' identification with outcomes is one factor from the "consequences of action" category proposed by Staw (1982) that is conceptually and operationally distinct from related constructs such as personal responsibility. To reiterate, personal responsibility refers to the extent to which individuals believe that they were the agents of the behavior and/or the outcome of the behavior. Identification with outcomes refers to a property of the outcome of the behavior: the extent to which such consequences are perceived as revealing of other aspects of decision makers' self-identities. Further research on entrapment derived from a commitment framework should serve two theoretical purposes: (1) to shed light on the antecedents of entrapment, a most intriguing decision-making process that has recently received considerable scrutiny from both organizational and social psychologists alike (Staw, 1979; Teger, 1980; Brockner and Rubin, 1985) and (2) to evaluate the predictive utility of the more general commitment framework in which the entrapment research is embedded.

Organizational change. The concepts of adaptability, flexibility, and innovation are of considerable concern to both organizational scholars and practitioners. A basic truism in the organizational literature is that the ability to respond to environmental change is a key determinant of long-term organizational success. The present findings reinforce a provocative thesis set forth by Staw (1982): that it may be possible to understand better change or flexibility in decision making by shedding light on those factors that promote resistance to change or flexibility. Entrapment, in particular, and commitment, more generally, refer to psychological processes that could impede flexibility or change. Said differently, in delineating the factors that reduce decision makers' tendencies to feel entrapped or committed, researchers may be simultaneously uncovering some bases of flexibility, change, and innovation in decision making.

Future research. Further research should address the impact of individuals' identification with outcomes on entrapment.

Although there are undoubtedly instances in which such identification increases entrapment, it is also the case, as shown in the declining-fortune condition in Experiment 2, that it may decrease or have no effect on entrapment. Further thought should be given to the interactive effects of identification with outcomes and other theory-driven variables on entrapment. For example, Wortman and Brehm (1975) suggested that negative feedback initially increases task persistence; if, however, individuals continue to receive negative feedback in spite of increased persistence, then they will begin to withdraw from rather than persist in the task at hand. Moreover, this logic is most apt to apply to those circumstances in which the negative feedback is psychologically significant (e.g., when there is identification with outcomes). Thus, in Experiment 1 subjects in the diagnostic condition persisted with the ineffective course of action to a greater extent than did those in the nondiagnostic condition. The Wortman and Brehm model also implies that if the negative feedback were even more prolonged than it was in Experiment 1 then increased identification with outcomes may have led to a reduction in entrapment.

Future empirical research should also be designed to evaluate whether the effect of identification with outcomes is moderated by the publicity of the individuals' (or organizations') decisions. In the present experiments subjects made decisions and received feedback about their decisions in the immediate presence of a significant other — the experimenter. It is thus appropriate to ask if similar results would occur under more private conditions. Since decision making in entrapment dilemmas has been shown to be significantly influenced by self-presentational variables (Staw, 1979; Conlon and Wolf, 1980; Brockner, Rubin, and Lang, 1981), we suspect that the significance level of the present results was (at least partially) caused by the public nature of the decision-making setting; that is, publicity may well *magnify* the extent to which identification with outcomes leads to increased or decreased entrapment. However, it may not affect the *directionality* of entrapment.

Future research should also address the external validity of the present findings. We are confident that the present studies did possess experimental realism, especially in the identification conditions. However, the extent to which decision makers who identified with outcomes were psychologically involved with the experimental task does not come close to the level of involvement that such decision makers experience in actual organizational settings. However, this very likelihood gives reason to be (cautiously) optimistic; if identification with outcomes had such a significant effect in the experimental context, in which the stakes were low, then it might have quite dramatic effects in real-world organizational settings.

Future research should also explore the links between identification with outcomes and other closely related but not identical variables. We have already discussed how this variable differs from personal responsibility. In fact, Staw's (1982) typology helps differentiate this factor from other relevant factors affecting the psychological process of commitment. Two related factors that warrant further consideration are causal attribution and task involvement. The act of making internal attributions for one's behavior is similar to but not

isomorphic with perceiving the outcome of one's behavior as identified with one's self. The latter is concerned with the perceived *meaning* of behavior; the former is concerned with the perceived *cause* of behavior. Thus, for example, if individuals attribute their poor work performance to internal factors such as lack of ability or lack of effort, it does not necessarily mean that they will make additional negative self-inferences based upon their poor performance (e.g., if the internal attribution were specific rather than general).

Similarly, identification with outcomes is related to but not exactly the same as task involvement or importance. Identification with outcomes refers to a particular basis for attaching importance to one's task performance. Other bases of task involvement have little to do with identification with outcomes. For example, if the receipt of a sizable material reward is dependent on successful task performance, then individuals may become very involved in the task, but the basis of their involvement is largely unrelated to identification with outcomes.

In short, identification with outcomes is distinct from personal responsibility (and other factors pertinent to the commitment process), internal attribution, and task involvement. Further research is sorely needed, however, in order to delineate the impact of all of these conceptually related variables on decision makers' tendencies to escalate their commitment to an ineffective course of action. Such research efforts should explore the joint and (possibly) interactive effect of these variables by simultaneously incorporating them into factorial designs.

Finally, future research should evaluate whether processes affecting self-identity in individuals are analogous to those at organizational levels of analysis. Organizational scholars have recently written about the notion of "organizational identity" (Albert and Whetten, 1985). It seems entirely possible that organizational decisions about whether to persist in an ineffective course of action may be affected by the extent to which key decision makers view the negative feedback (and/or the decision about whether to persist or withdraw) as reflective of the organizations' core identity.

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