

## Factors Affecting Entrapment in Escalating Conflicts: The Importance of Timing

JOEL BROCKNER

*SUNY, Brockport*

AND

JEFFREY Z. RUBIN, JUDY FINE, THOMAS P. HAMILTON, BARBARA THOMAS,  
AND BETH TURETSKY

*Tufts University*

Entrapping conflicts are those in which individuals continue to invest their resources—even in seemingly losing propositions—in large part to justify previous unfilled expenditures. It has been demonstrated that individuals define their motivation for investing very differently at the various stages of an entrapping conflict. One implication of this motivational dynamic is that various factors may differentially affect degree of entrapment (i.e., amount invested), depending upon the point in time at which they are introduced. The present studies were designed to test this notion. All subjects were given an initial monetary stake and had the opportunity to win more by taking part in an entrapping investment situation. In Experiment 1, half the subjects were provided with a payoff chart that made salient the costs associated with investing (High-cost salience condition) whereas half were not (Low-cost salience condition). Moreover, for half of the subjects the payoff chart was introduced before they were asked to invest (Early condition) whereas for the other half it was introduced after they had invested a considerable portion of their resources (Late condition). Entrapment was lower in the High salience–Early than in the Low salience–Early condition. However, there was no difference between groups in the Late condition. In Experiment 2, the perceived presence of an audience interacted with personality variables related to face-saving to effect entrapment. When the audience was described as “experts in decision making,” subjects high in public self-consciousness (or social anxiety) became less entrapped than those low on these dimensions. When the audience consisted of individuals who “wished simply to observe the experimental procedure,” however, high public self-con-

The authors are grateful to Robert Folger, Doug Kenrick, and Miron Zuckerman for their helpful comments on an earlier version of the manuscript. This research was supported by National Science Foundation Grant BNS 821863 to Jeffrey Z. Rubin. Please submit reprint requests to Joel Brockner, Department of Psychology, Tufts University, Medford, MA 02155.

sciousness (or social anxiety) individuals were significantly more entrapped than lows. Moreover, these interaction effects occurred when the audience was introduced late, but not early, into the entrapment situation. Taken together, these (and other) findings suggest that economic factors are more influential determinants of behavior in the earlier stages of an entrapping conflict, whereas face-saving variables are more potent in the later phases. Alternative explanations are discussed.

Entrapping conflicts are those in which decision-makers feel compelled to continue investing their resources in order to justify previous costs incurred in the pursuit of some goal. In describing a wide range of everyday life situations that have entrapping qualities, recent investigators have posited that entrapment is a significant, ubiquitous, and intriguing form of social (and nonsocial) behavior (Brockner, Shaw, & Rubin, 1979; Teger, 1980). For example, individuals may "throw good money after bad" in repairing an old car, remain for an excessively long period of time in unsatisfying jobs or romantic relationships, or decide to escalate the arms race (even in the face of information suggesting the impracticality of all these actions) because of their belief that they have "too much invested to quit" (Teger, 1980).

Elsewhere, we and others have described the similarities inherent in entrapping situations, and in decision-makers' motives and actions within those settings (Rubin & Brockner, 1975; Teger, 1980). Central to the definition of an entrapment situation is that it is one in which individuals are constantly redefining the nature of their involvement as they become more committed to their chosen course of action. Indeed, it is the ever changing, dynamic nature of entrapment situations that make them so interesting. More specifically, it has been demonstrated that decision-makers' motives for investing are quite different at the various stages of an entrapping conflict. Initially individuals are largely motivated by economic concerns. Simply put, they would like to obtain maximum rewards at minimum costs. As additional investments are made, however, their bases for continued investments are different. Individuals who continue to invest, in addition to their economic motives, become increasingly concerned with (1) achieving their goal for the psychological sake of achievement, (2) saving face in the eyes of others present in the conflict situation, and (3) justifying all that has been spent to that point (Brockner, Note 1; Teger, 1980).

One important implication of this motivational dynamic is that independent variables might have different effects on degree of entrapment, depending upon the point in time at which these factors are introduced. The present studies were designed to test this notion. All subjects took part in a potentially entrapping conflict. Several independent variables that have been shown to influence entrapment were incorporated into the procedure. Moreover, the point at which these factors were intro-

duced was varied. As a replication of previous research, half of the subjects were exposed to the manipulations before they entered the conflict situation. The other half of the participants were exposed to the identical manipulations after they had invested a considerable portion of their resources. It was generally expected that economic variables would have a greater effect when introduced in the early stage of the conflict, whereas face-saving factors would be more influential in the later phase of the setting.

### EXPERIMENT 1

Previous research has suggested that degree of entrapment covaries with the perceived importance of the costs and rewards associated with continued investments (Brockner, Rubin, & Lang, 1981; Rubin & Brockner, 1975). That is, entrapment was greater when costs were rendered less while rewards were made more important. It should be noted, however, that this information was given to subjects *before* they entered the potentially entrapping conflict, that is, at a time when participants were quite likely to be responsive to such information. An important question not addressed by these studies is, for example, what would happen if subjects received cost salience information *after* they had already invested some of their resources? At least two lines of thought would suggest that cost salience information would not have much of an effect when introduced later. First, following Teger's (1980) suggestion, it may be that reward-cost factors become less important over time, and that subjects would therefore no longer be influenced by this information. That is, in getting "caught up" in the process of becoming entrapped, decision-makers may no longer be the economically motivated individuals that they were at the outset of the conflict. Second, even if subjects are still attentive to economic factors, then the later introduction of cost salience information may provide another impetus to continue, rather than stop investing. Thus, cost salience information introduced later may make individuals even more aware of the amount that they have already spent. As a result of their (now greater) need to justify previous investments, cost information, when introduced later, may make subjects more attentive to the rewards (as well as the costs) associated with continued investments. If the later introduction of cost information increases subjects' attention to both costs and rewards there should be no effect for this variable on degree of entrapment, given that cost information and reward information have directly opposite effects on entrapment (Brockner et al., 1981, Experiment 1).

To test the effect of the timing of the introduction of cost salience information, all subjects took part in a simulated entrapment situation. Half the participants were provided with a chart designed to make more salient the costs associated with investing (High salience condition),

whereas half were not (Low salience condition). In addition, for half the subjects the cost-salience variable was introduced before subjects had the opportunity to invest (early condition). For the remaining half this factor was manipulated after subjects were already involved in the conflict (late condition). It was predicted that high-cost salience would reduce entrapment in the early, but not in the late condition.

## METHOD

### *Participants*

The original sample consisted of 54 Boston area residents who were recruited through newspaper ads inviting participation in a study of decision making. The data of 11 subjects in the late condition who did not experience the manipulation (described below) were not included in the analyses. Thus, the final sample consisted of 43 subjects (19 male, 24 female) who ranged in age from approximately 18 to 30. All had completed at least one year of college.

### *Procedure*

Subjects were studied individually. Upon arrival each subject was seated at a table in a private cubicle. On top of the table were a set of written instructions, a five-dollar bill, an intercom for communication with the experimenter, and a digital electronic counter.

The procedure was largely similar to the waiting paradigm employed by Brockner et al. (1979). To increase the realism of the procedure, subjects were informed that the purpose of the experiment was to simulate and study a gasoline line-waiting procedure. (The experiment was conducted during the summer of 1979, a period in which many Americans had to endure long lines in order to buy gasoline.) The instructions continued with a description of some of the costs associated with waiting for gas, including the loss of time, waste of gas, and the possibility that the gas pumps would be empty by the time the subject's car was to be served. The instructions then described more specifically how the experimental setting was to simulate a gas line waiting situation. Subjects were told that the 3-digit counter would increase at a rate of some one unit per second from 001 to 999. The instructions continued:

If you decide that you would like to wait in the gas line, the experimenter will set the counter in motion. The increasing numbers on the counter represent what it is costing you to wait. Obviously, we cannot ask you to pay for waiting with real gasoline, so what we will do instead is ask you to pay one cent for each unit that the counter increases, to cover your waiting costs.

Why would anyone want to wait in our gas line? We should tell you that the experimenter will be generating a number at random using a small computer. When that number is reached on the counter, the counter will stop automatically and a tone will sound—indicating that you have reached the gas pump. This would mean that your car would receive gas. Since we cannot give you real gas, what we will do is award you a cash jackpot of \$3. For example, if you decided to wait for gas, and the tone sounded when the counter reached 50, you would be asked to pay 50 cents to cover your waiting costs, and you would receive the \$3 jackpot in return. Whether or not you end up winning the jackpot, it will cost you one cent each time the counter increases by one unit. Furthermore, although you have a very good chance of reaching the gas pump if you wait long enough, this is *not* a certainty.

All participants were told to assume that their car had between a quarter and a half tank of gas. If they wished to wait in the gas line, subjects were told that the experimenter would start the counter and allow it to run until (1) the tone sounded, indicating that they had reached the pump and won the jackpot, or (2) they decided to quit. To quit subjects had to press the Stop button on their counter. Subjects were reminded that if they quit they would still be required to forfeit one cent for each unit that the counter had increased.

It was heavily emphasized to participants that the \$5 was theirs simply for coming to the experiment and that they were free to (1) not wait in the gas line, or (2) quit at any point if they did decide to wait. Once a subject quit he or she could not get back in the line, however. To enable us to study waiting behavior, we did subtly encourage the participants to wait in line ("To study gas line waiting behavior, we would prefer it, of course, if people would at least be willing to spend some time waiting in the gas line. There are a number of additional reasons why someone would want to wait. First, by doing so you may end up getting additional money. Second, it really does not cost too much to wait—only a penny for each number that the counter increases. Of course, the choice is ultimately yours—whatever you do is entirely up to you.")

In the high salience–early condition, subjects were also provided a chart consisting of two columns. The first was labeled, "When the counter reaches." Below this were the numbers 1, 50, 100, 150, 200, . . . , 1000. The second column was labeled, "You must pay us the following amount." Below this label were the respective amounts of \$0.01, \$0.50, \$1.00, \$1.50, \$2.00, . . . , \$10.00. In addition, these subjects were told:

A number of people who have done this experiment said they found it helpful to have a chart, which allowed them to keep track of their costs at various points in the study. Take a look at the chart on your desk. You can keep track of your potential costs by consulting your chart at any time. Please take a few moments to study it now.

In the low salience–early condition no chart was introduced and the above instructions were deleted. To clarify further the instructions in all conditions, a "practice trial" was run. The subjects were told that for the practice trial the experimenter had set the winning number at 25. When the counter reached 25 the experimenter stopped the counter and simultaneously set off the tone. This practice trial was conducted largely to enhance the credibility of the existence of the tone. The subjects, of course, were not aware of the bogus nature of the electronic setup.

At the end of the practice trial the subjects were informed that a new winning number was being generated by the computer. After a 30-sec delay subjects were told that the computer was ready, and they were asked if they wished to wait in the gas line. If the subject wished to wait, the experimenter started the counter and let it run until the subject quit or it reached 500. Thus, in no condition did participants ever win the \$3 jackpot. At this point subjects were asked to complete a postexperimental questionnaire (described below). If the subject did not wish to wait for gas, he or she was also asked to complete a shorter version of the questionnaire.

In the high salience–late condition the experimenter stopped the counter when it had reached 179 (assuming, of course, that the subject had not quit beforehand). He announced that he was stopping the counter, and after calling attention to the chart which was lying face down on an adjacent chair, he administered the identical manipulation that was employed in the high salience–early condition. After allowing the subject 30 sec to study the chart, the experimenter announced that he would restart the counter.

In the low salience–late condition, to control for the effect of merely interrupting the proceedings, the experimenter stopped the counter at 179 and said:

OK, the counter has stopped working momentarily. This has been happening a lot recently. It should be a minute or so before I'll get it going again. I will let you know when it is ready.

After waiting 30 sec (i.e., the equivalent amount of time as the interruption in the high salience-late condition) the experimenter announced that the counter was ready, at which point it was restarted.

In all conditions the counter was allowed to increase until it reached 500 or subjects decided to quit. At this point subjects completed the questionnaire asking them to indicate the importance of various reasons for their behavior. The most significant measures were designed to assess the extent to which subjects experienced entrapment ("I had already waited so long it seemed foolish not to continue," and "Once I decided to wait, I was going to wait until I reached the gas pump. Otherwise, all of that waiting would have been a waste.") These measures consisted of 8-point rating scales, with "does not apply to me at all" (1) and "applies to me a great deal" (8) serving as endpoints. Subjects also completed cost and reward salience and timing manipulation checks on 8-point scales. The cost salience item was, "While you were waiting in the gas line, how much did you find yourself thinking about how much it was costing you to continue waiting?" and the reward salience measure was, "While you were waiting in the gas line, how much did you find yourself thinking about reaching the gas pump?" Scale endpoints were "not at all" (1) and "very much" (8). The timing manipulation check was, "When were you first asked to take a look at the chart indicating how much it was costing you to wait in the gas line?" (endpoints: "before I started to wait" (1) and "near the end of when I was waiting" (8)). This question was asked only of subjects in the high salience condition.

All subjects completed open-ended questions about their suspicions of the purpose of the study. During the ensuing debriefing session, subjects were further asked to discuss their suspicions. At the end of the debriefing, subjects were asked not to discuss the experiment with other people.<sup>1</sup> All subjects ultimately received \$5 for participating, although this was not made known until the very end of the debriefing session.

## RESULTS AND DISCUSSION

To test the hypothesis that the cost salience variable would have an impact on entrapment when introduced early but not late, a series of *t* tests were performed within the early and late conditions.<sup>2</sup>

### *Behavioral Measure of Entrapment*

Preliminary  $2 \times 2$  (Sex  $\times$  Cost salience) analyses revealed no main or interaction effects associated with the sex of subject variable in either

<sup>1</sup> In addition, to check for possible "contamination" effects, subjects were asked if any prior participants had divulged the purpose of the study to them. All subjects (in both studies) reported that they had not been previously informed about the study. That subject contamination was avoided may have been due to the fact that our participants were drawn from all parts of the metropolitan Boston area.

<sup>2</sup> It seemed inappropriate to compare the results across early and late conditions for several (related) reasons. First, there were differential attrition rates across conditions. Specifically, the data of 11 subjects were discarded in the late condition because they quit before the salience variable was manipulated. Obviously, no subjects were eliminated from the early condition for that reason. Second, the dependent variable had different scale ranges in the two conditions (i.e., \$0.00–\$5.00 in the early condition and \$1.79–\$5.00 in the late condition).

TABLE 1  
EXPERIMENT 1: AMOUNT OF MONEY INVESTED (IN DOLLARS)

	Early <sup>a</sup>		Late <sup>b</sup>	
	High salience	Low salience	High salience	Low salience
<i>n</i>	11	10	11	11
<i>M</i>	\$1.86	\$3.31	\$3.88	\$4.28
<i>SD</i>	1.74	1.84	1.32	1.00

  

Frequency distribution of quitting points				
	\$0.00	3	\$1.79	0
	\$0.01-0.51	1	\$1.80-2.01	2
	\$0.52-1.02	3	\$2.02-2.52	1
	\$1.03-1.52	2	\$2.53-3.02	5
	\$1.53-2.02	1	\$3.03-3.52	1
	\$2.03-2.52	1	\$3.53-4.02	0
	\$2.53-3.02	1	\$4.03-4.52	0
	\$3.03-3.52	2	\$4.53-5.00	13
	\$3.53-4.02	2		
	\$4.03-4.52	0		
	\$4.53-5.00	5		

<sup>a</sup> Scores could range from \$0.00 to 5.00, with higher scores reflecting greater entrapment.

<sup>b</sup> Scores could range from \$1.79 to 5.00, with higher scores reflecting greater entrapment.

the early or late condition. The data were therefore collapsed across this dimension in subsequent analyses.

In the early condition, replicating previous research, we found a significant cost salience effect, with subjects becoming more entrapped in the low than the high salience condition,  $t(19) = 1.88$ ,  $p < .04$ , one-tailed.<sup>3</sup> In the Late condition, however, there was no trace of a cost salience effect,  $t < 1$ . Summary data, as well as an overall frequency distribution of quitting points are presented in Table 1.<sup>4</sup>

<sup>3</sup> In two studies it has been shown that increasing cost salience by the use of a chart produced a significant reduction in entrapment (Brockner et al. 1981; Rubin & Brockner, 1975). Accordingly, a one-tailed test seemed appropriate in the early condition, which was merely a replication of these previous findings.

<sup>4</sup> The frequency distributions of quitting points in both experiments (see Table 3 also) revealed a number of findings worth mentioning. First, in the early conditions of the two studies overall, fewer than 20% of the subjects failed to invest any of their initial stake. Second, those who did invest tended either to (a) stop before or at the \$3.00 mark—the point at which the amount of their investment equaled the size of the jackpot, or (b) bid all of their \$5.00 initial stake, once having gone beyond the \$3.00 point. Similarly, in the late condition of both studies, almost all subjects either quit before or at the \$3.00 mark or invested all of their initial stake. This bimodal distribution of quitting points is reminiscent of the results of a series of experiments performed by Teger (1980), in which a very different entrapment paradigm was employed.

### Questionnaire Data

To determine the effect of the cost salience variable on subjects' attention to the rewards and costs associated with continued investments, separate  $2 \times 2$  analyses (with repeated measures on the last factor) were conducted in the early and late conditions. The between subjects factor was cost salience, whereas the within-subjects factor was type of measure, that is, cost salience vs reward salience. From Table 2 it can be seen that there was a tendency for subjects to be more attentive to costs and less attentive to the reward in the high-early than in the low-early condition. This interaction effect was marginally significant,  $F(1, 16) = 3.86, p < .07$ . Simple effects revealed that high salience subjects were more attentive to costs than rewards,  $F(1, 16) = 10.20, p < .01$ , whereas low salience subjects were not,  $F(1, 16) = 0.17$ . In the late condition this pattern did not emerge. Rather, high salience subjects reported being more attentive to both rewards and costs than lows,  $F(1, 20) = 8.40, p < .01$ .

*Timing manipulation check.* Subjects reported that the chart was introduced considerably earlier in the early ( $M = 1.00$ ) than the late ( $M = 4.91$ ) condition,  $t(18) = 7.72, p < .001$ .

*Reasons for investing.* Because the two measures of felt entrapment were highly correlated,  $r(38) = .88, p < .001$ , they were combined into an index. As would be expected, subjects in the low-early condition (who spent more money) were more apt to endorse these items than were high-early participants,  $t(16) = 2.18, p < .05$ . No such effect emerged in the late condition,  $t(20) = .40$ . Moreover, across all conditions there was a highly significant correlation between the amount of

TABLE 2  
EXPERIMENT 1: COST/REWARD SALIENCE MANIPULATION CHECK

Timing	Cost salience		Cost item <sup>a</sup>	Reward item <sup>b</sup>
Early	High	<i>M:</i>	6.22	3.67
		<i>SD:</i>	2.28	1.44
	Low	<i>M:</i>	5.00	4.67
		<i>SD:</i>	2.40	2.06
Late	High	<i>M:</i>	5.18	5.59
		<i>SD:</i>	2.44	1.77
	Low	<i>M:</i>	3.18	3.73
		<i>SD:</i>	1.94	1.99

*Note.* Scores could range from 1 to 8, with higher scores reflecting greater endorsement of the item.

<sup>a</sup> "While you were waiting on the gas line, how much did you find yourself thinking about how much it was costing you to continue waiting?"

<sup>b</sup> "While you were waiting on the gas line, how much did you find yourself thinking about reaching the gas pump?"



money that subjects invested and their tendency to endorse these statements,  $r(38) = .59, p < .001$ ; this latter finding suggests that the conflict was indeed entrapping for participants.

The chief results of Experiment 1 were that the chart made subjects (1) more attentive to the costs but less attentive to the rewards associated with continued investments in the early condition, and (2) more aware of associated costs *and* rewards in the late condition. Given that cost and reward salience factors produce opposing effects on entrapment (e.g., Brockner et al., 1981), it becomes more comprehensible that the cost salience variable reduced entrapment in the early, but not in the late condition.

The behavioral results are consistent with Teger's (1980) dynamic analysis of entrapping conflicts, in which he proposes that economic factors are potent motivations underlying the behavior of individuals early on in an entrapping conflict. Thus, when subjects are sensitized to the costs associated with investing *before* such investments are made, they are more apt to withdraw from the conflict. If, however, subjects are exposed to the same information *once having made an investment*, they appear to be no less likely to become entrapped. Perhaps this latter (non-) effect was due to the fact that the subjects in the high salience-late condition were more attentive to both costs and rewards, relative to low salience-late participants.

The results of this study are also similar to recent findings in the compliance/decision-making literature. That is, Cialdini, Cacioppo, Bassett, and Miller (1978) have described a technique known as "low-balling" that is apparently popular among new car dealers. As Cialdini et al. report:

The critical component of the procedure is for the salesperson to induce the customer to make an active decision to buy one of the dealership's cars by offering an extremely good price. Once the customer has made the decision for a specific car, the salesperson removes the price advantage in one of a variety of ways. For example, the customer may be told that the originally cited price did not include an expensive option that the customer had assumed was part of the offer.

After describing various other ways in which the initial price advantage is removed, the authors write:

In each instance, the result is the same. The reason that the customer made a favorable purchase decision is removed and the performance of the target behavior (i.e., buying that car) is rendered more costly. The essence of the low-ball procedure, then, is for a requester to induce another to make a behavioral decision concerning a target action. It is assumed that the decision will persist even after the circumstances have changed to make performance of the target action more costly.

Indeed, in several interesting field studies, Cialdini et al. have shown that low-balling is an effective means of increasing compliance.

How is the procedure used in Experiment 1 similar to a low-ball technique? In both situations the timing of the introduction of costs is varied. Moreover, in both instances it was found that subjects were less likely to invest their resources if the costs were introduced *before*, rather than *after*, they had made the choice about investing. There is, however, at least one important difference between the present situation and those employed in the low-balling studies. In the latter, the salesperson increased the decision-makers' actual costs after the individual was psychologically committed, whereas in Experiment 1, the experimenter merely increased subjects' attention to already existing costs. An interesting future study would be to determine if it is the withholding of information about subjects' *real* or *perceived* costs that makes compliance-entrapment more likely to occur.

An alternative explanation for the early condition behavioral results is that the chart reduced entrapment by introducing demand characteristics. That is, the chart may have served as a cue to participants that the experimenter did not want them to wait in the gas line. However, there was nothing in subjects' written or verbal accounts of the purpose of the experiment that would support a demand-characteristics interpretation. Furthermore, if the chart reduced entrapment in the early condition through demand factors, then it should have produced the same effect in the late condition.

## EXPERIMENT 2

Previous research has shown that face saving is an important motive of individuals in entrapping dilemmas (Brockner et al., 1981). For example, in one study, the experimenter informed subjects of the virtues of spending cautiously before giving them the chance to invest their resources in an entrapping situation. The experimenter then remained present to observe the subjects' actual behavior. Whereas most subjects were influenced by the experimenter's advice, it was the highly socially anxious individuals (who are more concerned with their self-presentation; Turner, 1977) who were least likely to become entrapped. Moreover, Teger (1980) has shown that face-saving motives are particularly apt to arise in the later stages of an entrapment situation. The social-evaluative nature of the setting was not varied in Experiment 1. If, however, self-presentational variables influence entrapment, particularly in the later stages of the conflict, then it would seem worthwhile to investigate the effects of such factors at the various points of an entrapping dilemma.

Accordingly, most of the subjects in Experiment 2 participated in the gas line waiting situation in the perceived presence of an audience. Half of the subjects were told that they were being observed and evaluated

by experts in the field of decision-making (evaluative condition), whereas half were told that they were being watched by a nonevaluating audience who were merely interested in seeing how the experiment was conducted (nonevaluative condition). Furthermore, for half the subjects the audience was present from the beginning (early condition), whereas for the other half the audience first began to observe them after they had already invested a considerable portion of their resources (late condition). A fifth group of subjects participated in a no audience condition (control condition). As in Experiment 1, all subjects had been encouraged to invest at least some of their money immediately before they were asked if they wished to wait in the gas line. If it can be assumed that (1) investing, rather than not investing, was the standard of correct behavior, and (2) face saving would mediate behavior, then it was expected that subjects would invest more in the evaluative than in the nonevaluative condition. Moreover, because face-saving motives are more potent in the later stages of entrapment, it was expected that the audience variable would be more powerful in the late than in the early condition.

An additional purpose of Experiment 2 was to study further the effects of personality variables on entrapment. Teger (1980) found no relationships between several personality factors and behavior; however, Brockner et al. (1981) reported that the social anxiety component of the Self-Consciousness Scale (Fenigstein, Scheier, & Buss, 1975) correlated with the degree of entrapment under certain conditions. Just as the evaluative audience was expected to cause greater entrapment than the nonevaluative audience, it was predicted that individuals high in public self-consciousness and/or social anxiety (who are more concerned with their social image) would become more entrapped than those low on these dimensions. Again, these personality correlates of face saving should be more related to behavior in the late than in the early stages of the conflict.

## METHOD

### *Participants*

Subjects were drawn from the same population as those who participated in Experiment 1. Fifty-six individuals (30 male, 26 female) completed the study. The data of the 8 subjects in the late condition who quit before they were exposed to the manipulation were not included in the analyses.

### *Procedure*

Apart from the manipulation of the independent variables, the procedures were virtually identical to those employed in Experiment 1. Upon arriving at the laboratory each subject was seated at a table in a private cubicle facing a two-way mirror that was covered by a shade. (Subjects assigned to the control condition, described below, did not face the shade, so as to not draw their attention to it.) After the practice trial subjects in all conditions were encouraged to spend at least some time waiting in the gas line. In the evaluative condition subjects were next told:

There is one other thing. At some point in the study you will be asked to raise the shade which is now covering the mirror in front of you. After, but not before you lift the shade a group of 3 people will begin to observe you. These individuals are Tufts professors who are experts in the study of decision-making. They will be studying your behavior carefully, to watch what you do and how you do it—and to evaluate your effectiveness as a problem solver and decision-maker. You will have the opportunity to see the professors' comments and ratings of your performance at the end of the study. In fact, the form that the observers will be using to evaluate you appears after this page. Please take a few minutes now to study that form.

The form revealed that subjects would be judged on their behavior (e.g., how much subjects "appeared to have the situation under control," "were being made to look foolish," and "were using their money wisely") and personal attributes (e.g., attractive-unattractive, smart-stupid, and competent-incompetent).

In the nonevaluative condition subjects were told:

There is one other thing. At some point in the study you will be asked to raise the shade which is now covering the mirror in front of you. After, but not before you lift the shade, a group of 3 people will begin to observe you. These individuals are planning some related research and have asked permission to observe you. They will not be here to judge or evaluate you. Rather, they are simply interested in finding out more about this sort of research, and how it is conducted.

No evaluation rating form was provided to subjects in this condition. Just before being asked if they wished to wait in the gas line, subjects in the early condition were told that the observers had arrived, and that they were to lift up the screen in front of them so that they could be observed. (In fact, in all audience conditions a group of observers did watch the subjects. These observers made occasional noises to remind the subjects of their presence.) The experimenter allowed 30 sec to pass after subjects lifted the screen in order to increase the perceived impact of the audience. Subjects were then asked if they wished to wait in the gas line.

In the late conditions the experimenter said, "The observers have not yet arrived. I will let you know when they do. But let's get started now." Thus, the mirror was still covered when subjects in this condition were asked if they wished to wait for gas. As in the late condition of Experiment 1 the researcher stopped the counter when it reached 179 and said that the observers had arrived. As in the early condition of this study subjects were asked to raise the shade in front of them, and 30 sec elapsed before the experimenter announced that she would restart the counter.

In the control condition subjects were simply asked after the practice trial if they wished to wait for gas. Thus, this condition was procedurally identical to the early-low salience condition in Experiment 1.<sup>5</sup>

In all conditions subjects who invested at least some of their \$5 were asked to rate (1) the importance of various reasons for their behavior, including the two key measures of experienced entrapment employed in Study 1, (2) the extent to which they felt like they were being evaluated ("How much did you feel like observers were evaluating you in some way?"), and (3) the perceived aversiveness of being observed. These questions included, "How much: (a) did you feel like you were being observed, (b) did the feeling of being observed bother you, (c) did you feel self-conscious, and (d) did you feel like you were

<sup>5</sup> A *t* test comparing the amounts subjects invested in the control condition of Experiment 2 and the early-low salience condition of Experiment 1 was, in fact, trivial ( $M_s = \$3.08$  vs  $\$3.31$ , respectively,  $t < 1$ ).

'on the spot.' Each question was rated on an 8-point scale, with "very much" (1) and "not at all" (8) serving as endpoints.

An audience timing manipulation check was also included, except for subjects in the control condition (i.e., "When did the observers first begin to watch you wait in the gas line?"). An 8-point scale was employed, with endpoints labeled "before I started to wait" (1) and "near the end of when I was waiting" (8). All participants also indicated on 6-point scales how much each of Fenigstein et al.'s (1975) private self-consciousness, public self-consciousness, and social anxiety statements was characteristic of them. Subjects were instructed to rate themselves "as you are in general, not simply how you felt during the experiment itself" on the Self-Consciousness Scale. The scores for each component of self-consciousness were then summed. Median splits were employed to classify subjects as high or low on each of the three dimensions.<sup>6</sup> Finally, subjects wrote any hypotheses or suspicions they had formed about the true purpose of the experiment. The debriefing and payment session ensued immediately.

## RESULTS

As in Experiment 1, the data for the early and late conditions were analyzed separately. In the early analyses the evaluative, nonevaluative, and control conditions were compared, whereas in the late condition the two audience conditions were compared.

### *Behavioral Measure of Entrapment*

Preliminary analyses revealed no main or interaction effects involving the sex of subject variable in either the early or late condition. Therefore, the data were collapsed across this dimension in subsequent analyses. There was a significant difference between means in the early condition,  $F(2, 29) = 4.90$ ,  $p < .025$ . As can be seen in Table 3, subjects were most entrapped in the evaluative and least entrapped in the nonevaluative condition. A Newman-Keuls multiple comparison test on the three means revealed that subjects in the nonevaluative condition differed from the other two groups (both  $p$  values  $< .05$ ); however, the evaluative and control conditions did not differ significantly. Table 3 also shows that there was no trace of an audience main effect in the Late condition ( $F < 1$ ).

*Personality variables.* Preliminary one-factor analyses demonstrated that there were no differences between subjects in the 5 different conditions on measures of trait private self-consciousness, public self-consciousness, and social anxiety (all  $F$ s  $< 1$ ). Further analyses, however, revealed significant relationships between each of the components of self-consciousness and degree of entrapment. Specifically, subjects high in private self-consciousness invested more than low private self-consciousness individuals in the early condition ( $M$ s = \$3.53 vs \$2.03;  $F(1,$

<sup>6</sup> The intercorrelations among the three scales were somewhat higher than those reported by Fenigstein et al. (1975): private and public  $r = .29$ ; public and social anxiety  $r = .40$ ; private and social anxiety  $r = .26$ . Consistent with their findings, however, only the first two correlations were significant.

TABLE 3  
EXPERIMENT 2: AMOUNT OF MONEY INVESTED (IN DOLLARS)

	Early			Late	
	Control	Evaluative	Nonevaluative	Evaluative	Nonevaluative
<i>n</i>	10	12	10	12	12
<i>M</i>	\$3.08	\$3.67	\$1.29	\$3.47	\$3.60
<i>SD</i>	2.11	1.62	1.74	1.16	1.14
Frequency distribution of quitting points					
	\$0.00	7		\$1.79	0
	\$0.01-0.51	0		\$1.80-2.01	3
	\$0.52-1.02	2		\$2.02-2.52	2
	\$1.03-1.52	4		\$2.53-3.02	8
	\$1.53-2.02	1		\$3.03-3.52	1
	\$2.03-2.52	1		\$3.53-4.02	2
	\$2.53-3.02	2		\$4.03-4.52	1
	\$3.03-3.52	0		\$4.53-5.00	7
	\$3.53-4.02	3			
	\$4.03-4.52	1			
	\$4.53-5.00	11			

23) = 5.36,  $p < .05$ ). This relationship was not observed in the late condition ( $M_s = \$3.41$  vs  $\$3.66$ ;  $F < 1$ ).

There were no main or interaction effects associated with public self-consciousness and social anxiety in the early conditions. In the late conditions, however, each of these variables interacted with the audience variable (for public self-consciousness  $F(1, 19) = 10.26$ ,  $p < .01$ ; for social anxiety  $F(1, 19) = 5.92$ ,  $p < .05$ ). The pattern of this interaction was identical. Simple effects, moreover, revealed that subjects high on these dimensions invested more money than those low in the nonevaluative condition (both  $p$  values  $< .01$ ), whereas highs became nonsignificantly less entrapped than did lows in the evaluative condition (both  $p$ s  $> .15$ ). The pattern of means is presented in Table 4.<sup>7</sup>

<sup>7</sup> Given that the personality variables were measured at the end of the experiment, it could be argued that subjects' behavior influenced their personality ratings, rather than the other way around. For example, subjects in the early condition who invested a larger portion of their money may have become more introspective (i.e., higher in private self-consciousness) as a result of doing so. Several considerations make this alternative interpretation less plausible. First, subjects were instructed to complete the scale with respect to "how you feel in general, not simply how you felt during the experiment." Second, if behavior influenced personality ratings, why did it do so differentially in the early and late conditions (e.g., why didn't subjects who invested more money in the late conditions also rate higher in private self-consciousness?).

TABLE 4  
EXPERIMENT 2: AMOUNT OF MONEY INVESTED (IN DOLLARS), INCLUDING PUBLIC SELF-CONSCIOUSNESS

Timing	Public self-consciousness	Control	Evaluative	Nonevaluative
Early	High	<i>n</i> : 5	8	3
		<i>M</i> : \$4.01	\$3.92	\$0.75
	Low	<i>n</i> : 3	4	6
Late	High	<i>M</i> : \$1.93	\$3.19	\$1.78
		<i>n</i> : 5	5	5
	Low	<i>M</i> : 6	\$3.03	\$4.61
		<i>M</i> : \$3.93	6	7
			\$3.93	\$2.88

*Note.* The pattern of means for the social anxiety analysis was quite similar to that which is presented in this table. Four subjects failed to complete the personality scales.

### Questionnaire Data

*Evaluation manipulation check.* The evaluation manipulation check and the 4 measures of perceived aversiveness were highly interrelated (average  $r = .46$ ,  $p < .01$ , with 9 of the 10 correlations significant at least at the .05 level). For each subject, therefore, the measures were summed into a single index. Unexpectedly, in the early condition subjects felt more evaluated or bothered in the nonevaluative condition ( $M = 19.20$ ;  $F(2, 22) = 4.90$ ,  $p < .025$ ). Newman-Keuls analyses revealed that, as with the behavioral data, the nonevaluative condition ( $M = 19.20$ ) differed from the control ( $M = 30.87$ ,  $p < .05$ ) and the evaluative conditions ( $M = 26.17$ ,  $p < .10$ ). The latter two conditions, however, did not significantly differ.

In the late condition the two audiences were not perceived differently on this measure ( $M_s = 29.17$  and  $28.50$  for the nonevaluative and the evaluative conditions, respectively,  $F < 1$ ). Moreover, unlike the analysis of the behavioral data, no significant interaction effects involving public self-consciousness or social anxiety emerged on this measure.

*Audience timing manipulation check.* A  $2 \times 2$  (Type of Audience  $\times$  Timing) analysis revealed only the expected main effect for timing. Subjects reported that the audience began to observe them sooner in the early ( $M = 2.26$ ) than the late condition ( $M = 5.05$ ;  $F(1, 32) = 17.08$ ,  $p < .001$ ).

*Experienced entrapment.* The two measures of entrapment correlated significantly,  $r(47) = .36$ ,  $p < .02$ . Thus, an index was computed by summing each participant's ratings. Although there were no condition differences on the analysis of this index in either the early or late condition, there was a significant relationship across conditions between the

amount of money subjects invested and their endorsement of this index,  $r(47) = .35, p < .02$ .

### GENERAL DISCUSSION

Taken together, the results of both studies suggest that the effects of certain situational-personality variables on amount invested depend upon their point of introduction in the entrapment process. Interestingly, none of the 5 independent variables that were significantly related to degree of entrapment produced the same pattern in the early and late conditions. In Experiment 1 the cost salience effect was only significant in the early condition. In Experiment 2 there were main effects for the audience and private self-consciousness variables in the early condition only. Public self-consciousness and social anxiety, however, interacted with the audience variable in the late condition only in Experiment 2.

The present experiments were designed to explore the implications of Teger's thesis that a decision maker's perceptions of an escalating conflict change as investments mount. Given that there is indeed a compelling array of timing effects, is there any coherence to the findings? That is, can a statement be made about the kinds of variables that are more likely to affect behavior at the various stages of an entrapping conflict? With one exception to be noted below, the present data are consistent with Teger's notion that economic motivations are more important in the earlier stages of an entrapping dilemma, whereas face-saving needs predominate during the later points in time. Teger's analysis suggests that at the outset, the decision maker is responsive to "rational" information which implies that either quitting or continuing to invest is the wiser course of action. As entrapment deepens, however, the individual is not so straightforwardly influenced by such information. Rather, the person's emotionality is greater, as he or she is now concerned with social image, and/or with justifying the appropriateness of the already sunken costs. How well do the present results fit this hypothesized pattern? Note that two of the early-only main effects were produced by variables largely devoid of social-emotional impact. First, in Experiment 1, those individuals exposed to information about the costs associated with continued investments were more aware of such costs, less attentive to the possible rewards, and therefore became less entrapped. Second, the private self-consciousness effect in Experiment 2 may have also reflected the tendency for subjects simply to do what they perceived to be economically appropriate. Recall that just before being asked if they wished to invest, subjects were told by the experimenter that it would be advisable for them to spend at least some of their money (e.g., "It doesn't really cost too much—only a penny for each unit on the counter"). This economically based advice may have made investing the "standard" of correct behavior. One of the central tenets of self-awareness theory (Wicklund,



1975) is that increased self-focused attention makes individuals more likely to adhere to such standards.<sup>8</sup> In sum, these early-only effects may reflect subjects' "rational" responses to information provided by the experimenter about appropriate investment behavior.

In general, the late-only results from Experiment 2 implicate the role of self-presentational motives in the later stages of an entrapping conflict. Both personality and situational variables related to face-saving had a significant impact on behavior. The specific nature of these effects, however, was not as predicted. Rather than producing main effects on degree of entrapment, the audience evaluation and public self-consciousness (or social anxiety) variables interacted, such that in the nonevaluative condition there was a significant positive relationship between public self-consciousness and entrapment, whereas in the evaluative condition there was a nonsignificant inverse relationship between these two variables. Although we can only speculate, it may have been that subjects inferred that the two types of audience valued different kinds of behavior. That is, when performing in front of "experts in decision making," subjects may have believed that they could "look good" by not spending more money than the jackpot was worth. If so, then highly public self-conscious subjects should have quit earlier than lows in the evaluative condition, as was observed. Alternatively, when waiting in the presence of an undefined group of individuals who "wanted to see how the study was done because they were planning related research," subjects may have perceived that the audience wanted them to continue investing, so that the audience members would indeed have more of an opportunity to see how the task operated. If this analysis is correct, it would explain why high public self-consciousness subjects became significantly more entrapped than lows in the nonevaluative condition.

The only result which did not fit the hypothesized pattern was the audience main effect in the early condition of Experiment 2. This effect was mainly attributable to the tendency for nonevaluative participants to quit earlier than subjects in the other two conditions. In explanation, subjects in the *nonevaluative* condition felt most evaluated and bothered by the presence of the audience. Thus, it may well have been that these participants quit earlier because they found the experimental environment more aversive than did subjects in the other two conditions. Countryman,

<sup>8</sup> It should be noted that the greater matching-to-standard behavior shown by highly private self-conscious subjects is not the same as face-saving. Private self-consciousness correlates weakly (or not at all) with public self-consciousness and social anxiety. Thus, the tendency for highly private self-conscious subjects to make larger investments may be the result of their attempt to reduce the *intrapsychic* discomfort associated with the discrepancy between the ideal and actual self. The distinction between this process and face-saving is reminiscent of the difference between traditional dissonance theory and the alternative interpretation offered by self-presentation theory (e.g., Schlenker, 1980).

Brockner, and Lloyd (Note 2), for example, have recently provided evidence that the perceived aversiveness of remaining in an entrapping conflict is inversely related to degree of entrapment. If this reasoning is correct, then one still needs to explain why the situation was most aversive in the nonevaluative condition. Perhaps this was due to the fact that the nature of the audience members was left undefined; thus, the uncertainty of who was actually watching them may have made the situation uncomfortable to subjects. By contrast, subjects in the evaluative condition were well aware of the identity of the audience. Whatever the explanation, these data more generally suggest that social psychological variables may well be influential in the earlier, as well as the later stages of an entrapping conflict.

### *Alternative Interpretations*

The present theoretical position is that the process of taking part in an entrapping conflict makes people differentially sensitive to certain independent variables at different points in time. Thus, factors affecting entrapment when introduced early (e.g., cost salience) may have little effect when introduced late. Alternatively, it could be argued that most variables will be more likely to produce differences in the early condition, simply because they have more of an opportunity to take effect. In this experimental setting, the possible range of quitting points was larger in the early (\$0.00–\$5.00) than in the late (\$1.79–\$5.00) condition. Thus, the early-only effects in these studies may have been an artifact of the experimental procedure. Several factors, however, weaken this alternative explanation. First, the greater range of quitting points in the early condition also invites larger within-cell variability; as a result, larger differences are necessary to produce significance in the early condition. Indeed, the within-cell standard deviations on amount invested were always considerably larger in the early than the late condition (see Tables 1 and 3). Second, although the range was greater in the early than the late condition, it would seem that the latter range was still adequate to allow for significant differences to emerge. Thus, the alternative explanation would be considerably more compelling if our only differences on amount invested appeared in the early condition. However, the interaction effects involving public self-consciousness and social anxiety were present in the late, but not the early, condition.

*Subject attrition.* It could also be argued that the independent variables produced different early vs late effects because of differences in subject populations from which the two groups were drawn. More specifically, it may have been that participants who were retained in the analyses in the late conditions (i.e., those who did not quit before the manipulation was introduced) were different kinds of individuals than those in the early condition. For example, late condition subjects may simply be less

responsive to environmental manipulations in general. As a result, the cost salience and audience variables had no effect on them, but not because of the experience that these individuals had in the entrapping conflict. In fact, it is impossible to discount entirely this subject population difference hypothesis. There are, however, several mitigating factors to consider. First, although the three personality variables had different effects in the early and late conditions, there was no evidence that subjects' personalities differed with respect to these dimensions. To test for this possibility, we compared the private self-consciousness, public self-consciousness, and social anxiety scores of subjects in the three early conditions to those of participants in the two late conditions. The only one of these three comparisons even to approach significance was on the private self-consciousness measure,  $t(50) = 1.87$ ,  $p < .10$ , with early subjects somewhat more self-attentive. Thus, the available personological measures revealed no differences between early and late participants. Moreover, the *pattern* of the frequency distributions of quitting points (see Tables 1 and 3) provide further evidence of the comparability of early and late subjects. Note that in both studies, both groups tended either to quit before or at the \$3.00 point, or to invest all of their initial stake once having invested more than \$3.00. Second, we performed additional analyses on amount invested including the data of late subjects who quit before the manipulation would have been introduced. In those analyses subjects were classified with respect to the condition to which they had been randomly assigned previously. Because scores in both early and late conditions could range from \$0 to 5.00,  $2 \times 2$  ANOVAS were performed (cost salience  $\times$  timing in Experiment 1; type of audience  $\times$  timing in Experiment 2). In each instance the interaction effect was significant at least at the .05 level; simple effects revealed significant differences in the early, but not in the late conditions. Third, as previously stated, the data from Experiment 2 simply do not support the contention that late condition subjects are unresponsive to environmental manipulations in general. Note that subjects high and low in public self-consciousness-social anxiety were differentially affected by the audience variable in the Late condition, and that this interaction effect did not appear in the early condition. Finally, even better evidence that the behavioral differences in the early and late conditions were related to subjects' changing perceptions (and not to individual difference factors) would be provided if the *same subjects'* motives were assessed at different stages of the entrapping conflict. This was not done in the present study. However, Teger (1980) did interrupt subjects at various points in an entrapping conflict in order to measure their perceived motivation for investing. Interestingly, the measurement process influenced the extent to which subjects became entrapped. (In fact, because of their potentially reactive effects on behavior, multiple questionnaires were not

employed in the present study.) Of greater importance, though, Teger found clear evidence that the same subjects' motivations for investing changed over time.

In conclusion, although alternative explanations cannot be completely eliminated, it seems most reasonable to conclude that the present results are reflective of the dynamic nature of escalating conflicts. Factors which are related to the prudence of investing or not are more important in the earlier than the later stages of the entrapping conflict, whereas variables related to face-saving appear more influential in the later than the earlier phases. Given that excessive involvement in an entrapping conflict can be economically, psychologically, and/or socially costly, it would seem important to discover how entrapment can be eliminated or reduced. One implication of the present findings is that factors which motivate individuals to leave an entrapment situation early may be entirely different from those that enable them to withdraw at a later point in time.

## REFERENCES

- Brockner, J., Rubin, J. Z., & Lang, E. Face-saving and entrapment. *Journal of Experimental Social Psychology*, 1981, **17**, 68-79.
- Brockner, J., Shaw, M. C., & Rubin, J. Z. Factors affecting withdrawal from an escalating conflict: Quitting before it's too late. *Journal of Experimental Social Psychology*, 1979, **15**, 492-503.
- Cialdini, R. B., Cacioppo, J. T., Bassett, R., & Miller, J. A. Low-ball procedure for producing compliance: Commitment then cost. *Journal of Personality and Social Psychology*, 1978, **36**, 463-476.
- Fenigstein, A., Scheier, M. F., & Buss, A. H. Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, 1975, **43**, 522-527.
- Rubin, J. Z., & Brockner, J. Factors affecting entrapment in waiting situations: The rosenkrantz and guilkenstern effect. *Journal of Personality and Social Psychology*, 1975, **31**, 1054-1063.
- Schlenker, B. R. *Impression management: The self-concept, social identity, and interpersonal relations*. Monterey, CA: Brooks/Cole, 1980.
- Teger, A. I. *Too much invested to quit*. Elmsford, NY: Pergamon, 1980.
- Turner, R. G. Self-consciousness and anticipatory belief change. *Personality and Social Psychology Bulletin*, 1977, **3**, 438-441.
- Wicklund, R. A. Objective self-awareness. In L. Berkowitz (Ed.), *Advances in experimental social psychology*. New York: Academic Press, 1975. Vol. 9.

## REFERENCE NOTES

1. Brockner, J. *The social psychology of entrapment in escalating conflicts*. Unpublished doctoral dissertation. Medford, MA: Tufts Univ., 1977.
2. Countryman, M., Brockner, J., & Lloyd, M. *Self-focused attention, self-esteem, and entrapment*. Manuscript under review. Brockport, NY: State Univ. College at Brockport, 1980.