

Summer 1989


An Empirical Test of Staw and Ross Prescriptions for the Management of Escalation of Commitment Behavior in organizations

Kenneth J. Dunegan
Cleveland State University, k.dunegan@csuohio.edu

S L. Barton
Cincinnati University

D Duchon

Follow this and additional works at: https://engagedscholarship.csuohio.edu/busman_lab_facpub

 Part of the [Management Information Systems Commons](#), [Management Sciences and Quantitative Methods Commons](#), and the [Organizational Behavior and Theory Commons](#)

How does access to this work benefit you? Let us know!

Publisher's Statement

(c) 1989 Wiley-Blackwell

Original Citation

Barton, S. L., Duchon, D., & Dunegan, K. J. (1989). An empirical test of Staw and Ross's prescriptions for the management of escalation of commitment behavior in organizations. *Decision Sciences*, 20, 3, 532-544. doi: 10.1111/j.1540-5915.1989.tb01565.x

Repository Citation

Dunegan, Kenneth J.; Barton, S L.; and Duchon, D, "An Empirical Test of Staw and Ross Prescriptions for the Management of Escalation of Commitment Behavior in organizations" (1989). *Management And Labor Relations*. 19.
https://engagedscholarship.csuohio.edu/busman_lab_facpub/19

This Article is brought to you for free and open access by the Browse Business Faculty Books and Publications by Topic at EngagedScholarship@CSU. It has been accepted for inclusion in Management And Labor Relations by an authorized administrator of EngagedScholarship@CSU. For more information, please contact library.es@csuohio.edu.

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS FOR THE MANAGEMENT OF ESCALATION OF COMMITMENT BEHAVIOR IN ORGANIZATIONS

Kenneth J. Dunegan, *Cleveland State University*

S L. Barton, *Cincinnati University*

D Duchon

This article was originally published in:

Barton, S. L., Duchon, D., & Dunegan, K. J. (1989). An empirical test of Staw and Ross's prescriptions for the management of escalation of commitment behavior in organizations. *Decision Sciences*, 20, 3, 532-544.

Post-print standardized by MSL Academic Endeavors, the imprint of the Michael Schwartz Library at Cleveland State University, 2012



An Empirical Test of Staw and Ross's Prescriptions for the Management of Escalation of Commitment Behavior in Organizations*

Sidney L. Barton

College of Business Administration, University of Cincinnati, Cincinnati, OH 45221

Dennis Duchon

College of Business, University of Texas at San Antonio, San Antonio, TX 78285

Kenneth J. Dunegan

Department of Management, Cleveland State University, Cleveland, OH 44115

ABSTRACT

This study tests two major prescriptions of Staw and Ross about the management of escalation behavior in organizations. Since these prescriptions are primarily based on research using students in controlled settings, the efficacy of the prescriptions was tested in the context of a real, functioning organization. The results provide conditional support for separating initial decision responsibility from subsequent responsibility as a means of reducing escalation behavior. However, the findings did not support a reduction of project failure risk as a means of minimizing escalation of commitment to a failing course of action.

Subject Areas: Decision Processes and Organizational Behavior.

INTRODUCTION

Escalation of commitment is defined as a decision maker's continued commitment to a specific course of action despite information that suggests the course of action is failing. Beginning with Staw's seminal article [14], the phenomenon has attracted a great deal of attention [1] [2] [3] [14] [15] [16] [17] because decision makers who escalate are presumed to be adopting an economically irrational course. Decision makers have been shown to invest more money and assume greater risks in a chosen course of action despite the presence of evidence indicating that continued commitment to that course is unwise.

The reason why decision makers escalate has to do with the psychological mechanism of commitment [11]. Commitment is defined as an individual's adoption of a stance of belief in the appropriateness of a course of action. This stance of belief may be subject to the decision maker's motivation to self-justify [6], to justify him/herself to others [5], and/or to be behaviorally consistent [18]. Thus, economically irrational behavior is continued because the decision maker believes that the social/psychological benefits of continuing in terms of self-image, reputation, face saving, and role performance outweigh the costs. Note that commitment here refers to persistence in any failing course of action and so it is a more generalized notion than, for example, job commitment. However, escalation can develop in a job commitment decision [9] [12].

Nonetheless, Staw and Ross [17] recognized the clear and important implications that escalation of commitment has for decision making in organizations.

*The authors would like to thank the three anonymous reviewers whose comments on earlier drafts led to substantial improvements in this manuscript.

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

As a result of extant research, they prescribed actions to reduce or eliminate decision makers' tendency to escalate. This paper describes a test of two of Staw and Ross's prescriptions and discusses the implications for managing escalation behavior in organizations.

Staw and Ross proposed to reduce escalation first by removing a sense of responsibility from decision makers. This recommendation was based on research that indicated only those responsible for an initial course of action were likely to escalate [1] [2] [3] [4] [14] [15] [16] [17]. Thus, Staw and Ross [17] recommended (1) periodic replacement of original decision makers in the middle of a project with different administrators who were not responsible for the original commitment or (2) use of separate decision makers for initial and subsequent decisions on a project. Certainly both methods are potentially disruptive but disruption might be preferable to escalation.

The second recommendation is based on the belief that decision makers tend to remain committed to a course of action when the perceived cost of failure is high [1] [10] and refers to the guaranteed failure of the project due to withdrawal. For example, if the decision maker perceives that failure on a project may adversely affect his/her career with the firm, he/she may feel forced to continue a losing course of action because the action's eventual (hoped for) success may be perceived as the only viable option. To counteract this tendency, Staw and Ross suggested that management should reduce the perceived risk of guaranteed project failure due to withdrawal [17]. Specifically, they recommended rationalizing failed decisions to lessen the perceived impact on the decision maker. Rationalization in this case means telling the decision maker that the initial decision was a good one at the time even if it has turned out badly. As Staw and Ross pointed out, the organization must distinguish between the competent manager who has erred and the incompetent manager. For the generally competent manager, rationalizing the error means giving feedback to the decision maker to reduce the perceived risk associated with project failure. This suggestion is consistent with results from numerous studies that indicate the form of feedback is important for successful performance [7].

The last prescription is based on the belief that negative information about the status of a project is filtered as it progresses up the organizational hierarchy. As Staw and Ross suggested, "no one wants to be the conveyor of bad news. . . [and] those intimately involved with a project are not likely to distribute unflattering and less-than-optimistic forecasts" [17, p. 73]. Yet they pointed out that studies have shown a tendency not to escalate if decision makers are made aware of the true costs. Accordingly, Staw and Ross recommended enacting systems to reward honest reporting as much as successful outcomes to assure accurate data are used when evaluating project status.

Because of the potential influence of these prescriptions on managers who wish to manage escalation behavior in their organizations, it is important to test these recommendations to assess their efficacy. Further, because these recommendations are based primarily on laboratory studies using student subjects [3] [17], empirical validation of the prescriptions on a sample of practicing managers is particularly important.

Consequently, the objective of this study is to evaluate empirically the first two of these prescriptions using a sample of experienced managers. Note that the third prescription is not tested in this study, as it involves influencing the actions of the entire information system of an organization as opposed to the actions of an individual decision maker. This point is discussed further in the following section.

THE STUDY APPROACH

In order to achieve the research objective, the present study establishes a context in which an initial decision is failing and the decision maker must decide whether or not to continue that course of action. The research leading to the first prescription of Staw and Ross [17] discussed above indicates that responsibility for the initial decision is an important factor. Decision makers who are responsible for initiating a course of action tend to stay committed to that course of action [1] [2] [4] [14] [15] [17], although this is not inevitable [3] [10] [6].

Accordingly, responsibility for the initial decision is included as a factor in this study (see the next section for a description of the specific manipulation). Note that this study uses the specific approach of replacing decision makers in mid-project to achieve the decoupling of initial and subsequent decision responsibility. However, the basic issue is whether the decision maker is or is not responsible for the initial decision, regardless of the approach used as the basis for experimental manipulation.

In addition to initial responsibility, the present study also manipulates the context within which the decision to escalate or withdraw is made by altering the evaluative feedback provided to participants. The intent of this manipulation is to vary the risk of project failure perceived by the decision maker in escalating commitment (as recommended by Staw and Ross [17] in their second prescription).

While the specific feedback manipulation is described later, it is important to explain the basis for the particular approach used to operationalize the feedback and the evaluative context it is intended to create. Staw and Ross suggested that the organization must lessen a project's "risk of failure" to reduce escalation behavior. As Hedberg and Jonsson [6] pointed out, risk involves uncertainty (i.e., probability of various outcomes) times the stakes (i.e., what may be gained or lost) associated with the possible outcomes. Staw and Ross specifically suggested a modification of the decision maker's perception of the personal stakes associated with a failed project. As Staw and Ross implied, if the manager feels his/her competence is in question as a result of negative feedback, he/she may see no other recourse but to try to make the situation successful by continuing to commit resources. Modification of the perception of risk in a decision situation essentially involves modifying the context or frame in which the decision is presented. Kahneman and Tversky [8] proposed that inconsistencies in risk preference could result from different formulations of the risk involved. That is, the way a decision is worded or presented influences the evaluation of alternatives and thereby affects choice.

Brockner and Rubin [3] pointed out that decision makers in a failing course of action are faced with the prospect of accepting a sure loss (by not investing further) or trying to recoup the investment (by allocating more resources). Consistent with the predictions of Staw and Ross, this prospect theory predicts decision makers will choose the latter, more risky option and thus escalate. Brockner and Rubin further pointed out that this choice behavior contradicts reinforcement theory predictions which suggest that feedback framed positively (or less negatively) leads to further commitment (escalation).

Therefore, to achieve variation of this framing effect when conditions deteriorate, the situation is rationalized using one of two types of feedback. With positive feedback, the initial decision is reasonable under the circumstances (which implies that the initial decision does not represent poor judgment on the part of the decision maker). With negative feedback, the initial decision is fundamentally

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

flawed (which implies poor judgment on the part of the decision maker). The manipulation is intended to vary the perceived personal stakes of failure by using different frames of evaluative feedback. The manipulation is checked by asking subjects their perception of risk associated with additional funding. Since the uncertainty (probability) of project failure and the monetary stakes (i.e., specific dollar loss/gain) are held constant in the experiment, any systematic difference in perceived project risk represents the difference in personal stakes as perceived by the subject and thereby demonstrates a framing effect.

The last prescription (i.e., assuring that the actual progress of the project/decision is represented in the information available for subsequent decision making) is addressed by the use of specific, fact-based scenarios that give the decision maker accurate information about the situation. The assumption used here is that accurate information must always be superior to biased or erroneous information for decision making. Staw and Ross's prescription was designed to assure the availability of accurate information to the decision maker. Since this study involves only the decision maker and not his/her informational system, it is not possible to include a factor to test a reward system to assure accurate information is available. This factor is therefore held constant in the experiment.

Although Staw and Ross [17] did not specifically address the relationship among responsibility, evaluative context, and accurate information factors, their prescriptions imply an additive relationship. In other words, for optimal reduction of escalation behavior in an organization, all basic prescriptions can be used simultaneously (i.e., decoupling initial and subsequent responsibility, rationalizing poor results from initial decisions, and assuring accurate information for decision making).

Thus, based on the prescriptions of Staw and Ross [17], the following are expected to be valid.

1. Those not responsible for an initial decision are less likely to stay committed to a failing course of action than those responsible for the initial decision, regardless of the evaluative feedback framing.
2. Those subjects who receive rationalizations (positively framed feedback) of poor initial results for a failing project are less likely to stay committed to a failing course of action than those who receive negative feedback, regardless of their responsibility for the initial decision.

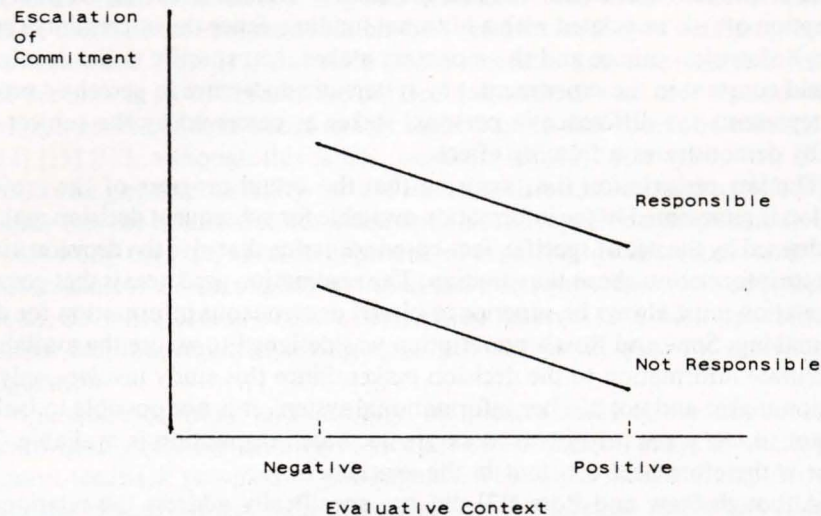
The expected relationships are graphically portrayed in Figure 1. Because information accuracy is held constant in this experiment, it is not included in the hypotheses or in the figure.

METHOD

A total of 123 employees with managerial experience in a high technology, international engineering firm participated in the experiment. Subjects on average were 34.1 years of age, employed by the company for 5.3 years, have held their present job 3.7 years, and supervised 2.7 subordinates. Sixty subjects held a bachelor's degree, 56 held a master's degree, and 7 held a Ph.D. degree. Subjects represented both administrative (i.e., corporate and financial staff) and technical personnel (e.g., sales, engineering), although technical personnel represented about 70 percent of the sample. Both males ($n=106$) and females ($n=13$) were included in the sample (gender data were not available for four subjects). Subjects represented different nationalities including Japanese, English, German, French, Italian, and

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

Figure 1: Hypothesized relationship of responsibility for initial resource allocation and evaluative context based on prescriptions of Staw and Ross [17].



Swedish, although most of the subjects (70 percent of the sample) were citizens of the United States. In addition, 65 percent of the sample worked in the United States, while 35 percent worked overseas.

Although subjects were randomly assigned to the experimental conditions listed below, there was some concern that an unintended language/cultural bias could confound results. The responses of nonnative Americans to all the variables described below were tested against the responses of Americans. No differences were found so the multinational sample was used intact.

Procedure

Subjects read an investment scenario (a situation depicting events that might reasonably occur in their organization), made several decisions, and then responded to questions about their behavior and attitudes.

In order to make the investment scenario as realistic as possible, it was designed with the help of the firm's management and incorporated a typical investment situation faced by employees of the firm. In addition, language and procedures idiosyncratic to the firm were incorporated to insure subject familiarity with, as well as interest in, the decision situation described.

Subjects were instructed to assume the role of general manager of an actual division in the firm. They were also told that the firm typically allocated approximately 10 percent of expected sales for expenses associated with securing those sales. Six months ago a client was targeted and \$100,000 was authorized for demonstrations and support personnel costs because a sale of \$1 million was anticipated. To date, some \$60,000 of the allocation has been spent but it appears the sale will go to a competitor.

Manipulations

Responsibility manipulation. Half the subjects were told that they had made the initial authorization for allocation of expenses ("responsible" condition) and

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

half the subjects were told that their predecessor had made the initial authorization (“not responsible” condition). Note that subjects did not actually make the initial authorization but were told to assume that they had done so. Bazerman, Giuliano, and Appelman [2] successfully manipulated responsibility for a previous decision using a similar approach.

Context manipulation. The framing of context manipulation was intended to affect the decision maker’s attitude regarding the risk of failure of the project. Based on the prescription of Staw and Ross [17], half the subjects received a positively framed context in which they were told that even though the client was likely to buy from a competitor, they (or their predecessor in the “not responsible” condition) had exercised good judgment and only spent \$60,000. There was, however, a possibility that the sale could still be made. Half the subjects received a negatively framed context in which they were told that the client was likely to buy from a competitor, that this could be viewed as a disaster, and that they (or their predecessor in the “not responsible” condition) had exercised poor judgment for losing \$60,000. There was, however, a possibility that the sale could still be made.

The manipulations created a 2×2 design in which two levels of responsibility (responsible and not responsible for initial authorization) are crossed with two levels of context (feedback) framing (positive and negative). Subjects were randomly assigned to the experimental conditions to control for systematic differences in the groups that might influence their escalation behavior. Cell sizes ranged from 28 to 31.

Dependent Measures

Two dependent measures were employed in the experiment. In the first, subjects could select one of two decision options: (1) invest no further or (2) risk the remaining \$40,000 with the knowledge that there was a 20 percent chance of success and an 80 percent chance of losing the entire \$100,000. These options were worded consistently with the subject’s context frame condition. Thus, in the positive context frame subjects were presented with the following:

Please indicate your decision below by circling the desired response. You should use your own judgment and experience.

1. Save the remaining \$40,000 by not continuing to invest in this firm.
2. Risk the remaining \$40,000 with a 20 percent chance of earning the entire \$100,000 back from the proceeds of the sale and an 80 percent chance of gaining nothing from the original \$100,000.

Negative context frame subjects were presented with the following:

Please indicate your decision below by circling the desired response. You should use your own judgment and experience.

1. Accept a loss of \$60,000 by not continuing to invest in this firm.
2. Risk the remaining \$40,000 with an 80 percent chance of losing the entire \$100,000 and a 20 percent chance of losing \$0 (i.e., break even from the proceeds of the sale).

It is important to note that the wording for these choices is based on scenarios reported by Brockner and Rubin [3]. Because the scenarios depict a losing course of action, it is problematic to provide “positive” feedback. As a result, “positive” feedback is actually “less negative” than “negative” feedback. As Brockner and Rubin [3] noted, this kind of wording is consistent with the framing effects posited by the prospect theory and by Staw and Ross [17].

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

It is also important to note that subjects in both context conditions were presented with mathematically equivalent choices. Further, these decision options were constructed so that the expected value of the loss from the gamble was considerably more than the value of the certain loss. For example, in this study the expected value of the continued investment option is $-\$80,000$ (i.e., $(.2)(\$0.0) + (.8)(-\$100,000)$), while the value of the withdrawal option is a certain $-\$60,000$. This was done to assure that the decision for continued commitment (or escalation) was clearly riskier than the decision to withdraw. Thus, a decision to commit additional resources under these circumstances would represent irrational (risk-seeking) behavior consistent with the concept of escalation of commitment to a failing course of action.

A second dependent measure was employed that required subjects to specify the probability of regaining the initial investment, which would induce her/him to continue to invest (i.e., take the gamble). As noted above, the language used to portray the second dependent variable was consistent with the subject's context frame.

If the chance of Company XXX *gaining (losing)* the sale after expenditure of the additional \$40,000 was 99 out of 100, you would probably recommend (not) spending the additional funds. Conversely, if the chance of gaining (losing) the sale was only 1 in 100 you would probably not ("not" deleted in negative context) recommend spending the extra money. As XXX's chance of gaining (losing) the sale was increased (decreased) from 1 percent (99 percent) there would be a point at which you would recommend spending the additional sales resources. In other words, what is the *lowest (highest)* chance of XXX *gaining (losing)* the sale that would prompt you to spend the additional resources?

_____ percent

Or, check one of the following:

- (a) *Would not* recommend spending the added resources, no matter what the chance of gain (loss).
- (b) *Would* recommend spending the added resources, no matter what the chance of gain (loss).

Because this dependent variable allowed subjects to select a specific level of uncertainty necessary for their continued commitment rather than a given level (as with the previous dependent measure), the magnitude of the subject's risk-taking behavior could be assessed. Further, as a follow-up measure it provided a consistency check on the first dependent measure.

After making the decisions, subjects completed several questions containing Likert-type rating scales to assess the effects of the responsibility and context framing. In addition, subjects indicated how important they thought the decision was (1 = not very important, 5 = very important) and whether they thought responsibility for the success of the account was out of their control (=1) or in their hands (=7).

RESULTS

The responsibility manipulation was checked by asking subjects how responsible they felt for the initial authorization. They indicated their degree of responsibility on a five-point scale (1 = not very responsible, 5 = very responsible). The mean response of those in the "responsible" condition was 4.4 (standard deviation = .76), while the mean response of those in the "not responsible" condition was 2.2 (standard deviation = 1.28). These means are significantly different ($F = 124.82, p < .001$).

The 2×2 design allows comparison of those subjects' feelings of responsibility who had different evaluative contexts as well as those with different responsibility

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

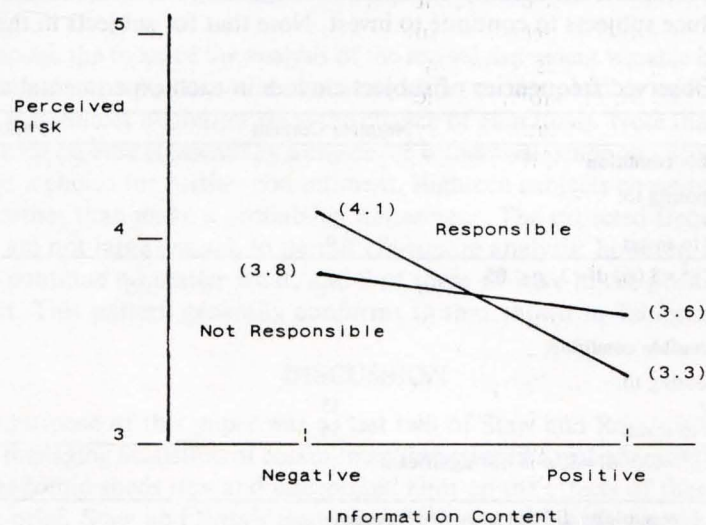
manipulations. Therefore, the data were checked for both interactive and main effects of context. Neither the main effect of context nor the interaction of responsibility and context were significant. This suggests that context (feedback) does not affect the subjects' feelings of responsibility. Thus, as intended, those in the "responsible" condition reported feeling responsible for the initial authorization, while those in the "not responsible" condition reported otherwise.

The context (feedback) manipulation was checked by asking the subjects two questions. First they were asked to indicate the level of risk they felt was associated with investing additional funding. As discussed above, this question was intended to assess differences in perceived personal stakes associated with additional funding. They indicated the degree of risk they perceived on a five-point scale (1=no risk, 5=too risky).

Analysis of these data reveals a significant overall effect ($F=7.54, p<.001, R^2=.16$), a significant main effect for context ($F=18.10, p<.001$), and a significant responsibility times context interaction ($F=4.48, p<.05$). The form of this interaction is shown in Figure 2. A simple effects test within levels of responsibility revealed significant differences of context within the "responsible" condition ($F=21.39, p<.001$) but not within the "not responsible" condition. Responsible subjects in the negative context reported they perceived more risk associated with further allocation than did subjects in the positive context. This result suggests that the prescription for reducing risk recommended by Staw and Ross [17] has the desired effect on those decision makers responsible for an initial commitment of resources but no effect on the risk perceptions of persons new to the project or initially not responsible. This outcome is important to the interpretation of the results presented below.

In addition to the perception of risk, context was checked by asking subjects how disappointed they were in their present condition. Because the initial decision was producing negative results, all subjects were expected to be disappointed to some extent. Subjects in the positive context (i.e., the decision did not work out

Figure 2: Interaction of responsibility and information content when level of perceived risk of project continuation is used as dependent variable (cell means are in parentheses).



AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

but judgment was good) were expected to be less disappointed with the present condition than those in the negative context (i.e., the initial decision could be viewed as a disaster). The subjects indicated their degree of disappointment on a five-point scale (1=not too disappointed, 5=very disappointed). The mean response of those in the positive context was 3.6 (standard deviation=.94), while the mean response of those in the negative context was 4.1 (standard deviation=1.02). These means are significantly different ($F=10.56, p<.01$). There is no main effect for responsibility nor a significant interaction. This result suggests that subjects in the negative context manipulation were more disappointed in the initial outcome of the decision, regardless of responsibility for the initial decision.

In addition to the manipulation check questions noted above, subjects were also asked two follow-up questions. First they were asked how important they thought the decision in the scenario was (1=not very important, 5=very important) and then were asked whether they thought the responsibility (now) for the success of the account they were handling was out of their control (=1) or in their own hands (=7). Variance in the responses to these questions was not significantly different due to responsibility and context factors. For the question about degree of importance, the mean response of all subjects was 4.14 (standard deviation=.75). For the question of degree of control, the mean response of all subjects was 5.13 (standard deviation=1.26). Thus, subjects reported that the decision was important and responsibility for success was in their own hands, not out of their control. This is additional confirmation that the subjects took the exercise seriously.

OVERALL ANALYSIS

The first dependent variable required subjects to indicate whether they would withdraw from the project or continue to invest. Table 1 reports the result of chi-square tests to determine whether the frequency of these choices differed among the four treatment groups. The results suggest a significant difference among cells in the "responsible condition" ($\chi^2=8.06, df=3, p<.05$) but not in the "not responsible" condition. A review of Table 1 suggests that subjects in the "responsible-positive" context cell appear to be most willing to escalate, while subjects in the "responsible-negative" context cell appear least willing to escalate.

Table 2 reports the mean probabilities of regaining the initial investment that would induce subjects to continue to invest. Note that for subjects in the negative

Table 1: Observed frequencies of subject choices in each experimental condition.

	Negative Content	Positive Content
a. Responsible condition		
Number choosing to:		
Withdraw	20	10
Continue to invest	9	21
Note: $\chi^2=8.06, df=3, p<.05$.		
b. Not responsible condition		
Number choosing to:		
Withdraw	15	17
Continue to invest	15	11
Note: $\chi^2=.70, df=3, p$ is not significant.		

Note: Five subjects did not provide responses.

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

Table 2: Mean probability of regaining initial investment and thus inducing subjects to continue to invest.

Responsibility	Information Content		Marginal Means
	Positive	Negative	
Responsible	29.1 (22.4)	48.6 (21.2)	38.9
Not responsible	40.9 (22.7)	39.6 (21.9)	40.3
Marginal means	35	44.1	

Note: A lower number indicates a lower probability of success and is therefore indicative of risk seeking (i.e., inclination to escalate). Standard deviations are in parentheses.

context the appropriate probability is 1 minus the probability percentage they recorded in their response to the second dependent measure. Conversely, for positive context subjects, the probability percentage used is the same as the probability they recorded. A lower number indicates a willingness to accept a smaller chance of success, which in this experiment indicates a stronger commitment to continue. A 2×2 ANOVA used to test these means reveals a significant overall relationship ($F=3.46, p < .05, R^2 = .09$), a significant main effect for context ($F=4.52, p < .05$), and a significant interaction between responsibility and context ($F=5.88, p < .05$). The form of this interaction is depicted in Figure 3. According to these data, the influence of a context effect depends on whether or not subjects were responsible for the initial authorization of funds.

A simple effects test within responsibility levels revealed significant differences for context within the "responsible" condition ($F=10.39, p < .01$) but not within the "not responsible" condition. Responsible condition subjects in the positive context require a lower probability of success in order to continue investing than do responsible subjects in the negative context (i.e., the positive context subjects are more willing to continue to invest or escalate).

The pattern of the means shown in Tables 1 and 2 for both dependent variables indicates that subjects were consistent in their choices. In both cases subjects in the responsible-positive context cell were the most willing to continue investment, while subjects in the responsible-negative context were the least willing to continue.

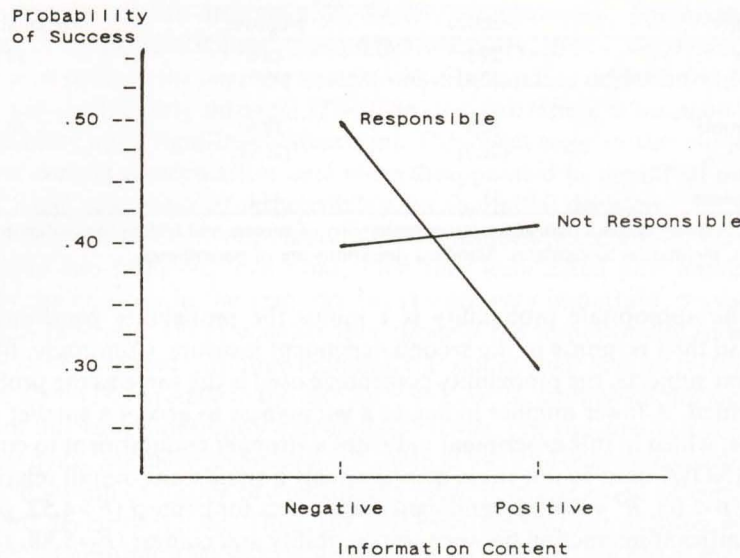
Although the focus of the analysis of the second dependent variable is on probability assessment, subjects could choose to either recommend or reject spending additional resources no matter what the chance of gain (loss). Note that choosing to reject such expense is essentially a choice for withdrawal, while choosing to recommend it is a choice for further commitment. Eighteen subjects chose one of these options rather than make a probability assessment. The expected frequencies for the cells are not large enough to permit chi-square analysis; however, 14 subjects chose to continue no matter what, and 9 of these 14 were in the positive context condition. This pattern generally conforms to that shown in Tables 1 and 2.

DISCUSSION

The purpose of this paper was to test two of Staw and Ross's [17] prescriptions for managing escalation of commitment behavior in a real organization setting. What was found sheds new and unexpected light on the effects of these prescriptions. In brief, Staw and Ross's recommendations to decouple responsibility for

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

Figure 3: Interaction of responsibility and information content when probability of successfully regaining initial investment is used as dependent variable.



Note: Lower probability values indicate higher risk-taking behavior, that is, a stronger inclination to escalate.

initial and subsequent decisions in a failing situation to reduce escalation behavior was supported, but only conditionally. The data in the present study reveal an interactive relationship between responsibility and context such that decision makers who were responsible for an initial decision and received feedback in a positive context were most inclined to escalate commitment, while those who were initially responsible and received negative feedback were least likely to escalate (see Figure 3).

Staw and Ross also suggest that rationalization of a disappointing outcome will reduce the perception of the project's risk of failure, thus allowing the decision maker to make a more "rational" (nonescalative) decision. A review of Figure 2 suggests that such a positive feedback context does indeed reduce perception of risk, but at least in this study it does so only for those decision makers responsible for the initial decision. More importantly, unlike the implied prediction of Staw and Ross, this reduction in risk perception resulted in more escalation, not less.

One possible reason for these surprising results may be found by comparing Figures 2 and 3. It appears that the tendency to escalate is inversely related to the amount of risk perceived by the decision maker in continuing a commitment. Since the groups were randomly assigned a priori, it can be assumed that the risk propensities of the individuals were roughly the same among groups. This suggests the amount of risk perceived by the subjects may be more important to escalation behavior than feelings of responsibility or disappointment. This seems to make sense from a strictly intuitive point of view. For example, if two people with the same risk propensity have different views of the "riskiness" of a gamble, it seems logical that the one who perceives less risk in the act will tend to gamble before the other. If indeed the underlying driving mechanism of the decision maker is perceived riskiness of continuing, these results are consistent with that explanation.

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

It is also possible that the use of real organizational decision makers confronted with a familiar, realistic scenario accounts for the results in the present study. Such subjects have more experience with decision making in the circumstances captured in this scenario than student subjects making more abstract decisions. Because our subjects were all from the same organization, there may have been an organizational culture bias affecting escalation behavior. Additional studies are necessary to examine these questions and to generalize results to other organizational settings.

Managerial Implications

Managing or influencing a situation that could lead to escalation behavior is certainly of interest to practicing managers. The data in the present study provide additional insight into Staw and Ross's [17] prescriptions for doing so. For example, Staw and Ross recommend either replacing managers in mid-project or having different managers make initial and later decisions. The idea behind this recommendation is that only those responsible for the initial decision are likely to escalate. Our data, however, indicate that even those responsible for the initial decision will be disinclined to escalate if they receive negatively framed feedback about the project.

Therefore, replacing managers or even having different managers make different decisions about the project not only disrupts managerial continuity but also may not be justified to prevent escalation, especially if the organization tends to place blame on the decision maker (negative evaluative context) and does not rationalize disappointing results (positive evaluative feedback).

Staw and Ross [17] also suggested rationalizing the failing course of action in order to reduce the decision maker's perception of risk in the situation. However, the results of this study suggest that rationalization of bad outcomes does reduce the perception of risk but such rationalization tends to motivate the decision maker to persist instead of freeing him/her from a need to persist. Therefore, reducing the decision maker's perception of risk of project failure by whatever means does not appear to be desirable for reducing escalation behavior.

In summary, to reduce the tendency for escalation in an actual organization setting, the results of this study suggest it is advantageous to retain the original decision makers while raising the perception of project risk by negatively framing disappointing intermediate outcomes. Additionally, if personnel are changed in mid-project, the nature of evaluative feedback appears to have virtually no effect on subsequent escalation behavior. [Received: October 23, 1987. Accepted: June 21, 1988.]

REFERENCES

- [1] Bazerman, M. *Judgment in managerial decision making*. New York: Wiley, 1986.
- [2] Bazerman, M. H., Giuliano, T., & Appelman, A. Escalation of commitment in individual and group decision making. *Organizational Behavior and Human Decision Processes*, 1984, 33(2), 141-152.
- [3] Brockner, J., & Rubin, J. *Entrapment in escalating conflicts: A social psychology analysis*. New York: Springer-Verlag, 1985.
- [4] Conlon, E., & Parks, J. Information requests in the context of escalation. *Journal of Applied Psychology*, 1987, 72(3), 344-350.
- [5] Gaes, G. G., Kalle, R. J., & Tedeschi, J. T. Impression management in a forced compliance situation: Two studies using the bogus pipeline. *Journal of Experimental Social Psychology*, 1978, 14(4), 493-510.
- [6] Hedberg, B., & Jonsson, S. Strategy formulation as a discontinuous process. Paper presented at conference "Strategy formulation: Different perspectives." St. Maximin, France, May 1976.

AN EMPIRICAL TEST OF STAW AND ROSS PRESCRIPTIONS

- [7] Ilgen, D., Fisher, C., & Taylor, M. Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, 1979, 64(4), 349-371.
- [8] Kahneman, D., & Tversky, A. Prospect theory: An analysis of decisions under risk. *Econometrica*, 1979, 47, 263-291.
- [9] Luthans, F., Baack, D., & Taylor, L. Organizational commitment: Analysis of antecedents. *Human Relations*, 1987, 40(4), 219-236.
- [10] McCain, B. E. Continuing investment under conditions of failure: A laboratory study of the limits of escalation. *Journal of Applied Psychology*, 1986, 71(3), 280-284.
- [11] Northcraft, G. B., & Neale, M. A. Opportunity costs and the framing of resource allocation decisions. *Organizational Behavior and Human Decision Processes*, 1986, 37(3), 348-356.
- [12] O'Reilly, C. A., & Caldwell, D. F. The commitment and job tenure of new employees: Some evidence of postdecisional justification. *Administrative Science Quarterly*, 1981, 26, 597-616.
- [13] Sidey, H. The crux of leadership. *Time*, December 11, 1978, p. 44.
- [14] Staw, B. M. Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance*, 1976, 16(1), 27-44.
- [15] Staw, B. M. The escalation of commitment to a course of action. *Academy of Management Review*, 1981, 6, 577-587.
- [16] Staw, B. M., & Ross, J. Commitment to a policy decision: A multi-theoretical perspective. *Administrative Science Quarterly*, 1978, 23(1), 40-64.
- [17] Staw, B. M., & Ross, J. Knowing when to pull the plug. *Harvard Business Review*, 1987, 65(2), 68-74.
- [18] Wicklund, R., & Brehm, J. *Perspectives on Cognitive Dissonance*. Hillsdale, NJ: Erlbaum, 1976.

Sidney L. Barton is Assistant Professor of Strategic Management at the University of Cincinnati. He received a B.S. and an MBA from the University of Cincinnati and a Ph.D. in management from Indiana University. Dr. Barton has published in *Academy of Management Review*, *Academy of Management Journal*, *Strategic Management Journal*, and *Journal of Small Business Management*. His research interests include strategic decision making, small firms, and the relationship of corporate strategy and finance. Dr. Barton is a member of the Academy of Management and the Strategic Management Society.

Dennis Duchon is Assistant Professor of Management at the University of Texas at San Antonio and received his Ph.D. from the University of Houston. His current research interests include decision making, entrepreneurial behavior in research and development, and the implementation of computers in the work place. Dr. Duchon is a member of the Academy of Management and the Decision Sciences Institute.

Ken Dunegan is Assistant Professor in the Management and Labor Relations Department at Cleveland State University. He received his Ph.D. in organizational behavior from the University of Cincinnati. Dr. Dunegan is currently engaged in research on decision making, leadership, and innovation and technology.