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RESOURCE ALLOCATION: THE ESCALATION OF COMMITMENT OR COGNITIVE BOLSTERING?

The Ohio State University  Ph.D.  1985

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RESOURCE ALLOCATION: THE ESCALATION OF COMMITMENT
OR COGNITIVE BOLSTERING?

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
David Lloyd Binder, B.A., M.A.

* * * * *

The Ohio State University
1985

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ACKNOWLEDGEMENTS

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VITA


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TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>VITA</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>ix</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>x</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Escalation of Commitment Research</td>
<td>3</td>
</tr>
<tr>
<td>Adams and Smith Case</td>
<td>5</td>
</tr>
<tr>
<td>Research on the Escalation of Commitment</td>
<td>6</td>
</tr>
<tr>
<td>Summary and Implications</td>
<td>15</td>
</tr>
<tr>
<td>Commitment</td>
<td>17</td>
</tr>
<tr>
<td>The Conflict Model of Decision Making</td>
<td>21</td>
</tr>
<tr>
<td>Types of Defensive Avoidance</td>
<td>22</td>
</tr>
<tr>
<td>Bolstering Versus Escalating Commitment</td>
<td>27</td>
</tr>
<tr>
<td>Further Evidence of Defensive Avoidance</td>
<td>30</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>32</td>
</tr>
<tr>
<td>Overview</td>
<td>32</td>
</tr>
<tr>
<td>METHOD</td>
<td></td>
</tr>
<tr>
<td>Overview</td>
<td>39</td>
</tr>
<tr>
<td>Subjects</td>
<td>40</td>
</tr>
<tr>
<td>Procedure</td>
<td>40</td>
</tr>
<tr>
<td>Task</td>
<td>43</td>
</tr>
<tr>
<td>Manipulations of Independent Variables</td>
<td>45</td>
</tr>
<tr>
<td>Forthcoming Information</td>
<td>45</td>
</tr>
<tr>
<td>Courses of Action</td>
<td>45</td>
</tr>
<tr>
<td>Dependent Measures</td>
<td>48</td>
</tr>
<tr>
<td>Bolstering Tactics</td>
<td>49</td>
</tr>
<tr>
<td>Thought Listing Questionnaire</td>
<td>49</td>
</tr>
<tr>
<td>Bolstering Tactics Questionnaire</td>
<td>51</td>
</tr>
<tr>
<td>RESULTS</td>
<td>page</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Manipulation Checks</td>
<td>55</td>
</tr>
<tr>
<td>Tests of Hypotheses</td>
<td>55</td>
</tr>
<tr>
<td>Hypothesis 1: Replication of Previous Findings</td>
<td>59</td>
</tr>
<tr>
<td>Hypotheses 2 &amp; 3: Conflict Model and Forthcoming Information</td>
<td>59</td>
</tr>
<tr>
<td>Hypothesis 4: Withdrawal From the Allocation Decision</td>
<td>60</td>
</tr>
<tr>
<td>Properties of the Commitment Measure</td>
<td>62</td>
</tr>
<tr>
<td>Hypothesis 5: Commitment</td>
<td>65</td>
</tr>
<tr>
<td>Bolstering Tactic Usage</td>
<td>66</td>
</tr>
<tr>
<td>Hypothesis 6: Thought Listing Data</td>
<td>66</td>
</tr>
<tr>
<td>Properties of Bolstering Tactics Questionnaire D</td>
<td>71</td>
</tr>
<tr>
<td>Hypothesis 6d: Bolstering Tactics Questionnaire</td>
<td>72</td>
</tr>
<tr>
<td>Hypothesis 7: Information Preferences in the Conflict Model</td>
<td>75</td>
</tr>
<tr>
<td>Hypotheses 7a and 7c: Ratings of Report Titles</td>
<td>76</td>
</tr>
<tr>
<td>Hypotheses 7b and 7d: Ranking of Report Titles</td>
<td>78</td>
</tr>
<tr>
<td>Post-Questionnaire</td>
<td>82</td>
</tr>
<tr>
<td>Correlations Among Major Dependent Variables</td>
<td>84</td>
</tr>
</tbody>
</table>

| DISCUSSION | |
| Interpretation of Findings | 85 |
| Resource Allocation Hypotheses | 85 |
| Nonreplication of Previous Findings | 86 |
| Resource Allocation and Withdrawal: Procrastinating and Shifting Responsibility | 88 |
| Procrastinating | 89 |
| Shifting Responsibility | 91 |
| Resource Allocations: Forthcoming Information | 93 |
| Commitment | 95 |
| Commitment Hypothesis | 96 |
| Bolstering Tactic Usage | 98 |
| Information Preferences: Report Title Ratings and Rankings | 101 |
| Interpretation of Results: Conclusion | 102 |
| Study Limitations and Directions for Future Research | 102 |
| Concluding Remarks | 104 |

| REFERENCES | 106 |
| APPENDICES | |
| A. A & S Case Part I | 109 |
| B. Part II: Bolstering/No Forthcoming Information | 115 |
C. Part II: Bolstering/Forthcoming Information ........ 118
D. Part II: Procrastinating/No Forthcoming Information .......... 121
E. Procrastinating/Forthcoming Information .................. 124
F. Part II: Shifting Responsibility/No Forthcoming Information ................................. 128
G. Part II: Shifting Responsibility/Forthcoming Information ........................................ 131
H. Financial Feedback ......................................... 135
I. Procrastinating: Withdrawal Allocation Sheet ........ 138
J. Shifting Responsibility: Withdrawal Allocation Sheet .............................................. 140
K. Commitment Measure: Questionnaire B ................ 142
L. Thought Listing: Questionnaire A ......................... 145
M. Bolstering Tactics: Questionnaire D ..................... 147
N. Report Titles: Questionnaire C ........................... 150
O. Manipulation Check: Questionnaire E .................. 154
P. Post Questionnaire: Questionnaire F .................... 156
Q. Manipulation Check Open-Ended Responses .................. 158
R. Correlations Among Commitment Scale Items .............. 160
S. Bolstering Tactic Item Correlations and Rotated Factor Pattern Matrix .............. 162
T. Correlations Among Major Dependent Variables ........ 165
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Frequencies of Self-reported Personal Responsibility for $20 Million Allocation</td>
<td>56</td>
</tr>
<tr>
<td>2. Response Frequencies for Presence of &quot;Detailed Reports&quot; Description in Part II of Case</td>
<td>57</td>
</tr>
<tr>
<td>3. Mean Resource Allocations (Millions of Dollars) to Previously Chosen A &amp; S Division</td>
<td>60</td>
</tr>
<tr>
<td>4. Frequencies and Mean Allocation for Withdrawal from Second Funding Decision</td>
<td>61</td>
</tr>
<tr>
<td>5. Rotated Factor Matrix for Commitment Questionnaire (Decimal Point Omitted)</td>
<td>64</td>
</tr>
<tr>
<td>6. Mean Ratings for Composite Commitment Variables</td>
<td>66</td>
</tr>
<tr>
<td>7. ANOVA Summary Table for &quot;Exaggerating Favorable Consequences&quot; (Tactic 1) Thought Listing Data</td>
<td>68</td>
</tr>
<tr>
<td>8. Thought Listing Means and Frequencies for &quot;Exaggerating Favorable Consequences&quot; (Tactic 1)</td>
<td>70</td>
</tr>
<tr>
<td>9. ANOVA Summary Tables for Bolstering Tactic Questionnaire Composites</td>
<td>74</td>
</tr>
<tr>
<td>10. Bolstering Tactic Questionnaire Composite Variable Means</td>
<td>75</td>
</tr>
<tr>
<td>11. ANOVA Summary Table for Report Title Ratings</td>
<td>77</td>
</tr>
<tr>
<td>12. Mean Report Title Ratings</td>
<td>78</td>
</tr>
<tr>
<td>13. ANOVA Summary Table for Report Title Rankings</td>
<td>80</td>
</tr>
<tr>
<td>14. Mean Report Title Rankings</td>
<td>81</td>
</tr>
<tr>
<td>15. Response Quality Frequencies for Follow-up Manipulation Check Items</td>
<td>159</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>16. Correlations Among Commitment Questionnaire Items</td>
<td>161</td>
</tr>
<tr>
<td>17. Correlations Among Bolstering Tactic Questionnaire</td>
<td>163</td>
</tr>
<tr>
<td>18. Rotated Factor Matrix for Bolstering Tactics Questionnaire</td>
<td>164</td>
</tr>
<tr>
<td>19. Correlations Among Major Dependent Variables</td>
<td>166</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A Conflict Model of Three Types of Defensive Avoidance</td>
<td>24</td>
</tr>
<tr>
<td>2. Forthcoming Information X Courses of Action Interaction with Tactic 1 Usage as the Dependent Variable.</td>
<td>69</td>
</tr>
</tbody>
</table>
INTRODUCTION

Since the mid-1970's a number of studies dealing with what has come to be known as "the escalation of commitment to a course of action" have appeared in the Industrial Psychology and Organizational Behavior literature (Staw, 1976; Staw & Fox, 1977; Staw & Ross, 1978; Fox & Staw, 1979; Bazerman, Beekun, & Schoorman, 1982; Bazerman, Guiliano, & Appelman, 1984). The phrase "escalation of commitment" refers to a situation where an individual, a group, or even an organization suffers a setback or receives negative feedback concerning a particular course of action. Instead of adopting a new strategy aimed at future gain, it is often reported that people attempt to recoup their losses by allocating further resources to the original course of action. A self-justification explanation (Aronson, 1976) is generally given for these results.

The existing literature presents the escalation of commitment as a pattern of behavior which has been observed in fairly diverse circumstances. Consider for example this anecdote cited by Staw (1981):

A city spends a large amount of money to improve its sewer and drainage system. The project is the largest public works project in the nation and involves digging 131 miles of tunnel shafts, reservoirs, and pumping stations. The excavation is only 10 percent completed and is useless.
unless it is totally finished. The project will take the next 20 years to complete and will cost $11 billion. Unfortunately, the deeper the tunnels go, the more money they cost, and the greater are the questions about the wisdom of the entire venture. ("Money down the drain," 1979).

Staw's citation of such anecdotes from the popular press strongly implies that he and his colleagues consider their laboratory findings to be generalizable to real world settings. However, close scrutiny of the methods employed in this research reveals a substantial lack of external validity. It is unlikely that escalating commitment behaviors will occur only when certain specific conditions are present. For example, escalating commitment patterns have been observed using one of the role-play decision cases employed in this research (e.g., Staw, 1976; Bazerman et al., 1984) and have not been observed using a second decision case (e.g., Staw & Ross, 1980).

It is proposed that the pattern of findings in this body of literature may be better understood by using a different theoretical framework than has been employed to date. Specifically, it will be shown that the Conflict Model of Decision Making described by Janis and Mann (1977) fits this purpose nicely. Escalating commitment is viewed as a special case of "cognitive bolstering," a defensive avoidance strategy for dealing with decisional conflict.

In addition to providing a new theoretical perspective for understanding the alleged escalation phenomenon, Janis and Mann's Conflict Model is also useful for addressing the lack of external validity in the existing research. It will be shown that by changing certain situational variables in the decision case employed in much
of the current literature, behavior other than escalating commitment may be observed. The situational variables which were studied follow logically from the Conflict Model. More specifically, the variables which were chosen are preconditions for the two other defensive avoidance strategies: "procrastinating" and "shifting responsibility."

The Introduction chapter of this dissertation is divided into several main sections. A review and critique of the relevant escalating commitment literature is presented. Janis and Mann's Conflict Model is then discussed. Finally, the manner in which the escalation of commitment findings fit conceptually into the Conflict Model framework is described. Hypotheses for the present research follow from this theoretical discussion.

Escalation of Commitment Research

The major theoretical framework employed in the study of the escalation of commitment is self-justification (Aronson, 1976) or dissonance theory (Festinger, 1957). The basic mechanism operating here is a biasing of behavioral outcomes. This point of view puts forth the idea that people have the need to restore the appearance of rationality to their behavior and to protect their self-images. Thus, if an individual suffers a setback, self-justification theory can be used to explain the rationalization process which ensues.

Staw and his associates have extended self-justification theory to support the idea that individuals may increase their commitment of resources to a course of action in order to protect themselves from
the psychological costs of failure (Staw & Ross, 1978). Staw and Ross further argue that a major contribution of self-justification is that it describes a form of retrospective as opposed to prospective rationality. That is, it is hypothesized that instead of focusing on new ways to increase future outcomes (prospective) individuals will focus on events that will help to eliminate or reduce the magnitude of a previous error or setback (retrospective). The studies reviewed in this section all attempted to investigate the allocation of resources to a previously chosen course of action following a setback.

Many of the criticisms of this body of literature stem from a general lack of external validity. The authors tend to assume that their findings are generalizable to a wide variety of real world settings. This assumption is perhaps most evident in Staw's (1981) review article. A number of anecdotes similar to the one cited earlier are presented. The implication is that these anecdotes are all examples of escalating commitment.

As a result of these concerns, some of the problems with external validity in the escalation research are addressed during the course of the review. No attempt was made to list every variable which threatens the generalizability of the research. Issues were raised which have implications for future study.

In order for the reader to fully comprehend the concerns raised in the review of the escalation literature, it is necessary to first provide a detailed description of the major role-play decision case employed in this body of research. This description will allow for a
better understanding of the characteristics of the situation in which behavior interpreted as escalating commitment has been observed.

**Adams and Smith Case**

A number of studies in this literature employed a role-play methodology using the Adams and Smith Company (A & S) financial decision case. In this simulated business decision case, individuals are presented with background information as well as ten years worth of sales and earnings data. They are asked to play the role of a Financial Vice President of a large technologically-oriented firm. Due to the declining profitability of the firm, it had been decided by company directors that $10 million of additional funds should be made available to one of the two major research and development (R & D) operating divisions (Consumer or Industrial Products). Subjects were asked to determine which division should receive the funds based upon brief descriptions included in the case materials.

After returning the above section of the case to the experimenter, subjects were provided with information concerning the financial condition of the A & S company for the five years following their initial allocation of R & D funds. The case materials state that the management has determined the need to make an additional $20 million available for R & D funding. The subject is now instructed to divide the money between the two R & D divisions in any way desired. Following both the first and the second financial allocations subjects were instructed to write paragraphs defending their decision.
With this background information provided, it is now appropriate to review the escalating commitment literature.

**Research on the Escalation of Commitment**

In the first published study in the area, Staw (1976) studied resource allocation by manipulating "personal responsibility" (high/low) for a decision and "decision consequences" (positive/negative) in the A & S paradigm. Subjects randomly assigned to the high responsibility condition participated in the case as described earlier. Low responsibility subjects were asked to make only the second allocation decision in the case. They were told that the earlier funding decision had been made by another financial officer in the company.

"Decision consequences" were varied by manipulating the information concerning the financial condition of the company five years subsequent to the initial allocation. The dependent variable for all subjects was the amount of money allocated ("commitment" in Staw's terms) to the initial investment alternative chosen by themselves or the other person in the company. In accordance with self-justification theory, Staw (1976) predicted that subjects who were personally responsible for negative consequences would allocate the greatest amount of resources. As expected, significant main effects were observed for both independent variables, with more resources being committed under negative versus positive consequences and under high versus low responsibility. In addition, a significant interaction was found such that individuals who were personally responsible and received negative consequences, committed
significantly more resources than did other subjects. Staw (1976) interpreted these results to mean that adverse consequences in an investment decision paradigm can result in escalating commitment.

A follow-up to Staw's (1976) investigation was performed by Staw and Fox (1977), using the same financial decision case as employed in the earlier study. While personal responsibility was again varied dichotomously, all subjects were run under a negative consequences condition which continued across three time periods. The purpose of this manipulation was to see whether commitment in high responsibility subjects would persist over time, or if commitment might develop over time in low responsibility subjects. In addition, subjects were also randomly assigned to conditions of high and low efficacy of resources. This variable was manipulated by providing information that there was either a high or low likelihood that additional R & D funding would help the financial condition of the organization. Thus, the overall design was 2 (personal responsibility) X 2 (efficacy) X 3 (time). The dependent variable was again the commitment of resources to the initially chosen division.

The results of this study were complicated, and more difficult to interpret than the previous one. While the effects of personal responsibility were replicated for time 1, high responsibility subjects showed a significant decrement in dollars invested from time 1 to time 2, and then a slight but significant increase in invested dollars from time 2 to time 3. The amount invested at time 3 was significantly less than that invested at time 1, however.
In low responsibility subjects, there was a nonsignificant trend towards the commitment of fewer resources following the initial negative consequences at time one.

At time 1, an effect for efficacy of resources was observed, such that subjects who were given information saying that success rates of R & D projects was high invested more money than those who were told the rate was low. However, as in the responsibility effect, people in the high efficacy condition had unstable investments over time. As was the case for low responsibility subjects, low efficacy subjects did not significantly change their investments over time.

The investigators in these first two early studies failed to acknowledge the fact that the findings were obtained under very specific conditions. For example, the A & S case presents subjects with a small number of alternatives which are highly similar in terms of the information available as well as their level of attractiveness. Along similar lines, subjects were never led to believe that additional information concerning the two alternatives would be forthcoming or that new alternatives would become available. This feature produced a decision situation which was very static in nature. Finally, the use of fictitious resources can be criticized from an external validity viewpoint.

Bazerman, Beekun, and Schoorman (1982) did not use the A & S decision paradigm. The study is discussed at this time because the role-play methodology used by the authors very closely matches the characteristics of the A & S case. The goal of the research was to
examine the generalizability of the escalation results to a performance appraisal context.

Subjects were asked to play the role of a corporate vice-president who must appraise the performance of three merchandise managers. One manager was selected for a promotion by the subject based upon brief personal descriptions, performance ratings, and various financial data such as sales, earnings, and inventory turnover ratios. A second section of the case which contained negative performance data for the first two years the promotee was in office was then presented to subjects. Various evaluations (dependent variables) concerning the promoted individual were made at this time.

Personal responsibility (high/low) was manipulated in a manner similar to earlier research. High responsibility subjects completed the case as described above. Low responsibility subjects received identical materials but were told that the promotion was made by their predecessor. All subjects were run under "negative consequences."

As hypothesized, high responsibility subjects consistently evaluated the employee more favorably, provided larger rewards, and made more optimistic projections of future performance than did the control group. These results were interpreted as showing an "escalation of commitment effect."

To further discuss some of these external validity issues, it is relevant to point out the similarities between the methodologies of the A & S case and the performance appraisal case. Recall that
Bazerman et al. (1982) were interested in determining if the escalation results could be generalized to a performance appraisal context. When the two role-play cases are compared, it is not surprising that these authors found an "escalation effect." The authors took the basic features of the A & S case and built a new scenario around it.

The similarity of the alternatives within each exercise is evidenced by the fact that subjects equally distributed themselves among the available alternatives in both cases. Personal responsibility was manipulated in the same manner in both cases as noted earlier. Both studies presented subjects with financial feedback concerning their decision. Finally, neither case provided subjects with a viable alternative to pursue when it came time to allocate further resources.

The above discussion has two main implications. First, while the "escalating commitment" result has been observed in two allegedly different paradigms, closer inspection reveals the case materials to be very similar. Second, if the findings of this literature are lacking in external validity as stated, it follows that changes in the characteristics of the environment may result in behavior other than "escalation" or perhaps no behavior at all.

The following two studies are further examples of escalating commitment being viewed in the literature as a pervasive genuine phenomenon. These investigations share the feature of being "extensions" of the escalation findings to new situations: group settings (Bazerman, Guiliano, & Appelman, 1984) and settings
involving external justification (Fox & Staw, 1979). In both cases, the problematic paradigms remain unquestioned.

Bazerman, Guiliano, and Appelman (1984) used the A & S case to study escalation of commitment in group and individual decisions. A 2 (Individual/Group) X 2 (High/Low Responsibility) design was employed. Responsibility was manipulated as in previous studies, and the dependent variable was again the amount of money allocated to the initially chosen division on the second decision. It should be noted that groups were provided with no structure as to how to make the allocation decisions other than being told that the decisions must be unanimous.

As hypothesized, high responsibility groups and subjects allocated more funds on the second decision to the initially chosen division than did their low responsibility counterparts.

Fox and Staw (1979) point out that justification may be directed externally as opposed to being solely an intra-individual process aimed at protecting one's self-image. They state that in organizational settings there are circumstances where an individual must prove to others that he/she was not wrong on an earlier decision, because of some external threat or evaluation. Campbell (1969) has described the "trapped administrator" as a person who is evaluated on the success or failure of his/her programs. This person is said to have no choice but to justify the continuation of even ineffective programs.

Fox and Staw used the escalating commitment paradigm to operationalize the idea of the trapped administrator. These authors
saw the trapped administrator as someone who stands to lose politically if a program fails, and is thus in need of external justification. Job insecurity (high/low) and policy resistance (high/low) were manipulated because it was felt that these variables should "heighten the political vulnerability of administrators."

Subjects were told that they had been promoted to the Financial Vice President position either temporarily (high job insecurity) or permanently (low job insecurity). Following the initial funding decision, subjects received a memo from the company president indicating either support for or resistance to their recommendation by the Board of Directors. Following further written justification of their choice, all subjects were told that the Board had approved their recommendation. However, the Board was still either supportive or critical. All subjects received negative financial feedback concerning their decision.

As in past studies, the major dependent variable was the amount of resources allocated to the previously chosen investment alternative. One difference however, was that funds not allocated to the initially chosen division were retained for other uses instead of being invested in the unchosen division. As hypothesized, the results showed that subjects invested the largest amount of money to their prior courses of action when they were faced with high job insecurity and high policy resistance. The least amount of money was invested by subjects who were in the "low" conditions on both variables. These results were taken as strong evidence that the trapped administrator is one who is more likely to increase than
decrease his commitment to a previously chosen policy. Both of these investigations fail to identify and question the assumptions and limitations of the escalating commitment studies upon which they are based. Given the concerns raised in this chapter, it seems premature to study extensions of behavior interpreted as escalating commitment. The parameters of the "phenomenon" should be more fully understood prior to undertaking these types of investigations.

Staw and Ross (1978) conducted an investigation in which they varied previous success or failure as well as causal information about a setback. This investigation was conducted in order to sort out some of the inconsistencies in the Staw and Fox (1977) study described earlier. Subjects participated in a two-part experiment in which they acted as a financial allocation officer of the World Bank. This study is important because it is the only one in the published literature which investigates escalating commitment using a paradigm other than those which have already been described.

In the first part of the experiment, subjects were randomly assigned success or failure feedback pertaining to their choice to allocate resources to one of three economic development projects in Nigeria. The second part of the experiment consisted of a similar resource allocation decision, except that all projects chosen by subjects met with a setback. Specifically, subjects were told that $70 million of the $80 million they had appropriated to build an industrial complex in Kenya was already spent with the project being only 50 per cent completed.
Subjects were later given the opportunity to allocate any or all of an additional $70 million worth of World Bank funds to try to increase the likelihood of their project succeeding. All nonassigned funds were to remain in the World Bank for expenditure on future development projects. The additional funds allocated to the initial course of action was used as the dependent variable in the study.

Prior to investing these additional resources, subjects were presented with causal information (endogenous/exogenous) about the project setback. The case was designed such that information about the three endogenous setbacks (corruption of local officials, failure of workers to respond to economic incentives, worker illiteracy) was available in advance of the decision and was likely to persist. Rain was the only exogenous setback employed. No prior information about this problem had been provided and it was unlikely to persist.

The main result of this study was an interaction between prior success/failure and causal information about a setback. Subjects invested the most resources under conditions where there was an exogenous cause for a setback and a previous failure had been experienced. The findings of this study are generally confusing. One reason for this problem was that subjects perceived the three endogenous setbacks to differ in terms of how likely they were to persist. Pilot testing of these manipulations might have alleviated this difficulty. This study is of particular interest because subjects were not found to "escalate commitment" to their initial course of action when presented with the World Bank case. Positive results have been obtained only using the A & S paradigm and the
closely related Heeley's Performance Appraisal case. Little research has focused on the absence of escalation results found by Staw and Ross (1978) utilizing this different paradigm.

Summary and Implications

The overall theme of this review has been the lack of external validity in the escalating commitment literature. For example, various aspects of the alternatives used in the decision paradigms were criticized. It was mentioned previously that if this literature is lacking in external validity as stated, it should be possible to produce results other than "escalation" by varying characteristics of the decision context.

The work of Northcraft and Wolf (1984) provides additional evidence to support the notion that external validity is limited in the escalation literature. Borrowing from an accounting measure (the time adjusted rate of return), these authors developed a life cycle model to describe the impact of "sunk costs" on the expected rate of return for future costs in a project. Northcraft and Wolf illustrate that there are conditions under which it is very rational and financially sound to continue to invest in a course of action in the face of negative feedback. The existing escalation studies do not take this analysis into account.

The independent variables have been chosen on theoretical grounds. A case will be made that the conditions under which "escalating commitment" has been found to occur may be a special case of a defensive avoidance strategy known as cognitive bolstering (Janis & Mann, 1977). By varying these conditions it is proposed
that two other defensive avoidance strategies known as "procrastination" and "shifting responsibility" can be produced in subjects in place of bolstering. Subjects in the existing literature have never been given the opportunity to postpone a decision (procrastinate) or to shift responsibility for a decision onto another individual. Thus, these two variables were addressed in the present research. Another variable of interest was the decision maker's knowledge of whether or not additional information concerning the decision alternatives will be forthcoming. Janis and Mann (1977) hypothesize this factor to impact on bolstering behavior.

Further details concerning the defensive avoidance strategies will be discussed in a later section.

A second major criticism of the escalating commitment literature is that none of the studies reviewed includes a discussion of the commitment construct. It seems reasonable that a person should be initially committed to a course of action prior to "escalating commitment." However, there is evidence in the work of Janis and Mann which suggests that commitment to a course of action (in the psychological sense) is not a necessary precondition for the occurrence of behavior which has been interpreted as escalating commitment. One way to strengthen the argument that the Conflict Model is more useful than Staw's approach for understanding the behavior in question would be to show that commitment is not higher in an absolute sense for individuals who exhibit "escalation behavior" as compared to those who do not exhibit this behavior. This logic was tested empirically in the present study. It will be
argued later in this chapter that the bolstering of a preferred alternative may actually result in a decrease in felt commitment. This prediction would of course be contrary to the explanations in the existing literature.

Achieving a full understanding of "commitment" was not a goal of the present research. However, because of the dearth of attention it has received in the escalation literature, the commitment construct will be addressed at this time.

Commitment

A reading of the commitment literature may help to explain why investigators such as Staw and his associates have chosen to avoid this topic. It has become almost fashionable to criticize the existing work on the grounds that there is little agreement on how to define (e.g., Chusmir, 1982), measure (e.g., Buchanan, 1974), or conceptualize (e.g., Stevens, Beyer, & Trice, 1978) the construct. These difficulties appear to be experienced equally by Psychologists, Organizational Behaviorists, and Sociologists. In a fairly representative statement Becker (1960, p. 32) writes "there has been little formal analysis of the concept of commitment and little attempt to integrate it explicitly with current sociological theory."

Definitions of commitment tend to take either a behavioral perspective or a psychological attitudinal perspective. For example, on the behavioral side Kiesler and Sakumura (1966) define commitment "as a pledging or binding to behavioral acts... The effect of commitment is to make an act less changeable" (p. 349). Taking a more psychological orientation, Buchanan (1974) defined
organizational commitment "as a partisan, affective attachment to the goals and values of an organization, to one's role in relation to goals and values, and to the organization for its own sake, apart from its purely instrumental worth."

Closely related to these two categories of definitions are of course the corresponding attempts to study and understand commitment. However, the research from both perspectives is problematic because the focus tends to be on the antecedents and outcomes of commitment instead of on the construct itself. For example, in the organizational behavior literature antecedents such as personality-need variables (e.g., Kidron, 1978), various job characteristics (e.g., Hall & Schneider, 1972), and demographic variables (e.g., Hall, Schneider, & Nygren, 1970) have been studied. Turnover, intentions to stay (e.g., Steers, 1977; Wiener & Vardi, 1980), and performance (e.g., Steers, 1977) are some of the outcomes of commitment which have been addressed.

As noted earlier, obtaining a good conceptual understanding of commitment is not a goal of the present discussion. The overall goal is to provide background information for the role of commitment in behavior interpreted as escalating commitment. As mentioned previously, Janis and Mann's Conflict Model serves as the framework for addressing these issues. Towards this end, one point of interest is to get some idea of whether on a qualitative level the subjects in the escalation literature experienced commitment to their course of action. For this purpose, a knowledge of the antecedents of commitment is useful. These issues are ignored in the existing
A strategy suggested by Kiesler (1971) is to think of commitment as a continuous variable. This approach allows commitment to be viewed as a matter of degree, as opposed to an all-or-nothing phenomenon. Kiesler (1971) and to a lesser extent Janis and Mann (1977) were drawn upon to compile a list of conditions which when present, will increase commitment. These authors hypothesize that the degree of commitment may be increased by increasing one or more of the following:

a) How public, explicit, or unambiguous the act is.

b) How ego-involving or important the act is for the subject.

c) The degree of irrevocability of the act.

d) The number of acts performed by the subject. The assumption here is that the acts are additive in some way. These could be repetitions of the same act or different behaviors which are related in some way.

e) The degree of freedom of choice perceived by the person in performing the act.

For individuals in the escalating commitment studies:

(a) Subjects made an unambiguous initial choice which was private. However, this choice was revealed to the experimenter prior to the second part of the study in most cases. (b) The importance or value of the act for subjects was probably quite low due to the lack of real consequences. (c) At the time of their initial choice subjects presumed the act to be irrevocable (high responsibility subjects). This changed during the second part of the case. (d) The act in
question was performed twice in all cases except for the Staw and Fox (1977) study in which three allocations were made. Of course, the performance of these acts were dependent upon each other.

(e) Subjects likely perceived a small degree of freedom of choice in making their decisions. Inaction was never an acceptable form of behavior in the role-play cases. This qualitative analysis seems to indicate that subjects in the escalation literature probably experienced relatively low levels of commitment to their tasks following their initial decisions. The overall artificial nature of the tasks may have further reduced felt commitment.

The escalation literature has been criticized on theoretical grounds in this section for virtually ignoring the construct of commitment. The authors (e.g., Staw, 1976) in this area take a behavioral perspective towards commitment. A brief review of the commitment literature has shown this approach to be fairly common across disciplines. In much of the escalation literature the term "commitment" can be replaced by "allocation" with little or no loss of meaning. However, in this area of research it may be an even greater assumption than usual that individuals are committed to a course of action because they have performed a behavior.

It is proposed that the conditions under which "escalating commitment" has been observed produce a loss of hope of finding a better solution following the receipt of negative feedback. Individuals may feel that they have no option but to continue with their original course of action given the circumstances with which they are presented. It is therefore possible that individuals who
"escalate" commitment are actually no more psychologically committed than are individuals who do not invest additional resources in a given course of action. This argument is consistent with the Conflict Model. A goal of the present study was to empirically address this issue by measuring commitment more extensively than has been done in the existing research.

Evidence to support the idea that behavior observed in escalation studies results from a loss of hope in finding a better solution as well as evidence to support some of the points made concerning commitment will be presented in the next section. The Conflict Model of Decision Making (Janis & Mann, 1977) will be described and implications for escalating commitment will be discussed.

The Conflict Model of Decision Making

Janis and Mann (1977) point out that individuals experience conflict when they must make important decisions. The major result of this "decisional conflict" is a feeling of stress. Janis and Mann propose a Conflict Model to explain the coping patterns people use to deal with this psychological stress. "Psychological stress is used as a generic term to designate unpleasant emotional states evoked by threatening environmental events or stimuli" (p. 50). While much of the research cited by these authors deals with emergency decision making, the authors extend the model to all consequential choices. Janis and Mann (1977) state that the processes associated with the Conflict Model are applicable to a given decision situation "so long as the decision maker is aware of at least one mildly worrisome
Based upon the existing literature dealing with human reactions to threats and warning requiring protective action, Janis and Mann describe five basic behavioral coping patterns that affect the quality of decision making. **Vigilance** characterizes high quality decision making. The decision maker engages in a thorough information search and assimilates new information in an unbiased fashion. **Unconflicted inertia** results in ignoring any warnings and continuing with the current course of action. **Unconflicted change** involves carrying out the actions necessary to reduce the risks in an unconflicted manner. In **defensive avoidance** the decision maker gives up the search for a better solution despite being dissatisfied with the available options. An attempt is made to avoid information relevant to the shortcomings in his course of action. **Hypervigilance** results in a panic-like state. Errors of judgment occur in this state due to inefficient cognitive functioning. These coping patterns are exhibited based upon the presence of various preconditions.

As has been pointed out previously, defensive avoidance is the coping mechanism most relevant to the escalation of commitment literature. The first precondition for defensive avoidance is challenging negative feedback to a course of action or the presence of a new opportunity to pursue. The second and third preconditions are answers of "yes" or "maybe" to the questions "Are the risks serious if I don't change?" and "Are the risks serious if I do change?" The fourth and final precondition is an answer of "no" to
the question "Is it realistic to hope to find a better solution?"
Thus, defensive avoidance is characterized by high conflict and a loss of hope for finding a better solution.

Types of Defensive Avoidance

Janis and Mann discuss three strategies for dealing with the decisional conflict associated with defensive avoidance. The preconditions for defensive avoidance as well as for these three strategies are outlined in Figure 1 reproduced from Janis and Mann. Note that as described above, affirmative answers to questions 1 and 2 and a negative answer to question 3 is said to result in defensive avoidance. "Procrastinating" will result if the decision maker does not perceive there to be a serious risk in postponing the decision (question 3A). "Shifting responsibility" will result if question 3A is answered "yes" or "maybe" and if it is felt that the decision can be turned over to someone else (question 3B). Finally, "bolstering" results if question 3A is answered "yes" or "maybe" and question 3B receives a negative response.

Janis and Mann's Conflict Model postulates that each pattern for coping with decisional stress has an associated mode of information processing. These modes of processing govern the type and amount of information the decision maker will prefer.

In procrastination, the individual would generally prefer to ignore or evade the majority of relevant information. However, there is predicted to be a "slight degree of passive interest" in supportive information which accompanies the strong tendency to avoid any challenging information. Shifting responsibility is also
Figure 1. A conflict model of three types of defensive avoidance (adapted from Janis & Mann, 1977, p. 86).
characterized by the dominant mode of evading decision-relevant information. Information gathering tends to be limited to seeking out other people such as a superior or an expert to take over responsibility for the decision or to provide instructions on what to do. In bolstering, a pattern of selective exposure dominates. Supportive information is actively sought while discrepant information is avoided.

Bolstering is the defensive avoidance strategy which has been investigated most extensively and which is of primary interest in this study. As noted in Figure 1, bolstering involves choosing the least objectionable of the available alternatives. The rejected alternatives are seen as being far less acceptable than the one which was selected. Distorted information processing and selective attention help to create this spreading of the attractiveness of the alternatives. The likelihood of bolstering increases when the decision maker believes that the supply of information about the alternatives is exhausted. A decision maker will tend to remain vigilant, hopeful of finding a better solution, and will abstain from bolstering if new relevant information concerning the alternatives is forthcoming. Stated differently, behavior which has been interpreted as the escalation of commitment would not be expected to occur if additional relevant information about the alternatives was expected in the future.

Janis and Mann discuss six major bolstering tactics.

These tactics may be useful for gaining additional insight into commitment. It does not appear that these tactics would foster a
sense of commitment in the decision maker. The first three rely on a
cognitive distortion of the characteristics of an alternative in
order to reduce decisional conflict. The last three tactics would
appear to have the effect of reducing commitment towards an
alternative or a course of action. "Minimizing social surveillance"
and "minimizing personal responsibility" are in direct contradiction
with the conditions for increasing commitment presented earlier. In
order to further investigate the bolstering process and its
relationship (if any) to the commitment construct, the extent to
which these tactics are utilized were measured in the present study.
Presence of the final three tactics in particular would be
interpreted as evidence in favor of the idea that subjects are
experiencing low levels of commitment to their chosen alternative.
Again, low levels of commitment would be evidence that the Conflict
Model is more useful than Staw's extension of self-justification
theory for explaining the behavior which has been observed in the
literature.

a) Exaggerating favorable consequences—This tactic involves
playing up the potentially positive aspects of the chosen
alternative. The exaggerated positive consequences help the decision
maker to reduce the conflict associated with choosing the
alternative.

b) Minimizing unfavorable consequences—In order to reduce
feelings of conflict, a decision maker may play down the potentially
negative consequences of a choice.
c) Denying aversive feelings—This tactic minimizes conflict by denying that the characteristics associated with the negative consequences of an alternative are actually aversive. Using various strategies, an individual may transform bad characteristics to seem acceptable or even desirable.

d) Exaggerating the remoteness of the action commitment—In order to discount the negative consequences of a choice, decision makers will assume that once a choice is made nothing needs to be done for such a long time that he/she can forget about it.

e) Minimizing social surveillance—A person may distort his/her evaluation of a course of action to be chosen by assuming that the choice is private and no one else knows about it.

f) Minimizing personal responsibility—This bolstering tactic involves reducing one's own personal responsibility for a choice by attributing the choice to external pressures.

With this background on defensive avoidance in general and on bolstering in particular, it is now relevant to discuss in detail the application of bolstering to the escalation literature.

Bolstering Versus Escalating Commitment

Throughout this chapter the existence of escalating commitment as a real phenomenon has been questioned. It is argued that the results which have been observed in the literature may not be the result of self-justification processes following a setback. Self-justification (Aronson, 1976) or dissonance theory (Festinger, 1957) states that people are motivated to reduce the dissonance which is invariably assumed to occur from making a decision. As mentioned
earlier, Staw (1976) originally extended this idea by hypothesizing that individuals will focus upon events which will correct or reduce the magnitude of a previous error ("retrospective rationality") rather than focusing on new or alternative ways to increase outcomes ("prospective rationality"). It was further hypothesized that individuals would allocate additional resources to a failing course of action to protect themselves from suffering the psychological costs of failure. In contrast, the defensive avoidance strategy known as cognitive bolstering focuses on reducing the stress which results from decisional conflict. There is no specific attention given to justification of an initial decision.

The conditions under which escalating commitment has been observed closely match the conditions under which bolstering occurs. Escalating commitment first involves challenging negative feedback to a chosen course of action. The risks are serious if the choice is made to change to a new alternative as well as if the choice is made to remain with the current alternative. The decision maker has the choice of staying with an already failing course of action or to switch to a very similar second course of action. Further, this second alternative was initially rejected by the decision maker. Thus, given the nature of the situation, it is not realistic to hope to find a better solution. It is not possible to postpone the decision nor is it possible to turn the decision over to someone else. In addition, there is little if any question that information concerning the alternatives is exhausted.
Two main points may be drawn from these discussions. The first point is that bolstering of the least objectionable alternative and not Staw's extension of self-justification theory may be the mechanism which best explains the behavior which has been interpreted to be an "escalation of commitment." The limited external validity of the paradigms employed in the escalation literature have created conditions which are optimal for bolstering to occur. This conclusion seriously questions the presumed causes of the behaviors which have been observed.

The second point is that the escalation literature may be using the term commitment inappropriately. A case has been made in this chapter that the bolstering of an alternative does not necessarily imply high levels of commitment to that alternative. For example, the bolstering tactics presented by Janis and Mann seem to imply low levels of commitment to the chosen alternative.

The conditions under which bolstering will not occur have been outlined previously. Since a case has been made that bolstering is the process responsible for the findings in the escalation literature, it can be reasoned that if certain of these conditions are altered then "escalation" will not be observed. All else being equal, placing individuals in a situation where they see no problem with postponing their decision (question 3A, Figure 1) should elicit "procrastinating" and eliminate escalation (i.e., bolstering). Similarly, affording individuals the opportunity to turn the decision over to another person (question 3B, Figure 1) should elicit "shifting responsibility" rather than escalation (bolstering).
Finally, the knowledge that additional information concerning the alternatives is forthcoming should also eliminate escalation (bolstering). The choice of these variables follows directly from the Conflict Model.

**Further Evidence of Defensive Avoidance**

To this point, escalating commitment and defensive avoidance have been compared and contrasted on a theoretical level. A case has been made that bolstering is the actual mechanism operating in the findings of studies using both the A & S and Heeley's Performance Appraisal paradigms. However, there also appears to be at least some evidence in the existing literature for the presence of "procrastinating" and "shifting responsibility."

The results of studies which employed the World Bank case (Staw & Ross, 1978; Conlon & Wolf, 1980) are complicated. However, one thing that these investigations have in common is that instead of finding evidence for escalating commitment subjects tended to withdraw from their initial course of action. This withdrawal may be seen as an alternative course of action chosen by subjects. It is possible to interpret this withdrawal behavior from a defensive avoidance viewpoint.

A difference between the A & S case and the World Bank case which was pointed out earlier lies in the nature of the dependent variables employed. Both cases require subjects to allocate additional funds, with as much going to the initially chosen alternative as desired. Recall that the A & S case requires subjects to split these funds between the two possible alternatives. A subtle
difference in the World Bank case is that subjects do not have multiple courses of action to choose among. Any funds not allocated to the previously chosen course of action remained in the World Bank for "expenditure in further development projects." Thus, in an extreme case subjects had the option to avoid any further financial allocations by returning all funds to the Bank.

At least two possible processes may be operating here. Firstly, subjects may have for some reason felt pressure to leave money for future Bank projects. There is no good evidence for why this should have been the case. Alternatively, subjects may have seized the opportunity to procrastinate or to shift funding responsibility onto some other person by leaving a substantial amount of money on account. In protocols published by Conlon and Wolf (1980) at least one subject commented that if additional money was needed for the project in the future the funds could be drawn from what remained on account.

A difference between the two paradigms which may be responsible for the observed World Bank case findings has been identified. Janis and Mann's (1977) defensive avoidance framework helps to make some sense out of the results. Further justification for studying the escalating commitment findings from a defensive avoidance viewpoint is provided.

Based upon the issues discussed in this chapter, a number of hypotheses may be drawn.
Hypotheses

Overview

The overall question which guided this research is "Under what conditions will individuals allocate additional resources to a failing course of action?" A 2 (forthcoming information: yes/no) X 3 (courses of action: bolstering/procrastinating/shifting responsibility) design was utilized. Data were collected for a number of dependent variables:

a) The amount of resources allocated to the initially chosen alternative (as in previous studies). In addition, a seventh comparison cell in which no "escalation" behavior was expected was included in the design. This cell (same as bolstering/no forthcoming information with positive feedback) allowed for a more definitive conclusion to be made concerning whether results of previous investigations had been replicated.

b) The number of procrastinating and shifting responsibility subjects who withdrew from the second decision.

c) Self-reported commitment to a course of action.

d) Ratings of the type of forthcoming information desired.

e) Rankings of the types of forthcoming information desired.

f) Utilization of the six bolstering tactics (thought listing as well as questionnaire data). These variables will be described in detail in the Methods section.

A number of specific predictions follow from this design and the associated dependent measures.
**Hypothesis 1:** The bolstering/no forthcoming information group was predicted to invest significantly more resources in the initially chosen division than the positive feedback comparison group.

This prediction represented an attempt to replicate a finding of Staw's (1976) original study. High personal responsibility subjects who received negative feedback (i.e., bolstering/no forthcoming information) invested significantly more than those who received positive feedback (i.e., comparison group) in that study.

**Hypothesis 2:** A forthcoming information X courses of action interaction was predicted such that bolstering/no forthcoming information subjects were expected to invest significantly more resources in their initially chosen division than subjects in the other five cells of the 2 X 3 design.

This hypothesis was based upon the fact that the bolstering/no forthcoming information condition was the only group predicted to bolster the previous choice. The receipt of forthcoming information and/or having the opportunity to withdraw from the second decision (i.e., procrastinate or shift responsibility) were the factors predicted to reduce allocations in the other five cells. Thus, if Hypothesis 1 and 2 are taken together, the bolstering/no forthcoming information group was expected to invest significantly more resources on the second funding decision than were subjects in all six of the other conditions. The allocations of these six groups were not predicted to differ significantly from each other.

**Hypothesis 3:** A main effect for forthcoming information was predicted such that subjects who believed that additional relevant
information concerning the decision alternatives was forthcoming were expected to invest fewer resources in their initially chosen alternative than subjects who did not have this belief.

As discussed previously, Janis and Mann provide evidence in favor of the idea that individuals expecting new relevant information concerning the alternatives will remain vigilant and hopeful of finding a better solution (if an acceptable solution is not available). These people were predicted to abstain from bolstering the most promising alternative.

Hypothesis 4: A significant number of subjects given the opportunity to withdraw from the second funding decision were predicted to take advantage of this opportunity.

Hypothesis 4a: A significant number of subjects in the two procrastinating conditions were predicted to postpone the second funding decision.

Hypothesis 4b: A significant number of subjects in the two shifting responsibility conditions were predicted to shift responsibility for the second funding decision onto the Vice President of Research and Development.

Hypotheses 4a and 4b follow directly from Janis and Mann's Conflict Model. Further details concerning the logistics of the procrastinating and shifting responsibility courses of action are presented in the Method chapter.

Hypothesis 5: The level of commitment to the initially chosen A & S division was predicted to be significantly higher for the positive feedback comparison group than for the other six groups in
the design.

This hypothesis was in direct contradiction to what authors in the escalation literature would predict. These individuals would predict that subjects who exhibit behavior interpreted as escalating commitment to be significantly more committed to their initially chosen course of action than subjects who do not perform these behaviors. An argument has been made that subjects may not be committed under conditions where they perform behaviors labelled as escalating commitment. Based upon ideas presented in the Conflict Model, the reported commitment levels of these subjects should have been no higher than those for individuals exhibiting withdrawal behavior. By contrast, individuals who experienced positive feedback to an initial choice should have reported high levels of commitment.

**Hypothesis 6:** Subjects in the bolstering/no forthcoming information group were predicted to utilize the six bolstering tactics more frequently than subjects in the other experimental groups. This translates to more specific predictions concerning particular dependent variables.

**Hypotheses 6A–6C:** A forthcoming information X courses of action interaction was predicted to result for the following dependent measures from the thought listing data:

6A: Number of total thoughts listed.

6B: Frequency of occurrence of each of the six dichotomously rated bolstering tactics.

6C: Mean 7-point rating of the extent to which bolstering tactics were utilized.
Hypothesis 6D: A forthcoming information X courses of action interaction was predicted to result for dependent measures derived from the ratings on the bolstering tactics questionnaire.

Responses concerning the final three bolstering tactics (Exaggerating remoteness of the action commitment, Minimizing social surveillance, Minimizing personal responsibility) were expected to add additional information concerning commitment. As pointed out previously, utilization of these tactics implies low levels of commitment.

Hypothesis 7: The type of forthcoming information preferred by subjects was predicted to differ across the three courses of action conditions for the types of additional decision-related information requested.

The following subhypotheses were formulated based upon Janis and Mann's predictions concerning the types of information preferred by individuals using different patterns for coping with decisional stress. Aside from providing additional evidence concerning the extent to which the three courses of action were exhibited in the present study, these hypotheses provided a test of an aspect of the Conflict Model which has not previously been empirically studied.

Bolstering subjects were predicted to prefer information which was supportive of their decision and to avoid information which challenged their decision. Procrastinating subjects were predicted to prefer a small amount of supportive information and to avoid all challenging information. Shifting responsibility subjects were predicted to gather a limited amount of information relevant to
seeking out others onto whom the decision may be placed.
Operationally, these general predictions translated into specific subhypotheses.

Hypothesis 7A: The equivalent of a forthcoming information X courses of action interaction was predicted when ratings of the desirability of positive information concerning the subjects' preferred division was the dependent variable.

Hypothesis 7B: The equivalent of a forthcoming information X courses of action interaction was predicted when rankings of positive information concerning the subjects' preferred division was the dependent variable.

High ratings and rankings by bolstering/no forthcoming information subjects were expected to cause these interactions.

Hypothesis 7C: Across the six main groups in the study, ratings of positive information concerning subjects' preferred division were predicted to be significantly higher than ratings for either negative or neutral information concerning the same division.

Hypothesis 7D: Across the six main groups in the study, rankings of positive information concerning subjects' preferred division were predicted to be significantly higher than rankings of negative or neutral information concerning the same division.

Analyses of the numbers of positive and negative thoughts listed on the bolstering tactics measure were predicted to provide additional information concerning the usage of positive and negative information. Specifically:
Hypothesis 7E: A forthcoming information X courses of action interaction was predicted such that bolstering/no forthcoming information subjects were expected to list significantly more positive thoughts than individuals in the other five cells of the crossed design.

Hypothesis 7F: Across the six cells in the crossed design, significantly more positive than negative thoughts were predicted to be listed by subjects.
METHOD

Overview

As previously mentioned, this study employed a 2 (forthcoming information) X 3 (courses of action) research design. A seventh cell was incorporated into the design in order to facilitate the collection of more conclusive data as to whether or not the "escalation effect" was replicated. The task was to complete the A & S business decision case. All subjects completed both parts of the case, and received negative financial feedback concerning their initial decision.

For the courses of action variable, subjects in the bolstering condition performed the task as did high responsibility, negative feedback subjects in previous research. Subjects in the procrastinating condition were given the opportunity to postpone their second funding decision. Shifting responsibility subjects were given the opportunity to shift responsibility for the second funding decision onto another individual.

The dependent variables were a) The amount of resources allocated to the initially chosen alternative (as in previous studies), b) The number of procrastinating and shifting responsibility subjects who withdrew from the second decision, c) Self-reported commitment to a course of action, d) Ratings of the
type of forthcoming information desired, e) Rankings of the types of forthcoming information desired, f) Utilization of the six bolstering tactics (thought listing as well as questionnaire data).

**Subjects**

One hundred and forty undergraduate students enrolled in an introductory psychology course at The Ohio State University were the participants. Subjects received extra course credit for their efforts. Data were collected in groups of from 3-9 individuals. All experimental sessions were run by the author.

There was some concern on the part of the present author that introductory psychology students would have difficulty interpreting the information provided in a financial business decision case. However, at least two studies (Bazerman et al., 1984; Staw & Ross, 1978) in the relevant literature have employed decision case methodologies using the introductory psychology student population with no apparent ill effects.

In order to further investigate this issue, a pilot test was conducted in which introductory psychology students were asked to read the first two pages of the A & S case. They were then asked to write definitions for some of the words in the text. The overall level of understanding was satisfactory. Data from the post-questionnaire in the dissertation study strongly supported this conclusion.

**Procedure**

Subjects were seated at a single row of tables with dividers placed between each seat. After being greeted by the experimenter,
subjects were given oral instructions pertaining to the requirements of the task as well as with some general information describing the hypothetical role they were to assume.

In order to maximize subject involvement, a procedure similar to the one employed by Staw (1976) and Staw and Fox (1977) was used to provide a rationale for the study. The experimenter explained to the subjects that the purpose of the experiment was to examine the effectiveness of business decision making under varying amounts of information. Subjects were told that the particular case on which they will be working contained a limited amount of information, but that the information provided should still be sufficient for college students to make a good financial decision. Subjects were asked to do the best job they can on the case and to place their names on their response sheets.

Subjects were then presented with Part I of the A & S case. In addition, they received a schedule which outlined the months and years during which key events in the case would occur. These materials are presented in Appendix A. The schedule was to be kept for reference throughout the entire experiment. Included on this schedule was a third financial decision and the completion of a second set of questionnaires following the decision. For reasons to be discussed later in this chapter, there actually was no third decision to be made or additional questionnaires to be completed.

Care was taken to ensure that nobody was missing any of the case materials and that subjects wrote their names on the response sheet. After they had all completed Part I, subjects were instructed to
paper clip their response sheet to the front of the case materials. Subjects were told that this would reduce clerical work. In actuality, the procedure was designed to allow the experimenter to easily see which of the two R & D divisions subjects had selected for funding. Thus, Part II of the case could be distributed such that subjects received feedback appropriate for the division funded during Part I. The collection of Part I and the distribution of Part II were done simultaneously.

Recall that Part II requires subjects to make another financial investment decision. This section presents subjects with the conditions of the A & S company five years subsequent to the initial allocation of R & D funds. Sales and earnings data for each of the five years following the initial decision are provided as financial feedback to the decision maker. The manipulations of the independent variables were embedded in the written instructions of this second part of the decision case. The Part II case materials and response sheets for the six conditions in the crossed (i.e., 2 X 3) part of the design are contained in Appendices B-G. The two possible pages of financial feedback which accompanied these materials are in Appendix H. The positive feedback comparison group received the same case materials as bolstering/no forthcoming information subjects. However, they received feedback which showed improvement in their initially chosen division.

Following the completion of Part II, subjects were again asked to clip their answer sheets to the front of the case materials. This procedure was employed because it was necessary for the experimenter'
to know whether or not procrastinating and shifting responsibility subjects decided to withdraw from the second funding decision. A packet of questionnaires was given to each subject as Part II materials were collected. Procrastinating and shifting responsibility subjects who withdrew from the second decision were given packets which contained an additional page. This sheet required them to make the funding decision which they had withdrawn from earlier. The additional pages for procrastinating and shifting responsibility subjects are provided in Appendices I and J, respectively. These materials will be discussed in greater detail later in this chapter.

After all subjects completed the questionnaires, they were informed that there would be no third decision and that the experiment was over. Subjects were debriefed, asked if they had any questions, thanked, and allowed to leave.

Task

The A & S case was employed in order to duplicate the conditions under which escalating commitment has been reported. The case used by Staw (1976) begins in 1967, with financial data from as far back as 1957 being provided to subjects. The years during which the case takes place were updated for the present study. Specifically, the first decision took place in October, 1974 and the second decision was made in October, 1979. These dates were arrived at by working backwards in five year increments from October, 1984, the time of the nonexistent third decision.
Two variables which have been manipulated in previous research which were held constant in this investigation are "decision consequences" and "personal responsibility." Holding these variables constant has implications for the use of the A & S task. Recall that Staw (1976) manipulated decision consequences by providing half of his subjects with information that the division initially chosen for R & D funding subsequently performed better than the unchosen division, while the other half were given information showing the reverse. However, as was the case in the Staw and Fox (1977) and Bazerman et al. (1984) studies, all subjects in the proposed research except for the comparison group were run under negative consequences. This decision was made because these are the circumstances under which "escalating commitment" has been observed. As a result of this choice, only the A & S case feedback which shows a deepening decline in the profitability of the chosen division but an improvement in the unchosen division was employed for subjects in the six main cells in the design.

All subjects were run under conditions of "high personal responsibility" again because this is a condition under which escalation is purported to occur. On a logistical level, this means that all subjects completed both parts of the decision case instead of some subjects completing only Part II (low personal responsibility procedure).

As mentioned previously, in addition to the usual decision case materials, subjects were told that they would be required to complete a third decision. That is, subjects expected to receive an additional set of feedback and to make an additional allocation.
These features were added to the case in order to facilitate the manipulation of the independent variables.

**Manipulations of Independent Variables**

**Forthcoming Information**

In the third paragraph of the materials for the second allocation decision, forthcoming information recipients were told that committees appointed by the A & S management were preparing detailed reports dealing with the performance of both divisions as well as other information relevant to the organization. These reports were to become available prior to the third funding decision. Thus, none of this information was to become available until after the current decision had been made. The fictitious third decision was included so the subjects would think that they would have the opportunity to utilize the forthcoming information in the future.

**Courses of Action**

**Bolstering**—This condition served as a replication for the results in the existing escalation literature. Subjects in the bolstering/no forthcoming information group experienced the decision case as did high personal responsibility, negative consequence participants in previous studies with no modifications.

**Positive Feedback Comparison Group**—As mentioned previously, rather than relying on a comparison of the mean allocation levels for bolstering/no forthcoming information subjects and the reported allocation levels for comparable groups in the existing studies, a comparison group was incorporated to the design. That is, there was a desire to replicate conditions under which "escalation behavior"
was reported in the literature as having not occurred. The two choices were to present a) conditions of low personal responsibility for a decision which had negative consequences, or b) conditions of high personal responsibility for a decision under positive consequences. Recall that Staw (1976) found that individuals who experienced either of these sets of conditions (as well as those in a low personal responsibility/positive consequence situation) to invest significantly fewer resources to a previously chosen course of action than high personal responsibility/negative consequence subjects.

The high personal responsibility/positive consequence condition was selected as the comparison for both theoretical and logistical reasons. First, it was possible to make specific predictions for this group concerning commitment which differed from the other cells in the design. Second, there was a desire to run subjects from the various groups in the design in each experimental session as opposed to running each condition separately. Since low personal responsibility subjects complete only the second part of the A & S case, it might have been difficult to collect data from these individuals along with the other conditions.

Procrastinating—In this condition, subjects were given the opportunity to postpone the second funding decision of splitting $20 million between the two R & D divisions. Specifically, the funding decision could be postponed for a three year period, at which time the $20 million had to be allocated. Subjects were reminded that no matter what they chose to do, they would still be required to make the third and final funding decision. Postponement of the
allocation decision could be made using any criteria desired.

As mentioned earlier, the allocation decisions of subjects who chose to procrastinate were obtained by including an additional page in the questionnaire packet (see Appendix I). Specifically, this information was presented prior to the manipulation check questionnaire (the second to last questionnaire). It was important to obtain the allocation information from these individuals for at least two reasons. First, even in the event that procrastination occurred with a high frequency, the procrastinating condition could still be included in the resource allocation analyses. There was potential for there to be little or no allocation data from these individuals. Second, it was now possible to test whether the allocation patterns differed for those who chose to procrastinate and those who did not. The author is aware of the fact that the conditions under which allocation data were collected from procrastinators differed in a number of ways from conditions experienced by those who made their allocations during Part II of the case.

**Shifting Responsibility**—As in the procrastinating condition, subjects in this condition were given the opportunity to withdraw from the second funding decision. Subjects were told that they had the option of shifting the responsibility for the second funding decision onto another individual in the company. Specifically, this responsibility could be delegated to the Vice President of Research and Development for A & S. This individual's actual allocations as well as data concerning the results of the allocation decision were
to be provided prior to the third funding decision.

Leading subjects to believe that there was a third decision helped to provide a plausible cover story concerning the receipt of the above allocation information. Further, subject interest was maintained because they thought that they would have to make an additional decision based upon the results of another person's work. Of course, none of this information was ever distributed.

In order to collect allocation data from subjects who chose to shift responsibility for the second funding decision onto the R & D V.P., a procedure similar to the one used in the procrastinating groups was employed. Late in the questionnaire packet, subjects were asked what they would have done if they had to make the $20 million allocation decision (see Appendix J).

**Dependent Measures**

**Resource Allocation**—The manner in which resources are allocated in the A & S case has been discussed previously. In addition, there was interest in whether a significant number of individuals would procrastinate or shift responsibility for the $20 million resource allocation decision.

**Commitment**—A number of difficulties associated with the study of commitment were addressed in an earlier section. Most of the studies which attempt to measure psychological as opposed to behavioral commitment use instruments which are designed for specific population, have small numbers of items, and have been used only once. A notable exception is the Organizational Commitment Questionnaire (OCQ) developed by Porter and his colleagues (see
Mowday, Steers, & Porter, 1979 for a review). Most of the available instruments measure commitment to jobs, work, or organizations.

The literature dealing with attitude measurement was surveyed to determine if an instrument measuring commitment to a course of action is available. Even extensive listings and critiques of measures of social psychological attitudes (e.g., Robinson & Shaver, 1978; Lake, Miles, & Earle, 1973) failed to provide information concerning commitment instruments. One possible reason for this lack of instruments is that much of the social psychology literature views commitment from a behavioral perspective.

Despite these constraints, items which measure commitment to the initially chosen division in the A & S paradigm were written. The items focus on the psychological attachment individuals feel towards their allocation decisions.

The questionnaire in Appendix K (labeled Questionnaire B) was used to measure the level of commitment subjects felt towards the initial funding decision they were required to make in the experiment. All items were measured on a 7-point scale except for items 1 and 13 which were dichotomous. Item 1 was included to see if subjects could recall the division they chose in Part I of the case.

**Bolstering Tactics**

**Thought Listing Questionnaire**

An unstructured "thought listing" approach was used to determine the extent to which subjects were using bolstering tactics. This questionnaire (labeled Questionnaire A) appears in Appendix L. As stated in the instructions, subjects were asked to list the thoughts
or information they considered to be important in making the decision about what to do with the additional $20 million. To reduce memory loss due to interference and the passage of time, Questionnaire A was the first one completed in the packet following the completion of Part II of the case.

After completing the thought listing, subjects were given additional instructions. They were asked to place a plus sign (+) or a minus sign (−) next to each of the thoughts based upon whether it had a positive or negative impact on their decision. That is, was the thought considered to be a positive or negative piece of information in making the decision? Following the completion of this task, subjects were permitted to complete the rest of the questionnaires uninterrupted.

Two undergraduate psychology majors were employed to rate the extent to which there was evidence in the thought listings that the six bolstering tactics described by Janis and Mann were utilized. The presence or absence of each of the tactics was rated. An overall 7-point rating of the extent to which bolstering tactics were utilized was also made. The total number of thoughts listed as well as the numbers of positive and negative thoughts were recorded.

The raters received two hours of training. The training involved discussions of bolstering and the six specific tactics as well as rating practice. Practice ratings were done by the two raters and the author on actual thought listings. Each person justified their ratings and any discrepancies were discussed. The raters were blind to the hypotheses of the study. A subsample of 39
subjects were rated by both judges in order to allow interrater agreement to be assessed.

**Bolstering Tactics Questionnaire**

The unstructured thought listing approach described above was selected because of the potential reactivity of a questionnaire dealing with this topic. Subjects might never have thought of these tactics prior to reading about them in a questionnaire. However, there was no way of knowing what the quality of the thought listing data would be before running the study. For this reason, a bolstering tactics questionnaire (labeled Questionnaire D) was written and is presented in Appendix M.

Based upon descriptions provided by Janis and Mann, at least one item was written to measure each of the six bolstering tactics. Specifically:

1) Exaggerating favorable consequences - Items 1 & 7.
2) Minimizing unfavorable consequences - Items 3, 4, 8, & 10.
3) Denying aversive feelings - Items 5 & 12
4) Exaggerating the remoteness of the action commitment - Item 6
5) Minimizing social surveillance - Item 9
6) Minimizing personal responsibility - Items 2 & 11

**Forthcoming Information Measures**—Seventeen titles of reports dealing with factors affecting the current and future performance of the two R & D divisions as well as various aspects of the A & S Company, were written to help test the hypotheses dealing with information preferences. On Questionnaire C in Appendix N, subjects were first asked to rate the desirability of the information
contained in each report using a 7-point scale. They were then asked
to rank the reports they would most like to receive in their role as
Financial Vice President. The questionnaire was accompanied by a
description of the goods and services provided by both divisions
(also presented in Appendix N). The description was reproduced from
Part I of the case so that subjects would know which division
provided the products mentioned in the report titles.

Three positive and three negative reports were written for both
the Consumer (positive: items 6, 7, 16; negative: items 3, 4, 13)
and Industrial (positive: items 1, 9, 11; negative: items 3, 4, 13)
Products divisions. Five report titles dealt with general A & S
company issues and were considered to be neutral (items 5, 8, 12, 14,
17).

It should be noted that the fictitious third decision was used
as a cover story to tell subjects when they would receive the reports
whose titles they ranked on Questionnaire C. Further, the list of
report titles lent credibility to the forthcoming information
manipulation.

**Manipulation Check Questionnaire**—The manipulation check
questionnaire (Questionnaire E) is presented in Appendix O. It was
important to know a) whether procrastinating and shifting
responsibility subjects knew that they had the option to withdraw
from the $20 million funding decision and b) whether recipients of
forthcoming information realized and could recall that they had
received this information.
It was desired that the manipulation checks be somewhat conservative. For this reason, the initial items dealing with courses of action (item 1) and with forthcoming information (item 3) were purposely written to be general. In addition, open-ended follow-up items were employed instead of perhaps true-false or Likert scale items.

Early in the data collection, subjects (30%) completed the manipulation check items immediately following the thought listing questionnaire. When it was determined that the manipulations were effective, the remainder of the participants completed Questionnaire E immediately prior to the final questionnaire (Questionnaire F, the post-questionnaire).

Post-Questionnaire—The items on the post-questionnaire presented in Appendix P were written with three main purposes in mind. The goal of items 1 ("initial allocation affected my future allocation") and 3 ("confident that Part II decision was optimal") was to gain further insight into the decision behavior of subjects. A second group of items (2: "understood financial information," 8: "believed would receive reports," 9: "understood tables," 10: "case seemed realistic," 11: "enjoyed the role," 12: "understood the vocabulary") was written to assess reactions to the case materials. It was expected that all of the means for these items would be relatively high, and not differ significantly across the experimental conditions. There was no systematic reason to expect individuals in the various groups to differ in their attitudes towards the case materials for example. Group membership was assigned randomly.
A final set of items (4: "V.P. of R & D was described," 5: "V.P. of R & D could make better decision than me," 6: "V.P. of R & D was financial expert," 7: "didn't respect V.P. of R & D") was primarily directed at subjects in the shifting responsibility conditions. It was hoped that attitudes towards the Research and Development Vice-President would help to explain why some of these subjects withdrew from the second decision and others did not.
RESULTS

Manipulation Checks

The items on Questionnaire E, the manipulation check questionnaire were used to assess the extent to which subjects recalled the conditions present during the decision case. Table 1 provides the frequency of subjects in each of the three courses of action conditions who felt that they were or were not personally required to allocate the $20 million during Part II of the case. Bolstering subjects were expected to respond "yes," while procrastinating and shifting responsibility subjects were expected to respond "no." A significant overall effect, $\chi^2(4) = 67.74$, $p < .001$ indicates that there are statistical differences among the cell frequencies in the table.

A nonparametric contrast test (Marascuilo & McSweeney, 1977) was employed to determine whether the frequency of "yes" and "no" responses differed significantly within each condition. This statistic involves the calculation of a confidence interval. A difference is statistically significant if zero does not fall within the interval. The rationale here is that zero in the interval indicates that it is plausible for no difference to exist between the frequencies. The test was calculated only for the procrastinating subjects because they had the smallest difference between the
frequencies in the two cells of interest. A significant difference $p < .05$ was found to exist. By deduction, the differences for the other two groups were also statistically significant. All three differences were in the correct direction.

Table 1

<table>
<thead>
<tr>
<th>Courses of Action</th>
<th>Yes</th>
<th>No</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolstering</td>
<td>34</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Procrastinating</td>
<td>7</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>Shifting Responsibility</td>
<td>5</td>
<td>34</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>46</td>
<td>66</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 2 summarizes the results of the forthcoming information manipulation check. Specifically, the frequencies of responses to the item asking whether or not detailed reports were described in Part II of the case are reported. A significant chi square value, $\chi^2(2) = 40.27$, $p < .001$, was calculated for the overall response frequencies. The frequencies of "yes" and "no" responses were in the correct direction for both the forthcoming and no forthcoming information groups. However, while these values were significantly different from each other for the latter group, $p < .05$, the difference was not significant for the former group.
Table 2
Response Frequencies for Presence of "Detailed Reports" Description in Part II of Case

<table>
<thead>
<tr>
<th>Forthcoming Information</th>
<th>Response</th>
<th>Questionnaire Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Early</td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>53</td>
<td>20</td>
</tr>
<tr>
<td>Don't Know</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>33</td>
<td>15</td>
</tr>
<tr>
<td>No</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>Don't Know</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

As discussed in the Method section, the manipulation check questionnaire was presented early in the questionnaire packet for some subjects and later in the packet for the bulk of participants. It was reasoned that the lack of a significant difference for the forthcoming information group could be due to poor recall of the case materials by subjects who completed the questionnaire near the very end of the study. The passage of time as well as interference resulting from the completion of the other questionnaires may have caused this poor recall.

Table 2 also provides a partitioning of the overall data by early and later placement of Questionnaire E. Significant overall differences among the cell frequencies were found for both the early, $\chi^2(1) = 21.21, p < .001$, and later $\chi^2(2) = 19.51, p < .001$ subjects.
However, the frequency of "yes" and "no" responses differed significantly for the early responding forthcoming information recipients, $p < .05$ and not for the comparable later responding individuals.

These findings support the idea that the lack of an overall difference for forthcoming information recipients was due to poor recall as opposed to an ineffective manipulation. Perhaps items requiring recognition instead of recall would have been more appropriate. Further, the purposely vague wording of the question may have also contributed to the frequency of incorrect responses.

Appendix Q contains data on the quality of the open-ended responses to the four follow-up manipulation check questions. Only subjects who responded correctly to the preceding personal responsibility item (i.e., "yes" for bolstering subjects and "no" for procrastinating and shifting responsibility subjects) were included in the analysis for item 2 (What else do with money?). On a qualitative level, response quality was quite good for procrastinating and shifting responsibility subjects. Of course, no response was expected from bolstering subjects. The table also summarizes the response quality for items 4 (Who prepares reports?), 5 (Type of information in reports?), and 6 (Opportunity to receive information?). Only subjects who correctly responded to the preceding "detailed reports" item were included in the analysis. In this case, no responses were expected from "no forthcoming information" subjects. Separate tables for early and later placement of the questionnaire were not presented because the data for these
two groupings were very comparable across all three items.

**Tests of Hypotheses**

**Hypothesis 1: Replication of Previous Findings**

Hypothesis 1 predicted that the bolstering/no forthcoming group would invest significantly more resources in the initially chosen division than the positive feedback comparison group. This hypothesis represented an attempt to replicate findings of Staw's (1976) study.

A one-way Analysis of Variance (ANOVA) comparing both bolstering groups (recipients and nonrecipients of forthcoming information) and the positive feedback comparison group was performed. Of greatest interest was the comparison of the bolstering/no forthcoming information group and the positive feedback group, since these groups were identical to those in previous research. None of these means were found to differ significantly from each other. Thus, Staw's findings were not replicated and Hypothesis 1 was not supported.

**Hypotheses 2 & 3: Conflict Model and Forthcoming Information**

Hypothesis 2 predicted an interaction to occur as a result of allocations in the bolstering/no forthcoming information group being significantly higher than the other five cells of interest. Hypothesis 3 stated that forthcoming information recipients were expected to invest significantly fewer resources in their previously chosen divisions than nonrecipients. A 2 X 3 (forthcoming information X courses of action) ANOVA using resource allocations as the dependent variable was conducted to test these hypotheses. Neither Hypothesis 2 nor Hypothesis 3 were supported since none of
the means were found to differ significantly from each other.

Table 3 contains the mean dollar amounts allocated by each treatment group to a previously chosen A & S division.

Table 3

Mean Resource Allocations (Millions of Dollars) to Previously Chosen A & S Division

<table>
<thead>
<tr>
<th>Courses of Action</th>
<th>Bolstering</th>
<th>Procrastinating</th>
<th>Shifting Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Forthcoming Information</td>
<td>11.75</td>
<td>10.85</td>
<td>11.85</td>
</tr>
<tr>
<td>Yes Forthcoming Information</td>
<td>12.05</td>
<td>12.39</td>
<td>12.25</td>
</tr>
<tr>
<td>11.90</td>
<td>11.62</td>
<td>12.05</td>
<td>11.86</td>
</tr>
</tbody>
</table>

Hypothesis 4: Withdrawal from the Allocation Decision

Hypotheses 4a and 4b respectively predicted that a significant number of subjects would withdraw from the second allocation decision in both the procrastinating (i.e., postponement) and shifting responsibility (i.e., give decision to R & D V.P.) groups. Table 4 contains the frequencies with which procrastinating and shifting responsibility subjects withdrew from the $20 million funding decision. For the procrastinating subjects, a significant chi square $\chi^2(1) = 17.00, p < .001$ value was obtained. However, the data were not consistent with the predictions, since only 7 out of the 40 subjects
actually procrastinated. While withdrawal was more common in the shifting responsibility conditions, a chi square test showed this behavior to be too infrequent to achieve statistical significance. Thus, neither Hypothesis 4a nor 4b were supported by the data.

Table 4

Frequencies and Mean Allocation for Withdrawal from Second Funding Decision

<table>
<thead>
<tr>
<th>Withdrawal Type</th>
<th>Forthcoming Information</th>
<th>Withdrawal</th>
<th>Frequency</th>
<th>Mean (in millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procrastinating</td>
<td>No</td>
<td>No</td>
<td>17</td>
<td>11.00</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>3</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>16</td>
<td>12.05</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>4</td>
<td>13.75</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>12</td>
<td>12.67</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>8</td>
<td>10.63</td>
</tr>
<tr>
<td>Shifting</td>
<td>No</td>
<td>No</td>
<td>9</td>
<td>13.00</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Yes</td>
<td>Yes</td>
<td>11</td>
<td>11.64</td>
</tr>
</tbody>
</table>

Table 4 also contains the mean resource allocations for the procrastinating and shifting responsibility conditions broken out by whether or not subjects withdrew from the second funding decision. It was reasoned that mean allocations might differ based upon the withdrawal variable for two reasons. First, subjects who chose to procrastinate or to shift responsibility for the decision made their
actual allocations later on in the study than other subjects.
Second, it seemed plausible that having previously withdrawn from a
decision might impact on decision behavior (with regard to that
decision) in the future.

Based upon the above logic, two further analyses were conducted.
A t-test was performed comparing the mean allocations for subjects
who withdrew and did not withdraw from the second decision. The
2 X 3 ANOVA described earlier to test Hypotheses 2 and 3 was
repeated with subjects who withdrew from the second decision being
excluded from the analysis (resulting in N = 94). None of the means
in either analysis were found to be statistically different from each
other.

Properties of the Commitment Measure

Item 1 was included on the commitment questionnaire as a test of
whether subjects were able to recall which division they chose to
fund during the initial allocation decision. It was important to
have this information prior to conducting analyses concerning
commitment to the initially chosen division. Recall was quite good,
with 134 of the 140 subjects correctly remembering their decision.

Before conducting tests of Hypothesis 5 concerning commitment,
the properties of the commitment instrument (see Appendix K) were
assessed. Appendix R contains the correlations among the thirteen
Likert scale items from Questionnaire B, which was written to measure
commitment to the initially chosen A & S division. A principal axis
factor analysis (Rummell, 1970) was performed using the squared
multiple correlation (SMC) of each variable as the communality
estimates. An oblique rotation (PROMAX; SAS Institute, 1982) was employed. The discontinuity method (i.e., scree or eigenvalue plot) was used to arrive at a three factor solution.

The loadings for the rotated factor pattern matrix are provided in Table 5. Factors I, II, and III respectively accounted for 72.5, 21.1, 10.6 percent of the common variance. Factor I was correlated 0.39 with Factor II and 0.51 with Factor III. The correlations between Factors II and III was 0.51.

In addition to exhibiting good simple structure, the rotated solution was interpretable. Each of the three factors had moderate to high loadings on a number of the commitment items. Factor I loaded on items 4, 6, 7, 9, and 15 and was named "Correctness of Initial Choice." Items 4 ("initial choice was correct one") and 15 ("difficult to persuade me to change decision") focus on cognitive aspects of believing that the right division had been chosen. Items 6 ("willing to give a short speech") and 9 ("recommend initial choice to others") are behavioral indicators of the correctness of the initial choice.

Factor II loaded on items 3 ("strong sense of loyalty"), 11 ("stick with choice no matter what"), 12 ("would feel guilty if abandoned funding"), and 14 ("whether or not succeed says something about me"). Each of these items focus on loyalty, attachment, or perhaps faith in the chosen division. Consequently, this factor was named "Loyalty to Initial Choice."
<table>
<thead>
<tr>
<th>Item</th>
<th>Factor I (Correctness)</th>
<th>Factor II (Loyalty)</th>
<th>Factor III (Success)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (Care about success)</td>
<td>20</td>
<td>05</td>
<td>49</td>
</tr>
<tr>
<td>3 (Strong loyalty)</td>
<td>17</td>
<td>48</td>
<td>19</td>
</tr>
<tr>
<td>4 (Initial choice was correct)</td>
<td>79</td>
<td>06</td>
<td>-12</td>
</tr>
<tr>
<td>5 (Others do same as me)</td>
<td>14</td>
<td>03</td>
<td>16</td>
</tr>
<tr>
<td>6 (Give short speech)</td>
<td>40</td>
<td>-25</td>
<td>17</td>
</tr>
<tr>
<td>7 (Best choice available)</td>
<td>76</td>
<td>-12</td>
<td>-03</td>
</tr>
<tr>
<td>8 (Sense of Pride)</td>
<td>-06</td>
<td>-03</td>
<td>69</td>
</tr>
<tr>
<td>9 (Recommend initial choice)</td>
<td>46</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>10 (Personal responsibility)</td>
<td>00</td>
<td>06</td>
<td>64</td>
</tr>
<tr>
<td>11 (Stick with choice)</td>
<td>-03</td>
<td>77</td>
<td>-07</td>
</tr>
<tr>
<td>12 (Guilty if abandoned)</td>
<td>-18</td>
<td>73</td>
<td>-00</td>
</tr>
<tr>
<td>14 (Success reflects on me)</td>
<td>14</td>
<td>39</td>
<td>17</td>
</tr>
<tr>
<td>15 (Difficult to persuade change)</td>
<td>55</td>
<td>20</td>
<td>08</td>
</tr>
</tbody>
</table>
Finally, Factor III loaded on items 2 ("really care about financial success"), 8 ("financial success would cause me to feel proud"), and 10 ("feel personally responsible for success or failure"). This factor was named "Success of Initial Choice." It should be noted that item 5 was the only question which did not have a moderate to high loading on one of the three commitment factors.

A composite variable was created for each of the factors by computing the mean ratings for the items which loaded on the factors. The Chronbach alpha values for the composites representing Factors I-III were 0.74, 0.73, and 0.83, respectively. Another approach would have been to compute common factor scores for each of the three factors. However, none of the three major statistical computer packages (i.e., SAS, BMDF, SPSS) compute factor scores using an approach which is appropriate for the application of producing dependent variables to be used in ANOVA analyses.

Hypothesis 5: Commitment

Hypothesis 5 predicted that commitment levels for the comparison group would be significantly greater than the levels for the other six groups in the design.

In order to test this hypothesis, the mean values for the three composite commitment variables were each used as dependent variables in two separate analyses. One-way ANOVA's with the seven experimental conditions as the levels of the independent variable were computed along with 2 X 3 (forthcoming information X courses of action) ANOVA's. This approach was taken due to the unbalanced seven cell design. None of the mean differences in any of the six ANOVA's
were found to be statistically significant. No evidence of support for Hypothesis 5 was found. Table 6 contains the mean ratings for each of the three composite variables.

Table 6
Mean Ratings for Composite Commitment Variables

<table>
<thead>
<tr>
<th>Courses of Action</th>
<th>Forthcoming Information</th>
<th>Composite Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Correctness Loyalty Success</td>
</tr>
<tr>
<td>Bolstering</td>
<td>No</td>
<td>4.84 4.16 5.68</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>4.67 3.89 5.85</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>4.64 4.25 5.88</td>
</tr>
<tr>
<td>Procrastinating</td>
<td>Yes</td>
<td>4.86 4.35 5.68</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>4.73 3.88 6.10</td>
</tr>
<tr>
<td>Shifting Responsibility</td>
<td>Yes</td>
<td>4.90 4.63 5.92</td>
</tr>
<tr>
<td>Positive Feedback Comparison</td>
<td></td>
<td>5.22 4.65 6.00</td>
</tr>
</tbody>
</table>

**Bolstering Tactic Usage**

**Hypothesis 6: Thought Listing Data**

Hypothesis 6 predicted that the bolstering/no forthcoming information group would utilize the six bolstering tactics more than subjects in the other experimental groups. However, prior to discussing the outcomes of the specific subhypotheses, the results of a reliability analysis for the thought listing data are reported. Specifically, analyses were conducted to assess the interrater
agreement between the two judges who content analyzed the thought listing data from Questionnaire A (see Appendix L). The data for a subsample of 39 subjects were coded by both individuals. The judges' ratings on four continuous variables were correlated: a) Number of thoughts listed \( (r = 1.00) \), b) Number of positive thoughts \( (r = 1.00) \), c) Number of negative thoughts \( (r = 0.99) \), and d) Overall 7-point Likert scale rating of the extent to which bolstering tactics were utilized \( (r = 0.92) \).

Dichotomous ratings of whether or not each of the six bolstering tactics were utilized were also collected. Because of a lack of variance in the data (i.e., several of the tactics occurred very infrequently or not at all), interrater reliability was assessed for each variable by calculating the percentage of the 39 cases on which the judges' ratings agreed. The percentage agreement for bolstering tactics 1-6 were 82.05, 82.05, 97.44, 92.31, 100.00, and 100.00, respectively. It was concluded that interrater agreement for these data was quite good.

Hypotheses 6a-6c predicted forthcoming information X courses of action interactions when the number of thoughts listed, frequency of occurrence of each of the six dichotomously rated bolstering tactics, and the 7-point bolstering tactics usage rating were used as dependent variables.

Two 2 X 3 ANOVA's were computed using the numbers of total thoughts listed, as well as the overall 7-point tactic usage rating as the dependent variables, in order to test Hypotheses 6a and 6c. None of the differences in either of the analyses were found to be
statistically significant. Thus, neither of these subhypotheses were supported. The grand means for these two variables were 5.01 (total number) and 2.32 (7-point rating).

Hypothesis 6b (concerning the dichotomously rated tactics) was investigated next. The overall frequencies of occurrence for bolstering tactics 1-6 across the six experimental conditions (N = 120) were 52, 23, 0, 5, 0, and 21, respectively. Tactic 1 (exaggerating favorable consequences) was the only one of these variables with sufficient data across the cells in the design to warrant doing a 2 X 3 ANOVA. Table 7 contains the results of this analysis. A significant forthcoming information X courses of action interaction, $F(2,114) = 3.64$, $p < .05$ was observed. The graph of this interaction is presented in Figure 2. The means for the Tactic 1 ratings as well as the frequencies of subjects who were judged to use the tactic are presented in Table 8.

Table 7
ANOVA Summary Table for "Exaggerating Favorable Consequences" (Tactic 1) Thought Listing Data

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forthcoming Information</td>
<td>1</td>
<td>0.13</td>
<td>0.57</td>
</tr>
<tr>
<td>Courses of Action</td>
<td>2</td>
<td>0.36</td>
<td>1.52</td>
</tr>
<tr>
<td>Forthcoming Information X Courses of Action</td>
<td>2</td>
<td>0.86</td>
<td>3.64*</td>
</tr>
<tr>
<td>Error</td>
<td>114</td>
<td>0.24</td>
<td></td>
</tr>
</tbody>
</table>

$p < .05$
Figure 2. Forthcoming Information X Courses of Action Interaction with Tactic 1 Usage as the Dependent Variable
Table 8  
Thought Listing Means and Frequencies for "Exaggerating Favorable Consequences" (Tactic 1)

<table>
<thead>
<tr>
<th>Courses of Action</th>
<th>Forthcoming Information</th>
<th>Mean</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolstering</td>
<td>No</td>
<td>.70</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>.30</td>
<td>6</td>
</tr>
<tr>
<td>Procrastinating</td>
<td>Yes</td>
<td>.50</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>.45</td>
<td>9</td>
</tr>
<tr>
<td>Shifting Responsibility</td>
<td>Yes</td>
<td>.40</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>.25</td>
<td>5</td>
</tr>
</tbody>
</table>

An LSD (Least Significant Difference) post-hoc test showed that the interaction was due to the two bolstering values being significantly different $p < .05$ from each other. Neither of the pairs of means for procrastinating and shifting responsibility subjects differed significantly from each other across the levels of the forthcoming information variable. Further, the mean for the bolstering/no forthcoming information group was significantly greater, $p < .05$ than all of the other means. None of these other means differed significantly from each other.

The frequency data for Tactic 6 (Minimizing personal responsibility) showed the equivalent of a courses of action main effect. That is, the nonparametric contrast test employed previously showed the frequency of shifting responsibility subjects who were
judged to utilize this tactic \( n = 19 \) to be significantly greater than the frequencies for the bolstering \( n = 0 \) and procrastinating \( n = 2 \) groups. The frequencies for these latter two groups did not differ significantly from each other.

Hypothesis 6b received minimal support as a result of the observed interaction for bolstering tactic 1 (Exaggerating favorable consequences). However, the hypothesized interaction was not observed for the other five bolstering tactics.

**Properties of Bolstering Tactics Questionnaire (D)**

Appendix S contains the correlations among the twelve items from Questionnaire D (see Appendix M) written to measure the extent to which subjects utilized Janis and Mann's six bolstering tactics. The matrix was examined to determine whether items measuring the same tactics were sufficiently correlated to be combined as a composite variable (equal to the mean of the individual items). Based upon this analysis, four composites were formed:

a) The two items \((1 & 7)\) measuring "Exaggerating favorable consequences" (Tactic 1) were combined.

b) Two of the four items \((4 & 8)\) measuring "Minimizing unfavorable consequences" (Tactic 2) were combined.

c) The two items \((2 & 11)\) measuring "Minimizing personal responsibility" (Tactic 6) were combined. Recall that "Exaggerating the remoteness of the action commitment" (Tactic 4) and "Minimizing social surveillance" (Tactic 5) were both measured by one item \((6 & 9)\) respectively.
The bolstering tactic questionnaire data was subjected to a principal axis factor analysis to see if the above groupings of variables would be upheld. The SMC for each variable served as the communality estimates. An oblique (PROMAX) rotation was employed. The discontinuity method as well as the interpretability of the data were the criteria employed to arrive at a five factor solution.

The loadings for the rotated factor pattern matrix are also presented in Appendix S. The intercorrelations among the factors ranged from a high of 0.39 (Factors II & III) to a low of 0.15 (Factors III & IV). The percentage of common variance accounted for by the factors ranged from 57.9 to 9.1.

While all of the factors were not fully interpretable, the analysis generally agrees with the a priori groupings. Factor I loaded most highly on the items (4 & 8) combined from Tactic 2. While Factor II loaded highly on the items measuring Tactic 1 (1 & 7), a high loading for an item (3) measuring Tactic 2 was also obtained. Factor III loaded most highly on the items (6 & 9) measuring Tactics 4 and 5 as well as the final item (10) from Tactic 2. Factor IV loaded most highly on the two items (2 & 11) measuring Tactic 6. Factor V loaded most highly on the two items (5 & 12) for Tactic 3.

Hypothesis 6d: Bolstering Tactics Questionnaire

Similar to Hypotheses 6a to 6c, Hypothesis 6d predicted an interaction when dependent measures derived from the Bolstering Tactics Questionnaire were used in ANOVA analyses.
As a result of the above work, six 2 x 3 ANOVA's were conducted using the four composite variables and the individual items measuring Tactics 4 and 5 as the dependent variables. Table 9 shows the results of the ANOVA's for the bolstering tactic composite variables. A significant main effect was observed for the courses of action independent variable, \( F(2,114) = 3.70, p < .05 \) using the Tactic 1 composite as the dependent measure. Post-hoc Newman-Keuls indicated that the effect was due to the mean for procrastinating subjects being significantly greater, \( p < .05 \) than the means for the procrastinating and shifting responsibility conditions. These latter two groups did not differ significantly from each other. The means for the Tactic 1 composite as well as for the other analyses are presented in Table 10.

A significant main effect was observed for the forthcoming information independent variable, \( F(1,114) = 5.64, p < .05 \), using the Tactic 3 composite as the dependent variable. A significant main effect for the courses of action factor, \( F(2,114) = 3.65, p < .05 \), was observed when the dependent measure was the Tactic 6 composite. Newman-Keuls post-hoc tests were employed to reveal that the effect was due to the shifting responsibility mean being significantly greater, \( p < .05 \), than the means for the bolstering and procrastinating groups. These latter two means did not differ significantly from each other.
Table 9
ANOVA Summary Tables for Bolstering Tactic Questionnaire Composites

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactic 1 Composite</td>
<td>Forthcoming Information</td>
<td>1</td>
<td>0.13</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>Courses of Action</td>
<td>2</td>
<td>5.85</td>
<td>3.70*</td>
</tr>
<tr>
<td></td>
<td>Forth. X Courses</td>
<td>2</td>
<td>1.28</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>114</td>
<td>1.58</td>
<td></td>
</tr>
<tr>
<td>Tactic 3 Composite</td>
<td>Forthcoming Information</td>
<td>1</td>
<td>7.01</td>
<td>5.64*</td>
</tr>
<tr>
<td>(Denying Aversive</td>
<td>Courses of Action</td>
<td>2</td>
<td>0.20</td>
<td>0.16</td>
</tr>
<tr>
<td>Feelings)</td>
<td>Forth. X Courses</td>
<td>2</td>
<td>1.75</td>
<td>1.41</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>114</td>
<td>1.24</td>
<td></td>
</tr>
<tr>
<td>Tactic 6 Composite</td>
<td>Forthcoming Information</td>
<td>1</td>
<td>2.13</td>
<td>1.12</td>
</tr>
<tr>
<td>(Minimizing Personal Responsibility)</td>
<td>Courses of Action</td>
<td>2</td>
<td>6.93</td>
<td>3.65*</td>
</tr>
<tr>
<td></td>
<td>Forth. X Courses</td>
<td>2</td>
<td>3.03</td>
<td>1.59</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>114</td>
<td>1.90</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
Table 10
Bolstering Tactic Questionnaire Composite Variable Means

<table>
<thead>
<tr>
<th>Courses of Action</th>
<th>Forthcoming Information</th>
<th>Tactic 1</th>
<th>Tactic 2</th>
<th>Tactic 3</th>
<th>Tactic 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolstering</td>
<td>No</td>
<td>5.05</td>
<td>2.83</td>
<td>3.85</td>
<td>2.78</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>4.68</td>
<td>3.28</td>
<td>3.85</td>
<td>2.50</td>
</tr>
<tr>
<td>Procrastinating</td>
<td>No</td>
<td>5.60</td>
<td>3.30</td>
<td>4.35</td>
<td>2.58</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>5.45</td>
<td>2.80</td>
<td>3.63</td>
<td>2.83</td>
</tr>
<tr>
<td>Shifting Responsibility</td>
<td>Yes</td>
<td>5.03</td>
<td>3.45</td>
<td>3.53</td>
<td>3.80</td>
</tr>
</tbody>
</table>

No significant main effects or interactions were observed in the 2 X 3 ANOVA's using the Tactic 2 composite, item 6 (Tactic 4), and item 9 (Tactic 5) as dependent variables. Table 10 also contains the means for the Tactic 2 composite. The reported findings did not support the bolstering tactics hypothesis (6d) for the questionnaire data.

Hypothesis 7: Information Preferences in the Conflict Model

The types of information preferred by subjects were expected to differ across the three levels of the courses of action variable. Subhypotheses 7a through 7f were addressed by analyzing the report title rating and ranking data (see Appendix N), as well as through further analysis of the thought listing data. Recall that in
addition to providing further evidence as to whether the three courses of action were observed in the present study, these hypotheses provided a test of an aspect of the Conflict Model which had not previously been empirically studied.

Hypotheses 7a & 7c: Ratings of Report Titles

Hypothesis 7a predicted the equivalent of a forthcoming information X courses of action interaction when ratings of positive information concerning the subjects' preferred division was the dependent variable. The term "equivalent" was used because in the context of the repeated measures ANOVA utilized to analyze this data, a three-way interaction (report type X forthcoming information X courses of action) was the anticipated finding. That is, the two-way interaction patterns were expected to vary across the three types of reports.

Hypothesis 7c predicted the ratings of positive information to be significantly higher than ratings for either negative or neutral information concerning the same division. The repeated measures design allowed for a direct test of this hypothesis. A main effect for the type of report was the expected result.

Three dependent variables were calculated from the report title ratings collected on Questionnaire C. These variables were a) positive report titles and b) negative report titles concerning each subject's preferred A & S division, as well as c) mean ratings for the neutral report titles concerning the A & S company.

Instead of performing separate 2 X 3 ANOVA's for each of the three dependent variables, a more efficient 2 X 3 X (3) repeated measures ANOVA was employed using the "type of report being rated"
(i.e., positive, negative, neutral) as the repeated factor. The results of this analysis are presented in Table 11. A significant main effect for the report type repeated factor, $F(2,228) = 29.89$, $p < .001$ was observed. Post-hoc Newman-Keuls tests (Myers, 1979) revealed that the main effect was due to the mean for the positive report titles ratings being significantly greater, $p < .05$, than the mean ratings for the negative and neutral reports. The latter two means did not differ statistically from each other. No other significant main effects or interactions were observed.

Table 11

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forthcoming Information</td>
<td>1</td>
<td>.010</td>
<td>0.01</td>
</tr>
<tr>
<td>Courses of Action</td>
<td>2</td>
<td>.617</td>
<td>0.38</td>
</tr>
<tr>
<td>Forth. X Courses</td>
<td>2</td>
<td>.502</td>
<td>0.31</td>
</tr>
<tr>
<td>Error</td>
<td>14</td>
<td>1.621</td>
<td></td>
</tr>
<tr>
<td>Report Type</td>
<td>2</td>
<td>42.809</td>
<td>29.89*</td>
</tr>
<tr>
<td>Type X Forth.</td>
<td>2</td>
<td>0.146</td>
<td>0.10</td>
</tr>
<tr>
<td>Type X Courses</td>
<td>4</td>
<td>0.543</td>
<td>0.38</td>
</tr>
<tr>
<td>Type X Forth. X Courses</td>
<td>4</td>
<td>0.648</td>
<td>0.45</td>
</tr>
<tr>
<td>Error</td>
<td>228</td>
<td>1.432</td>
<td></td>
</tr>
</tbody>
</table>

* $p < .001$
The mean values for the positive, negative, and neutral report titles are presented in Table 12.

Table 12
Mean Report Title Ratings

<table>
<thead>
<tr>
<th>Courses of Action</th>
<th>Forthcoming Information</th>
<th>Report Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Bolstering</td>
<td>No</td>
<td>6.07</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>5.65</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>6.03</td>
</tr>
<tr>
<td>Procrastinating</td>
<td>Yes</td>
<td>5.95</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>5.82</td>
</tr>
<tr>
<td>Shifting Responsibility</td>
<td>Yes</td>
<td>6.05</td>
</tr>
</tbody>
</table>

Hypotheses 7b & 7d: Ranking of Report Titles

A weighting system was devised to assess the extent to which subjects ranked the positive and negative reports concerning their preferred division, as well as the neutral reports. The ranking scale was reversed such that reports receiving ranks of 1, 2, 3, 4, and 5 were given weights of 5, 4, 3, 2, and 1, respectively. Thus, more highly ranked reports were given greater emphasis. The weight values were summed separately for each of the report types to form three new dependent variables. Recall that there were five neutral report titles and only three positive and three negative report
titles concerning each A & S division. The summed weight values for
the neutral reports were multiplied by 0.6 to make all three
dependent variables comparable.

Instead of performing separate 2 X 3 ANOVA's for each of the
three dependent variables, a 2 X 3X(3) ANOVA was computed using the
"type of report being ranked" as the repeated factor. The repeated
measures design was employed here using the same logic as for the
report rating data.

Hypothesis 7b predicted the equivalent of a forthcoming
information X courses of action interaction when rankings of positive
information concerning the subjects' preferred division was the
dependent variable. This prediction was again comparable to a three-
way interaction in the repeated measures design. Hypothesis 7d
predicted overall rankings of positive information to be higher than
rankings of negative or neutral information.

As was the case for the report title rating data, Table 13 shows
that a significant main effect for the report type repeated factor,
F(2,228) = 29.84, p < .001 was observed. Post-hoc Newman-Keuls tests
revealed the mean weighted value for the positive report titles to be
significantly greater, p < .05 than the mean for the negative
reports, which was in turn significantly greater than the neutral
report title mean. No other significant main effects or interactions
were observed. Table 14 contains the mean weighted rank values for
the positive, negative, and neutral report titles, respectively.
Table 13
ANOVA Summary Table for Report Title Rankings

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forthcoming Information</td>
<td>1</td>
<td>0.114</td>
<td>0.03</td>
</tr>
<tr>
<td>Courses of Action</td>
<td>2</td>
<td>6.368</td>
<td>1.41</td>
</tr>
<tr>
<td>Forth. X Courses</td>
<td>2</td>
<td>3.781</td>
<td>0.84</td>
</tr>
<tr>
<td>Error</td>
<td>114</td>
<td>4.524</td>
<td></td>
</tr>
<tr>
<td>Report Type</td>
<td>2</td>
<td>293.144</td>
<td>29.84*</td>
</tr>
<tr>
<td>Type X Forth.</td>
<td>2</td>
<td>10.920</td>
<td>1.11</td>
</tr>
<tr>
<td>Type X Courses</td>
<td>4</td>
<td>1.098</td>
<td>0.11</td>
</tr>
<tr>
<td>Type X Forth. X Courses</td>
<td>4</td>
<td>1.802</td>
<td>0.18</td>
</tr>
<tr>
<td>Error</td>
<td>228</td>
<td>9.825</td>
<td></td>
</tr>
</tbody>
</table>

*p < .001
Table 14

Mean Report Title Rankings

<table>
<thead>
<tr>
<th>Courses of Action</th>
<th>Forthcoming Information</th>
<th>Report Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Bolstering</td>
<td>No</td>
<td>4.65</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>4.15</td>
</tr>
<tr>
<td>Procrastinating</td>
<td>No</td>
<td>5.15</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>4.85</td>
</tr>
<tr>
<td>Shifting Responsibility</td>
<td>No</td>
<td>5.05</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>4.15</td>
</tr>
</tbody>
</table>
As stated previously, two additional hypotheses concerning the usage of positive and negative information were tested using the thought listing data. Hypothesis 7e predicted a forthcoming information X courses of action interaction when the number of positive thoughts listed was the dependent measure. A 2 X 3 ANOVA showed that none of the means across conditions differed significantly from each other. Thus, Hypothesis 7e was not supported.

Hypothesis 7f predicted that across the six conditions in the crossed design, more positive than negative thoughts would be listed. A t-test showed that as expected, the mean number of positive thoughts listed (3.54) was significantly greater, t(119) = 12.11, p < .001 than the mean for the negative thoughts (1.33). Hypothesis 7f was supported.

When the results of rating, ranking, and thought listing data are taken together, there was strong support for the hypothesized overall preference of positive information as compared to negative information. However, data from the same three sources yielded no evidence to support the idea that bolstering/no forthcoming information subjects emphasized positive information significantly more than other subjects in the study.

**Post-Questionnaire**

As discussed in the Method section, Questionnaire F (see Appendix P) was administered to subjects in order to assess reactions to the task itself, to gain some additional information concerning decision behavior and to assess attitudes towards the Vice-President
The first issue of interest was whether or not the seven groups in the study were equivalent on the task reaction and decision behavior questions. Recall that in addition to having comparable means, ratings for the groups were expected to be relatively high.

One-way ANOVA's with the seven experimental conditions as the levels of the independent variable as well as 2 X 3 ANOVA's were computed using items 1 ("initial allocation affected by future allocation," $\bar{x} = 4.96$), 2 ("understood financial information," $\bar{x} = 5.45$), 3 ("confident that Part II decision was optimal," $\bar{x} = 5.49$), 8 ("believed would receive reports," $\bar{x} = 5.14$), 9 ("understood tables," $\bar{x} = 5.76$), 10 ("case seemed realistic," $\bar{x} = 5.18$), 11 ("enjoyed the role," $\bar{x} = 5.16$), and 12 ("understood vocabulary," $\bar{x} = 5.83$) from the post-questionnaire as the dependent variables. No significant differences were found to exist in any of the analyses. The numbers within the above parentheses are the grand means for each item. It should be noted that none of the means on the eight items for any of the groups were below the scale midpoint.

For the four items concerning the Research and Development Vice-President, (4: "was described," 5: "could make better allocation decision than me," 6: "financial expert," 7: "didn't respect"), t-tests were computed to compare the mean ratings of subjects who shifted responsibility for the second funding decision and those who did not. A significant difference, $t(38) = 5.01$, $p < .001$ was found between the means on item 5 for these groups (withdraw = 5.74; didn't withdraw = 2.76). No differences were observed between the means for
the other three items.

**Correlations Among Major Dependent Variables**

Correlations among the major dependent variables in the present study were computed. These values are presented in Table 19 of Appendix T.
DISCUSSION

This chapter is divided into several sections. The first section presents interpretations of the findings with regard to the Hypotheses. While some limitations of the study and directions for future research were incorporated into the first section, the second section will address these issues in a more formal manner. In the final section, concluding remarks are presented.

Interpretation of Findings

Resource Allocation Hypotheses

Hypotheses 1-3 dealt with the predictions concerning the allocation of resources to the initially chosen division. Specifically, the bolstering/no forthcoming information group was expected to allocate significantly more resources than the positive feedback comparison group (Hypothesis 1) as well as the other five groups in the study (Hypothesis 2). Hypothesis 3 predicted a main effect for the forthcoming information variable. As stated in the Results chapter, none of these relationships were found to exist.

Perhaps the most surprising of these results was the inability to replicate the finding of a significant difference between the allocations of the bolstering/no forthcoming information group and the comparison group. This latter group was of course not expected to exhibit behavior which could be interpreted as escalating
commitment. The lack of a replication of Staw's (1976) findings will be addressed first.

Nonreplication of Previous Findings

There are least three possible reasons for the lack of replication. First, it could be argued that experimental conditions were not precisely replicated. Further, a different subject population than was used in the previous study of interest was employed in the present investigation. Staw used business students and this study used psychology students.

This explanation is highly unlikely. Great care was taken to make as few changes in the case materials as possible. Pretesting was done to ensure that subjects understood these materials. Data were collected in a controlled environment. Finally, data from the post-questionnaire indicated that subjects from all groups in the study tended to understand the financial information and the vocabulary, enjoyed playing the role, felt the case seemed realistic, and that they had made an optimal decision.

A second possible explanation was that subjects in the comparison group did not perceive their feedback as being positive. In order to investigate this hypothesis, the paragraphs comparison group subjects wrote to justify their $20 million allocation decisions were qualitatively analyzed. The explanations written by virtually all of these individuals indicated that their chosen division had shown financial improvement and that the other division was still declining.
The final and perhaps most plausible explanation for the failure to replicate has to do with the magnitude of the effects observed in Staw's (1976) investigation. Achieving statistical significance does not necessarily imply that a substantial amount of variance in the dependent measure has been explained. Staw's personal responsibility X decision consequences interaction resulted from a significant difference between the negative ($\bar{X} = $12.97 million) and positive ($\bar{X} = $9.18 million) feedback groups run under high personal responsibility conditions. The calculation of omega-square (Keppel, 1982) revealed that the interaction accounted for only 1.7 percent of the total variance in resource allocations. Further, the overall percentage of variance accounted for by the combination of this interaction plus the two main effects was a modest 12.7 percent. This evidence makes it less surprising that no difference was observed between the bolstering/no forthcoming information group and the positive feedback comparison group in the present study. The strength of the effect which was unsuccessfully replicated was quite weak.

In summary, there were three possible explanations for the failure to replicate Staw's findings. These were: imprecise replication of the experimental conditions, the comparison group not perceiving their feedback as being positive, and that Staw's observed effect was quite weak and difficult to detect. The third option was considered to be most likely.
Resource Allocations and Withdrawal: Procrastinating and Shifting Responsibility

A major implication of the absence of the forthcoming information X courses of action interaction predicted in Hypothesis 2, was that procrastinating and shifting responsibility subjects invested in their previously chosen division at the same rate as bolstering/no forthcoming information subjects. It was expected that people who chose to withdraw from a decision (or at least knew that they had this option) would invest less in a failing choice.

Related findings are the lack of statistically significant withdrawal behavior from either procrastinating (Hypothesis 4a) or shifting responsibility (Hypothesis 4b) subjects. It should be noted however that in the shifting responsibility condition, almost half of the subjects chose to give the allocation decision to the Research and Development Vice-President. Throughout this section of the Chapter, the reader should not lose sight of the fact that a substantial amount of this form of withdrawal did actually occur. Postponement of the decision was much less frequent.

A combination of issues concerning the Conflict Model and the characteristics of the A & S case will be used to explain the above findings. The wide overall discrepancy in withdrawal behavior between procrastinating and shifting responsibility subjects will also be addressed. The explanations written by subjects concerning how they arrived at their decisions provided additional understanding of the results.
Procrastinating

Perhaps the best place to start in order to explain the allocation behavior and the lack of withdrawal in procrastinating subjects is the Conflict Model of Defensive Avoidance (see Figure 1). Insight into why so little of this behavior was observed, was gained by looking for evidence of how subjects answered question 3A ("Are the risks serious if I postpone the decision?). There was evidence that some procrastinating subjects were willing to answer "maybe or yes" to this item instead of "no." That is, postponement may not have been seen as appropriate by subjects.

Subject explanations revealed that postponement could be seen as resulting in the A & S Company falling even farther behind in the market. The possibility of missing out on new innovations and discoveries was cited. This very rational reason for not postponing the decision may be a function of the case materials. A different type of decision may not have elicited this response.

This issue of postponement not being seen as a sound business move provides an explanation for why allocations by procrastinating subjects did not differ from those in the bolstering conditions. Looking back at Figure 1, a "maybe or yes" response to question 3A leads to question 3B concerning turning the decision over to someone else. This was of course not an option for procrastinating subjects. The only remaining course of action was to bolster the preferred alternative. If both bolstering and procrastinating subjects bolstered their preferred alternatives, then it is logical that allocation levels for these groups would be comparable.
The Conflict Model predicts that individuals who postpone a decision should show a "lack of interest in the issue with no search, appraisal, or contingency planning." The evidence in the present study indicates that this was not true. On the contrary, most of those who postponed the decision did so in the hope of receiving more information in order to make an even better decision. Thus, the decision making patterns for procrastinating subjects in the Conflict Model were not observed in the available evidence.

As a final point, the present author was concerned that subjects would not postpone the decision because this course of action seemed implausible or useless in a two-hour experiment. However, few if any procrastinating subjects commented that they didn't see value in postponement because of the short time frame of the study. While it is of course not known if some subjects felt this way but did not comment, the time frame of the study did not seem to cause the lack of withdrawal behavior.

Several conclusions were drawn along with the summarization of the procrastinating group findings. The competitive Research and Development environment in the decision case may have caused subjects to avoid postponement of the allocation decision. As discussed, individuals may have actually bolstered their preferred alternative instead. This helped to explain the lack of differences in the resource allocation data. While this Conflict Model explanation fits nicely, not all evidence supported this approach. For example, the available evidence for those who postponed the decision showed that these subjects may not have lost interest in the issue at hand, with
no search, etc., as predicted by the Model. Further, Janis and Mann's description of the Model does not provide the reader with clear enough specification of when this course of action will occur. It would have been very difficult to foresee the findings described in this section. This final issue will be addressed in more depth in the next section on shifting responsibility.

Shifting Responsibility

As was the case for the procrastinating data, the subjects' written justifications for their second funding decision provided insight into why more withdrawal behavior did not occur in shifting responsibility subjects. Many of the individuals who withdrew did so because they perceived the Research and Development Vice-President to be more qualified or knowledgeable about where the R & D funds would be needed most.

Explanations were more varied for those who shifted responsibility for the decision. Many said that they preferred to maintain responsibility because for example, financial allocations were their job. Others said that the R & D V.P. didn't have any financial experience or didn't need the strain of additional decisions. A final group indicated that because they made a mistake on the first decision, they would allow someone else to make the second one.

A major issue which is evident in these comments is that the characteristics of the person onto whom the decision is to be shifted as well as the characteristics of the situation itself will impact the extent to which this form of withdrawal occurs. Expertise of the
target person is certainly important. Subjects in the present study made inferences concerning the expertise of the R & D V.P. in financial matters, since no information concerning this variable was provided. Other situational variables such as the amount of past interaction or expected future interaction with an individual are also relevant.

The importance of situational characteristics with regard to the Conflict Model was alluded to earlier in the discussion of the procrastinating data. It was stated that the competitive R & D environment may have discouraged postponement of the decision. Based upon the shifting responsibility data, it is again concluded that the conditions under which the courses of action in the Conflict Model will occur must be more clearly delineated. Thus, having the option to turn a decision over to another person may not be enough to elicit shifting responsibility.

Similar to the procrastinating subjects who did not postpone the decision, shifting responsibility subjects who did not turn over the decision may have ended up bolstering their preferred alternatives. For some of the situational reasons described previously, shifting responsibility subjects may have answered "no" to question 3B (i.e., didn't consider shifting the decision to be an option) in Figure 1. This reasoning again helps to provide a plausible explanation for the lack of mean allocation differences between shifting responsibility and bolstering subjects. If at least some shifting responsibility subjects bolstered their preferred alternative, then it is logical for the allocation levels of these two groups to be comparable.
The major points concerning the allocation and withdrawal behavior of shifting responsibility subjects were the importance of situational characteristics and the possibility that these individuals may have bolstered their preferred alternatives. These conclusions are consistent with the ones drawn for procrastinating subjects.

Resource Allocations: Forthcoming Information

Recall that Hypothesis 3 predicted forthcoming information recipients to invest fewer resources in their previously chosen alternative than nonrecipients. As previously stated, this conclusion was not supported by the data. There is evidence from the explanations supporting the subject's decisions that there was interest in receiving this additional information. Empirical data to this effect will be discussed later in this chapter.

There are at least two possible explanations for the lack of support for Hypothesis 3. First, instead of being more conservative (i.e., investing fewer resources in their initially chosen division) in their allocations on the current decision, recipients of forthcoming information may have felt even more willing to "go out on a limb" with their decision. The logic here is that subjects may have felt that the forthcoming information would allow them to make a decision of high quality on the (allegedly) upcoming third decision. With this in mind they may have felt that they could be more risky on the current decision.

Second, a different type of explanation involves the fact that subjects tended to highly value the financial data which accompanied
each decision. There was some evidence from the written explanations to suggest that the financial data for the next decision (information received by all subjects) was viewed as forthcoming information by subjects in the "no forthcoming information" groups. At least two of these individuals for example postponed their second decision with the hope of receiving further sales and earnings data.

Both of the explanations provided above give plausible reasons for why no differences were found between the two levels of the forthcoming information variable. It was suggested in the previous section that at least some of the procrastinating and shifting responsibility subjects may have been put in the position of bolstering their preferred alternative. A third and final possible explanation for the lack of a forthcoming information effect is that the tendency to bolster may have been more powerful than (or took precedence over) the impact of forthcoming information.

The manipulation checks supported the fact that the appropriate subjects knew that additional information was allegedly forthcoming on the next allocation decisions. However, the second and third explanations imply that the forthcoming information manipulation could have been strengthened further. This strengthening could have been accomplished in at least two ways. Nonrecipients of forthcoming information could have been told during the second decision that no further financial data would be available during the study. This procedure would negate the problem of subjects viewing the data as forthcoming information. Another approach would have been to give forthcoming information recipients copies of a sample report like the
ones they would (allegedly) receive in the future. This procedure would make the manipulation even more salient.

Three possible explanations for the lack of a forthcoming information effect were presented. Specifically, there was evidence to suggest that forthcoming information may cause subjects to be more liberal in their investments. Other explanations suggested that financial data acted as forthcoming information or that bolstering negated the expected effect. Based upon these latter two ideas, procedures for strengthening the manipulation were suggested.

The author is aware of the fact that there are conflicts among the three explanations. For example, the first approach would predict a strengthened manipulation to result in even more liberal investment as opposed to a forthcoming information effect. While the second and third explanations predict outcomes which are comparable to each other, the processes involved are very different. Further research is the only way these issues will be disentangled.

**Commitment**

**Commitment Questionnaire.**

Prior to discussing the results of the commitment hypothesis, some issues regarding the instrument used to measure commitment will be addressed. The questionnaire was the highlight of this phase of the dissertation and perhaps of the entire study. As pointed out previously, the literature is void of an instrument to measure commitment to a decision. It was this need that prompted the construction of the present questionnaire (see Appendix K).
As described in the Results chapter, the commitment data yielded a clear three factor solution. Composites generated from these factors (Correctness of, Loyalty to, and Success of an Initial Choice) possessed good levels of internal consistency. It is proposed that this instrument could be used by others to measure commitment to a choice. The two dichotomous items as well as item 5 (which did not load on any of the factors) should be deleted. The phrase "initial choice" should be used to replace "initially chosen division."

Of course, much more validation work is warranted. Changing the wording of questions and deleting items could alter the factor structure of the instrument. It would be of interest to see how well the instrument correlated with other measures of commitment (convergent validity) and with measures of other constructs (divergent validity). Finally, it might be of interest to write additional items for each of the scales. In summary, while more work is certainly needed, the present instrument represents a good preliminary measure of commitment to a decision.

**Commitment Hypothesis**

Hypothesis 5 stated that the level of commitment to the initially chosen division would be significantly higher for the positive feedback comparison group than for each of the other six cells in the design. These latter conditions were not expected to differ from each other. This hypothesis was tested using three dependent variables which represented the three commitment factors.
Hypothesis 5 was partially supported in all three cases in that there were no significant differences among the six cells in the 2 x 3 design. However, none of the means for the comparison group on the three dependent variables were significantly greater than the respective values for the other cells. It should be noted that the results were in the correct direction (i.e., comparison group had the highest mean) for two of the three (Correctness and Loyalty) factors.

One possible reason for the lack of significant differences is that the mean composite ratings for each of the commitment factors were relatively high across all conditions. Only two out of the possible 21 means (see Table 6) were below the midpoint of the 7-point scale. Values were particularly high on the "Success" variable, with 5.68 being the smallest mean.

The relatively high commitment levels may have been due to the fact that subjects took the task seriously and enjoyed the case. This statement is based upon information from several sources. Mean ratings for post-questionnaire items such as "the case seemed realistic" and "I enjoyed playing the role of Financial Vice-President" were relatively high, as previously stated. Written explanations for funding decisions were often sophisticated and sometimes included calculations. Finally, observations of subjects completing the task as well as post-experimental interviews supported the idea that subjects viewed the case positively and were motivated to perform well. Thus, it is possible that the high level of enthusiasm inflated the commitment ratings.
It should be noted that the commitment results may be interpreted as being consistent with the escalation of commitment viewpoint. It is implied in the existing literature that relatively high commitment levels should be observed in people who perform behavior interpreted to be escalating commitment.

In summary, the lack of a significant difference between the bolstering/no forthcoming information group and the other cells on the commitment measures was explained in terms of how subjects viewed the task. Positive attitudes concerning the task may have inflated commitment ratings. The commitment findings were consistent with the escalation of commitment viewpoint.

**Bolstering Tactic Usage**

Data concerning bolstering tactic usage were collected on both the thought listing measure as well as the bolstering tactics questionnaire. Since bolstering/no forthcoming information subjects were the only individuals expected to bolster their preferred alternatives, the subparts of Hypothesis 6 all predicted forthcoming information X courses of action interactions for the bolstering tactic dependent variables: a) Number of total thoughts listed, b) Frequency of occurrence of each of six rated bolstering tactics, c) mean 7-point bolstering tactic rating, d) measures derived from the bolstering tactics questionnaire.

Only a minimal amount of support for Hypothesis 6 was obtained. The main piece of evidence in favor of these predictions was the forthcoming information X courses of action interaction for the "Exaggerating favorable consequences" tactic from the thought listing
data. The mean amount of usage for Tactic 1 in the bolstering/no forthcoming information group was significantly higher than the means for the other five groups in the analysis.

Significant findings from the tactic questionnaire data are difficult to interpret. For example, the courses of action main effect for Tactic 1 was due to high ratings by the procrastinating subjects and not the bolstering subjects. It should be noted however, that this tactic received the highest overall ratings of all the tactics. This finding is consistent with the thought listing results. Tactic 1 was rated as being the tactic most frequently utilized. The forthcoming information main effect for Tactic 3 ("Denying aversive feelings") was also difficult to interpret.

When the results for the questionnaire and thought listing are taken together, the overall extent to which bolstering tactics were utilized was quite modest. Mean ratings on the composites representing the six bolstering tactics were generally below the midpoint on the seven-point scale. Two of the tactics were rated as not being utilized at all in the thought listings. As reported previously, the grand mean 7-point rating of the extent to which tactics were utilized was only 2.32.

There are a number of issues which help to explain this dearth of evidence that bolstering tactics were utilized. A drawback of the A & S case was that subjects did not necessarily have a reasonable opportunity to employ all six of the bolstering tactics. Exaggerating the remoteness of the action commitment (Tactic 4) and Minimizing social surveillance (Tactic 5) are good examples of this
problem. Given the nature of the task it was not reasonable to assume that no action will be required in the foreseeable future (Tactic 4). Similarly, it was not really appropriate for subjects to think of their investments as private decisions which no one else would know about (Tactic 5). The role play was probably not dynamic enough for this sort of reasoning to result. In addition, subjects wrote their names on their response sheets.

Second, it is not unreasonable for mean tactic ratings on the questionnaire and the frequencies of tactic occurrence on the thought listing to be low. The reason for this is that one would not necessarily expect any given subject to utilize all of the tactics.

Finally, measuring bolstering tactic use was difficult to accomplish. It should be noted that this is the first attempt to do so that the author is aware of. The thought listing methodology requires a great deal of personal awareness on the part of the subject, since they must be able to write down concepts which are examples of the bolstering tactics. This is especially true when subjects are not prompted in any way, as was the case in the present study.

An area for further work would be to develop more precise definitions for the bolstering tactics. For example, there is some confusion between the defensive avoidance strategy of shifting responsibility and the bolstering tactic of Minimizing personal responsibility. In fact, shifting responsibility subjects were judged to utilize this tactic more frequently than individuals in the other two groups.
In summary, Hypothesis 6 concerning the use of bolstering tactics received only minimal support. Overall, bolstering tactics were not extensively used. The opportunity to use the tactics in the A & S case as well as problems with tactic measurement were addressed.

Information Preferences: Report Title Ratings and Rankings

Hypothesis 7 and the sub-hypotheses 7a-7f all addressed the predictions of Janis and Mann concerning the types of information preferred by individuals using different patterns for coping with decisional stress. It should be noted that aside from providing additional information concerning the extent to which the three courses of action were exhibited in the present study, these hypotheses provided a test of an aspect of the Conflict Model which had not previously been empirically studied.

As was shown in the Results section, these hypotheses received partial support from the data. Hypotheses 6c and 6d were supported by the report title rating and ranking data respectively. That is, both ratings and rankings of positive information concerning subjects' preferred divisions were found to be significantly higher than the ratings and rankings of negative and neutral information concerning the same division. In a similar vein, Hypothesis 6f was also supported. Overall in the thought listing data, significantly more positive than negative thoughts concerning the $20 million funding decision were listed by subjects.

Thus, it can be concluded that subjects in the present study tended to focus on positive information when making their decisions.
A related finding discussed previously was the fact that "Exaggerating favorable consequences" was the most frequently utilized of the six bolstering tactics. While the hypotheses dealing with overall differences across the groups in the design were supported, the hypotheses concerning between group differences (6a and 6b) were not supported.

Interpretation of Results: Conclusion

As has been pointed out in the present section, many of the hypotheses were not supported by the data. An attempt has been made to explain the reasons why each of these hypotheses did not receive support. The point should be made that many of the latter hypotheses such as those dealing with commitment, bolstering tactics, and information preferences in a sense depended upon the findings concerning the resource allocation data. This is not to say that there was any problem with the manner in which the data were collected. Rather, given for example the fact that many of the procrastinating subjects did not postpone the second funding decision, it was less likely to expect these individuals to exhibit other patterns of behavior predicted to be typical for procrastinators.

Study Limitations and Directions for Future Research

Some limitations of the present study and directions for future research were discussed during the interpretation of the results. The purpose of this section is to review some of these ideas and to explore additional issues.
The limitations of this study and the directions for future research are closely intertwined. Many of the limitations of the present investigation mirror the problems cited in the Introduction chapter concerning the existing studies dealing with escalating commitment. Because there was a desire to replicate previous results, the methodology for the current study was limited by definition. For example, the short time frame and the small number of decision alternatives were dictated by the case materials. Further, it was cited earlier that the processes in the Conflict Model are predicted to be applicable to a decision situation "so long as the decision maker is aware of at least one mildly worrisome consequence." It is possible that the characteristics of the decision case were such that the decisions were not consequential enough to elicit all of the defensive avoidance strategies. While a case has been made that participants took the decisions and their role seriously, whether or not a consequence was worrisome for an individual is difficult to assess. While it would be expensive and time consuming, a case study approach in a field setting might yield some richer data. An expanded laboratory study which carried across several sessions might also be appropriate.

However, prior to conducting any additional research using the Conflict Model to explain results in other domains, some further basic research concerning the validation of the model itself is warranted. For example, the conditions under which shifting responsibility and procrastinating occur need to be more precisely delineated. The present study has shown that merely having the
opportunity to procrastinate or shift responsibility may not be
enough to cause people to take these courses of action. (We should
of course not lose sight of the fact that close to half of the
shifting responsibility subjects did in fact give the second decision
to the R & D V.P.)

A related area for study is whether or not all else being equal,
procrastinating and shifting responsibility are equally likely to
occur as forms of withdrawal behavior. It is possible that there are
individual differences in the extent to which people are willing to
take these courses of action. Janis and Mann tend to assume that
procrastinating and shifting responsibility are equally likely to
occur, given the "correct circumstances." Further, the Conflict
Model assumes that there is only one mechanism by which to exhibit
the three courses of action. It may be possible that people
procrastinate for different reasons, or arrive at this behavior
through different processes. This issue is an area for further
study.

Finally, as pointed out previously, the further validation and
refinement of the commitment instrument used in the present study
would be a contribution to the literature.

Concluding Remarks

The argument that behavior interpreted to be escalating
commitment may be a special case of Janis and Mann's cognitive
bolstering strategy received weak support in the present
investigation. However, these findings should not be allowed to
overshadow the previously discussed shortcomings of the research in
the escalating commitment literature. The results of these studies are further questioned given the unsuccessful replication attempt in this dissertation. The author still believes that the lack of external validity in this body of literature should make it possible to produce results other than "escalation" by varying characteristics of the decision context. Explanations for why the present attempt to achieve such results was not successful were presented above in this Discussion Chapter.
REFERENCES


Adams & Smith Decision Case

Schedule of Events

FIRST FINANCIAL DECISION: October, 1974

SECOND FINANCIAL DECISION: October, 1979

COMPLETE QUESTIONNAIRES

THIRD FINANCIAL DECISION: October, 1984

COMPLETE QUESTIONNAIRES
This study is concerned with financial decision-making in a variety of situations. In this case, you will be asked to play the role of the top financial officer (e.g., Financial Vice-President) of a large and long-established company, Adams & Smith, Inc. The date is now October, 1974.

The legendary founders of the firm were responsible for the development of a number of innovative products in the areas of home and industrial appliances, and the early success of Adams & Smith was spectacular. However, for many years, the management of the company was characterized by extreme financial conservatism and lack of imagination, particularly in the area of product development. Competition intensified, and, despite Adams & Smith's vigorous start, its market share and earnings steadily declined. Indeed, last year, in 1973, earnings for both of the firm's divisions—Consumer Products and Industrial Products—shaded into the red (see earnings chart). In June of this year (1974), the stockholders of Adams & Smith finally steeled themselves to revolt, and a new management team, in which you fill a central role, was installed.

The new management is convinced that one of the major reasons for the deterioration of the company's competitive position in a technology-intensive industry lies in some aspect of its program of research and development. Each division maintains its own research program which had been funded more or less automatically over the last twenty years by 5-year standard allocations of ten million dollars each to Consumer and Industrial Products. (Note that research is funded for 5-year periods.) The Directors of Adams & Smith have agreed that the R. & D. effort of the firm should be increased, but they stipulate that it would be preferable, for the time being, to do so in only one of the
two divisions. That agreed, ten million dollars of additional funds were
made available for research from the considerable capital reserve maintained
by the company since its early years of success. The President has directed
you, the Financial V. P., to decide which division would most benefit from
the expenditure of this $10 million in addition to the $10 million standard
allocation for research and development over the five years from 1975 through
1979. In practical terms, this means that your recommendation as to which
division should receive the extra funds will be followed, but that you will
also be held accountable for the results.

The Consumer Products division covers the manufacture and sale of air
conditioners, lamps, radio and TV receivers, stereo equipment, tape recorders,
and a wide variety of household and personal appliances (e.g., stoves, ovens,
and other kitchen appliances, electric irons, hair dryers, vacuum cleaners,
automatic clothes and dishwashers, etc.), and appliance service. Adams & Smith
is a major brand name in both electric appliances and home entertainment.
Total industry sales for products marketed by the Consumer Products division
increased by 168% from 1964 to 1974.

The Industrial Products division includes adjustable and constant-speed
drives, batteries, capacitors, communications systems, controls, electric
motors, equipment service, industrial heating, medical systems, meters, process
computers, silicones, switch-gear, transformers, and wire and cable wiring
devices. Government contracts, primarily for military and aerospace controls
and electronic equipment, accounted for 15% of sales in 1973, making the
federal government the largest single customer of the Industrial Products
division. Total industry sales for products marketed by the Industrial Products
division increased by 93% from 1964 to 1974.
### A & S Decision Case

**Divisional Contributions To Sales and Earnings of Adams & Smith**

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<td>768</td>
<td>-.64</td>
<td>791</td>
<td>-.83</td>
</tr>
</tbody>
</table>

\(^{(a)}\) in millions of dollars  
\(^{(b)}\) minus sign (-) indicates a financial loss  
\(^{(c)}\) Estimated sales and earnings based on results through the first three quarters of 1974 and projected sales and earnings for the fourth quarter.
As a corporate executive in the situation described in the case, given the information contained in the case and what knowledge you have of actual economic conditions during the relevant time period, you are to determine which of the two divisions should receive the 10 million dollars of additional research and development funds (above the $10 million standard allocation for each division) for the years 1975 through 1979. This is the first of the three decisions you will be asked to make. The decision is to be made on the basis of the potential benefit of added research funding to the future earnings of the division.

Circle your choice:

Consumer Products  Industrial Products

Write a brief paragraph defending your decision:
APPENDIX B

PART II: BOLSTERING/NO FORTHCOMING INFORMATION
A & S Decision Case

Part II

It is now October, 1979, five years since your first allocation decision. It is time for you to make your second allocation decision. The research and development program of Adams & Smith is again up for reevaluation and funding. Management is more than ever convinced that the former management team's emphasis on this program was inadequate in some respects. The decision has been made to double research and development expenditure, and twenty million dollars has been made available for that purpose in addition to the standard five-year research allocation of $10 million per division. This time, however, the additional funds may be split between the two divisions.

As Financial Vice-President, you have again been made responsible for the decision on how the additional money should be distributed. Again, in practical terms, this means that you may choose to divide the $20 million any way you wish between the two divisions, and that your decision will be followed by the management of Adams & Smith. However, you will be held accountable for the results of the decision.

The sales and contribution to the earnings of Adams & Smith of each division since the last decision point are shown in the following table.
A & S Decision Case

As a corporate executive in the situation described in the case, given the information contained in the case, and what knowledge you have of actual economic conditions during the relevant time period, you are to determine how much of the additional 20 million dollars of research and development funds (above the $10 million standard allocation for each division) should be allotted to each division for the years 1980 through 1984. This second of three decisions is to be made on the basis of the potential benefit of the added research funding to the future earnings of each division.

Consumer Products is to receive __________ dollars.
Industrial Products is to receive __________ dollars.

Total = $20,000,000

Write a brief paragraph defending your decision. (Use other side of page, if necessary.)
APPENDIX C

PART II: BOLSTERING/FORTHCOMING INFORMATION
A & S Decision Case

Part II

It is now October, 1979, five years since your first allocation
decision. It is time for you to make your second allocation decision. The
research and development program of Adams & Smith is again up for reevaluation
and funding. Management is more than ever convinced that the former management
team's emphasis on this program was inadequate in some respects. The decision
has been made to double research and development expenditure, and twenty million
dollars has been made available for that purpose in addition to the standard
five-year research allocation of $10 million per division. This time, however,
the additional funds may be split between the two divisions. Management has
also indicated that they have appointed a number of committees to prepare
detailed reports dealing with factors affecting the current and future perfor­
mane of both the Consumer Products and Industrial Products divisions. For
example, the success or failure of various product lines will be addressed.
Other information relevant to the Adams & Smith Company is also being compiled.
Management has said that these reports will be available to you prior to
October, 1984 the end of the upcoming five-year funding period. That is, you
will receive these reports prior to making the third funding decision.

As Financial Vice-President, you have again been made responsible for
the decision on how the additional money should be distributed. Again, in
practical terms, this means that you may choose to divide the $20 million in
any way you wish between the two divisions, and that your decision will be
followed by the management of Adams & Smith. However, you will be held account­
able for the results of the decision.

The sales and contribution to the earnings of Adams & Smith of each division
since the last decision point are shown in the following table.
A & S Decision Case

As a corporate executive in the situation described in the case, given the information contained in the case, and what knowledge you have of actual economic conditions during the relevant time period, and the knowledge that you will be receiving detailed information dealing with factors affecting the performance of both divisions, you are to determine how much of the additional 20 million dollars of research and development funds (above the $10 million standard allocation for each division) should be allotted to each division for the years 1980 through 1984. This second of three decisions is to be made on the basis of the potential benefit of the added research funding to the future earnings of each division.

Consumer Products is to receive _____________ dollars.

Industrial Products is to receive _____________ dollars.

Total = $20,000,000

Write a brief paragraph defending your decision. (Use other side of page, if necessary.)
APPENDIX D

PART II: PROCRASTINATING/NO FORTHCOMING INFORMATION
A & S Decision Case

Part II

It is now October, 1979, five years since your first allocation decision. It is time for you to make your second allocation decision. The research and development program of Adams & Smith is again up for reevaluation and funding. Management is more than ever convinced that the former management team's emphasis on this program was inadequate in some respects. The decision has been made to double research and development expenditure, and twenty million dollars has been made available for that purpose in addition to the standard five-year research allocation of $10 million per division.

This time, however, there are two different options.

(a) The additional funds may be split between the two divisions.

However, you have the choice of not making the financial decision at this time.

(b) The funding decision may be postponed for a three year period (until October, 1982). That is, you may put off this second decision of how to allocate $20 million.

Whatever you decide to do at this time, you will of course still make your third and final financial decision five years from now in October, 1984.

As Financial Vice-President, you have again been made responsible for the decision on what should be done with the additional money. Again, in practical terms, this means that you may choose to either divide the $20 million any way you wish between the two divisions, or to postpone the decision of how to invest this additional money for a three year period (until October, 1982).

Your decision will be followed by the management of Adams & Smith. However, you will be held accountable for the results of the decision.

The sales and contribution to the earnings of Adams & Smith of each division since the last decision point are shown in the following table.
A & S Decision Case

As a corporate executive in the situation described in the case, given the information contained in the case, and what knowledge you have of actual economic conditions during the relevant time period, you are to determine what should be done with the additional 20 million dollars of research and development funds (above the $10 million standard allocation for each division) allotted to the divisions for the years 1980 through 1984. You may either distribute the money any way you like across the two divisions, or choose to postpone this allocation of funds for a three-year period. This second of three decisions is to be made on the basis of the potential benefit to the future earnings of each division.

Choose only option A or B but not both:

(A) Consumer Products is to receive _______________ dollars.

Industrial Products is to receive _______________ dollars.

Total = $20,000,000

(B) Postpone the allocation of the additional $20 million for a three-year period (until October, 1982).

_______ (Write YES in the space if you choose this option.)

Write a brief paragraph defending your decision. (Use other side of page, if necessary.)
A & S Decision Case

Part II

It is now October, 1979, five years since your first allocation decision. It is time for you to make your second allocation decision. The research and development program of Adams & Smith is again up for reevaluation and funding. Management is more than ever convinced that the former management team's emphasis on this program was inadequate in some respects. The decision has been made to double research and development expenditure, and twenty million dollars has been made available for that purpose in addition to the standard five-year research allocation of $10 million per division.

This time, however, there are two different options.

(a) The additional funds may be split between the two divisions. However, you have the choice of not making the financial decision at this time.

(b) The funding decision may be postponed for a three year period (until October, 1982). That is, you may put off this second decision of how to allocate $20 million.

Whatever you decide to do at this time, you will of course still make your third and final financial decision five years from now in October, 1984.

Management has also indicated that they have appointed a number of committees to prepare detailed reports dealing with factors affecting the current and future performance of both the Consumer Products and Industrial Products divisions. For example, the success or failure of various product lines will be addressed. Other information relevant to the Adams & Smith Company is also being compiled. Management has said that these reports will be available to you prior to October, 1984, the end of the upcoming five-year funding period. That is, you will receive these reports prior to making the third funding decision.
As Financial Vice-President, you have again been made responsible for the decision on what should be done with the additional money. Again, in practical terms, this means that you may choose to either divide the $20 million any way you wish between the two divisions, or to postpone the decision of how to invest this additional money for a three year period (until October, 1982).

Your decision will be followed by the management of Adams & Smith. However, you will be held accountable for the results of the decision.

The sales and contribution to the earnings of Adams and Smith of each division since the last decision point are shown in the following table.
A & S Decision Case

As a corporate executive in the situation described in the case, given the information contained in the case, and what knowledge you have of actual economic conditions during the relevant time period, and the knowledge that you will be receiving detailed information dealing with factors affecting the performance of both divisions, you are to determine what should be done with the additional 20 million dollars of research and development funds (above $10 million standard allocation for each division) allotted to the divisions for the years 1980 through 1984. You may either distribute the money any way you like across the two divisions, or choose to postpone this allocation of funds for a three-year period. This second of three decisions is to be made on the basis of the potential benefit to the future earnings of each division.

Choose only option A or B but not both:

(A) Consumer Products is to receive ________________ dollars.

Industrial Products is to receive ________________ dollars.

Total = $20,000,000

(B) Postpone the allocation of the additional $20 million for a three-year period (until October, 1982).

_______ (Write YES in the space if you choose this option.)

Write a brief paragraph defending your decision. (Use other side of page, if necessary.)
APPENDIX F

PART II: SHIFTING RESPONSIBILITY/NO FORTHCOMING INFORMATION
A & S Decision Case

Part II

It is now October, 1979, five years since your first allocation decision. It is time for you to make your second allocation decision. The research and development program of Adams & Smith is again up for reevaluation and funding. Management is more than ever convinced that the former management team's emphasis on this program was inadequate in some respects. The decision has been made to double research and development expenditure, and twenty million dollars has been made available for that purpose in addition to the standard five-year research allocation of $10 million per division.

This time, however, there are two different options.

(a) The additional funds may be split between the two divisions. However, you have the choice of making this financial decision or giving the task to someone else.

(b) Specifically, the job of allocating this additional money may be turned over to the Vice-President of Research and Development. This individual has expressed an interest in having more control over the destiny of the Research and Development program.

As Financial Vice-President you have again been made responsible for the decision on what should be done with the additional money. Again, in practical terms, this means that you may choose to divide the $20 million in any way you wish between the two divisions, or to turn the decision of how to allocate this money over to the Vice-President of Research and Development.

Your decision will be followed by the management of Adams & Smith. However, you will be held accountable for the results of the decision.

The sales and contribution to the earnings of Adams & Smith of each division since the last decision point are shown on the following table.
A & S Decision Case

As a corporate executive in the situation described in the case, given the information contained in the case, and what knowledge you have of actual economic conditions during the relevant time period, you are to determine what should be done with the additional 20 million dollars of research and development funds (above $10 million standard allocation for each division) should be allotted to each division for the years 1980 through 1984. You may either distribute the money any way you like across the two divisions, or choose to turn the decision of how to allocate these funds over to the Vice-President of Research and Development. The decision is to be made on the basis of the potential benefit to the future earnings of each division.

Choose only option A or B but not both:

(A) Consumer Products is to receive _____________ dollars.

Industrial Products is to receive _____________ dollars.

Total = $20,000,000

(B) Turn the financial allocation decision over to the Vice-President of Research and Development.

If this option is chosen, the Research and Development Vice-President's actual allocations to the divisions will be presented to you at the end of the next five-year period (October, 1984).

_______ (Write YES in the space if you choose this option.)

Write a brief paragraph defending your decision. (Use other side of page, if necessary.)
APPENDIX G

PART II: SHIFTING RESPONSIBILITY/FORTHCOMING INFORMATION
A & S Decision Case
Part II

It is now October, 1979, five years since your first allocation decision. It is time for you to make your second allocation decision. The research and development program of Adams & Smith is again up for reevaluation and funding. Management is more than ever convinced that the former management team's emphasis on this program was inadequate in some respects. The decision has been made to double research and development expenditure, and twenty million dollars has been made available for that purpose in addition to the standard five-year research allocation of $10 million per division.

This time, however, there are two different options.

(a) The additional funds may be split between the two divisions. However, you have the choice of making this financial decision or giving the task to someone else.

(b) Specifically, the job of allocating this additional money may be turned over to the Vice-President of Research and Development. This individual has expressed an interest in having more control over the destiny of the Research and Development program.

Management has also indicated that they have appointed a number of committees to prepare detailed reports dealing with factors affecting the current and future performance of both the Consumer Products and Industrial Products divisions. For example, the success or failure of various product lines will be addressed. Other information relevant to the Adams & Smith Company is also being compiled. Management has said that these reports will be available to you prior to October, 1984 the end of the upcoming five-year funding period. That is, you will receive these reports prior to making the third funding decision.
As Financial Vice-President, you have again been made responsible for the decision on how the additional money should be distributed. Again, in practical terms, this means that you may choose to divide the $20 million any way you wish between the two divisions, and that your decision will be followed by the management of Adams & Smith. However, you will be held accountable for the results of the decision.

The sales and contribution to the earnings of Adams & Smith of each division since the last decision point are shown in the following table.
A & S Decision Case

As a corporate executive in the situation described in the case, given the information contained in the case, and what knowledge you have of actual economic conditions during the relevant time period, and the knowledge that you will be receiving detailed information dealing with factors affecting the performance of both divisions, you are to determine what should be done with the additional 20 million dollars of research and development funds (above $10 million standard allocation for each division) should be allotted to each division for the years 1980 through 1984. You may either distribute the money any way you like across the two divisions, or choose to turn the decision of how to allocate these funds over to the Vice-President of Research and Development.

The decision is to be made on the basis of the potential benefit to the future earnings of each division.

Choose only option A or B but not both:

(A) Consumer Products is to receive ________________ dollars.
    Industrial Products is to receive ________________ dollars.
    Total = $20,000,000

(B) Turn the financial allocation decision over to the Vice-President of Research and Development.

If this option is chosen, the Research and Development Vice-President's actual allocations to the divisions will be presented to you at the end of the next five-year period (October, 1984).

_____ (Write YES in the space if you choose this option.)

Write a brief paragraph defending your decision. (Use other side of page, if necessary.)
APPENDIX H

FINANCIAL FEEDBACK
## A & S Decision Case

### Divisional Contributions To Sales and Earnings of Adams & Smith

<table>
<thead>
<tr>
<th>Year</th>
<th><strong>Industrial Products</strong></th>
<th></th>
<th><strong>Consumer Products</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Sales</strong> (a)</td>
<td><strong>Earnings</strong> (a)</td>
<td><strong>Sales</strong> (a)</td>
<td><strong>Earnings</strong> (a)</td>
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<td>624</td>
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<tr>
<td>1965</td>
<td>626</td>
<td>10.27</td>
<td>663</td>
<td>10.92</td>
</tr>
<tr>
<td>1966</td>
<td>649</td>
<td>8.65</td>
<td>689</td>
<td>11.06</td>
</tr>
<tr>
<td>1967</td>
<td>681</td>
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<td>711</td>
<td>10.44</td>
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<tr>
<td>1968</td>
<td>674</td>
<td>4.19</td>
<td>724</td>
<td>9.04</td>
</tr>
<tr>
<td>1969</td>
<td>702</td>
<td>5.35</td>
<td>735</td>
<td>6.38</td>
</tr>
<tr>
<td>1970</td>
<td>717</td>
<td>3.92</td>
<td>748</td>
<td>5.42</td>
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<tr>
<td>1971</td>
<td>741</td>
<td>4.66</td>
<td>756</td>
<td>3.09</td>
</tr>
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<td>1972</td>
<td>765</td>
<td>2.48</td>
<td>784</td>
<td>3.26</td>
</tr>
<tr>
<td>1973</td>
<td>770</td>
<td>-1.12 (b)</td>
<td>788</td>
<td>-0.81 (b)</td>
</tr>
<tr>
<td>1974</td>
<td>769</td>
<td>-0.63</td>
<td>791</td>
<td>-0.80</td>
</tr>
<tr>
<td>1975</td>
<td>771</td>
<td>-1.12</td>
<td>818</td>
<td>.02</td>
</tr>
<tr>
<td>1976</td>
<td>774</td>
<td>-1.96</td>
<td>829</td>
<td>-0.09</td>
</tr>
<tr>
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<td>762</td>
<td>-3.87</td>
<td>827</td>
<td>-0.83</td>
</tr>
<tr>
<td>1978</td>
<td>778</td>
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<td>846</td>
<td>.06</td>
</tr>
<tr>
<td>1979 (est) (c)</td>
<td>783</td>
<td>-4.16</td>
<td>910</td>
<td>1.28</td>
</tr>
</tbody>
</table>

(a) in millions of dollars  
(b) minus sign (−) indicates a financial loss  
(c) Estimated sales and earnings based on results through the first three quarters of 1979 and projected sales and earnings for the fourth quarter.
A & S Decision Case

Divisional Contributions To Sales and Earnings of Adams & Smith

<table>
<thead>
<tr>
<th>Year</th>
<th>Industrial Products</th>
<th></th>
<th>Consumer Products</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sales (a)</td>
<td>Earnings (a)</td>
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<tr>
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<tr>
<td>1974</td>
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<tr>
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<td>.02</td>
<td>818</td>
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<tr>
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<td>783</td>
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</tr>
</tbody>
</table>

(a) in millions of dollars
(b) minus sign (-) indicates a financial loss
(c) Estimated sales and earnings based on results through the first three quarters of 1979 and projected sales and earnings for the fourth quarter.
A & S Decision Case

It is now October, 1982. Three years have passed since you decided
to postpone the decision of how to invest the additional $20 million of
Research and Development funds. You must now make this second allocation decision.
Your third and final decision will still be made in October, 1984.

Recall that the additional funds may be split between the two divisions.
That is, you may distribute the money any way you like across the two divisions.
The decision is to be made on the basis of the potential benefit of the added
research funding to the future earnings of each division.

Consumer Products is to receive ____________ dollars.
Industrial Products is to receive ____________ dollars.

Total = $20,000,000

Write a brief paragraph defending your decision. (Use other side of page,
if necessary.)
APPENDIX J

SHIFTING RESPONSIBILITY: WITHDRAWAL ALLOCATION SHEET
A & S Decision Case

It is now October, 1982. Three years have passed since you decided to turn the $20 million Research and Development funding decision over to the Vice President of Research and Development. Management is interested in what you would have done if you had to personally make the decision of how to allocate the $20 million.

Management will still follow the funding decision of the Research and Development Vice President. You will still be held accountable for the decision made by this person. In addition, you will still make a third funding decision two years from now in October, 1984. However, management would like to see how you would have handled the second decision.

Recall that the additional funds may be split between the two divisions. That is, you may distribute the money any way you like across the two divisions. The decision is to be made on the basis of the potential benefit of the added research funding to the future earnings of each division.

Consumer Products is to receive ________________ dollars.
Industrial Products is to receive ________________ dollars.

Total = $20,000,000

Write a brief paragraph defending your decision. (Use other side of page, if necessary.)
APPENDIX K

COMMITMENT MEASURE: QUESTIONNAIRE B
QUESTIONNAIRE B

INSTRUCTIONS: There are two types of items on this questionnaire. For some items you will simply be asked to circle one of the choices presented. For the other items, use the scale shown below to indicate the extent to which you agree with each statement.

<table>
<thead>
<tr>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>NEITHER</th>
<th>AGREE NORMALLY</th>
<th>AGREE</th>
<th>AGREE</th>
<th>STRONGLY AGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTER 1-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Which division of the Adams and Smith Company did you choose to fund in the first allocation decision?
   (circle one)  a) Consumer Products   b) Industrial Products

2. I really care about the financial success of my initially chosen decision.

3. I feel a strong sense of loyalty to my initially chosen division.

4. I believe that my initial decision was the correct one.

5. Other people in the same situation would have made the same initial decision as I did.

6. I would be willing to give a short speech to the people in this room describing my reasons for funding my initially chosen division.

7. I feel certain that my initially chosen division was the best choice available.

8. Financial success for my initially chosen division would cause me to feel a sense of pride.

9. I would recommend that other people in the same situation fund my initially chosen division.

10. I feel personally responsible for the success or failure of my initially chosen division.
<table>
<thead>
<tr>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>AGREE NOR</th>
<th>AGREE</th>
<th>AGREE</th>
<th>STRONGLY AGREE</th>
<th>ENTER 1-7</th>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

11. From the start, I decided to stick with my initially chosen division no matter what problems were encountered. ____________

12. I would feel guilty if I abandoned the funding of my initially chosen division. ____________

13. If you had it to do over again, which division would you choose to initially fund?
   (circle one) a) Consumer Products   b) Industrial Products

14. Whether or not my initially chosen division succeeds, says some thing about me as a person. ____________

15. It would be difficult to persuade me to change my initial decision on which division to fund. ____________
APPENDIX L

THOUGHT LISTING: QUESTIONNAIRE A
QUESTIONNAIRE A

INSTRUCTIONS: List the thoughts or information you considered to be important in making your decision about what to do with the extra $20 million dollars of Research and Development funds.
APPENDIX M

BOLSTERING TACTICS: QUESTIONNAIRE D

147
QUESTIONNAIRE D

INSTRUCTIONS: Using the scale shown below, indicate the extent to which you agree that each statement influenced or is characteristic of the way you decided what to do with the $20 million.

<table>
<thead>
<tr>
<th>STRONGLY DISAGREE</th>
<th>SOMewhat DISAGREE</th>
<th>NEITHER DISAGREE</th>
<th>SOMewhat AGREE</th>
<th>AGREE</th>
<th>STRONGLY AGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. When making the decision about the $20 million, I tried to emphasize the positive features associated with my preferred division.

2. I tried to reduce my own personal responsibility for the funding decision.

3. I tried to deemphasize the negative features associated with my preferred division.

4. I felt that if worse came to worst I could always reverse or undo my decision before anything bad happened.

5. I tried to view the negative features of my preferred division as being acceptable or even desirable.

6. When making the decision about the $20 million, I didn't worry about the negative features of my preferred division because the next decision seemed far off into the future.

7. I paid closer attention to the good points about the A & S division I preferred.

8. I felt that if necessary, I could change my decision about the $20 million.

9. I didn't worry about my decision of what to do with the $20 million because practically no one else will know about my decision anyway.
10. I didn't pay much attention to the bad points about the A & S division I preferred............................

11. When making the decision about the $20 million, I arranged for someone else to take responsibility for the funding decision.......  

12. After a while, the negative points about my preferred division didn't seem so bad after all.................................
APPENDIX N

REPORT TITLES: QUESTIONNAIRE C
The following two paragraphs describe the products and services provided by the Consumer and Industrial Products divisions of the A & S Company. This information was presented in Part I of the case. The information is being given to you again to help you complete Questionnaire C.

The Consumer Products division covers the manufacture and sale of air conditioners, lamps, radio and TV receivers, stereo equipment, tape recorders, and a wide variety of household and personal appliances (e.g., stoves, ovens, and other kitchen appliances, electric irons, hair dryers, vacuum cleaners, automatic clothes washers and dishwashers, etc.), and appliance service. Adams & Smith is a major brand name in both electric appliances and home entertainment.

The Industrial Products division includes adjustable and constant-speed drives, batteries, capacitors, communications systems, controls, electric motors, equipment service, industrial heating, medical systems, meters, process computers, silicones, switch-gear, transformers, and wire and cable wiring devices. Government contracts, primarily for military and aerospace controls and electronic equipment, accounted for 15% of sales in 1973, making the federal government the largest single customer of the Industrial Products division.
QUESTIONNAIRE C

INSTRUCTIONS: Listed on this sheet are report titles dealing with factors affecting the current and future performance of both the Consumer Products and Industrial Products divisions. Other report titles relevant to the Adams & Smith Company are also included. Using the scale shown below, indicate how desirable the information contained in each report would be for you in your role as Financial Vice-President. That is, how much would you like to have the information in each report?

It will be necessary to look back at the descriptions of the two divisions in Part I of the case. This is so you will know which division provides the products mentioned in the report titles.

<table>
<thead>
<tr>
<th>REPORT TITLE</th>
<th>DESIRABLE SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Space Shuttle Success Results in Booming Aerospace Control Sales...</td>
<td></td>
</tr>
<tr>
<td>4. Sabotage in the Vacuum Cleaner Manufacturing Plant.......................</td>
<td></td>
</tr>
<tr>
<td>5. Updated A &amp; S Company Organizational Chart...............................</td>
<td></td>
</tr>
<tr>
<td>6. Rise in New Housing Starts Causing Increase in Washer and Dryer Sales...</td>
<td></td>
</tr>
<tr>
<td>7. Successful Modernization of Western Oven Production Facility..............</td>
<td></td>
</tr>
<tr>
<td>8. Resume and Accomplishments of A &amp; S Vice-President of Research and Development</td>
<td></td>
</tr>
<tr>
<td>9. Communication Systems Agreement With Developing African Nations...</td>
<td></td>
</tr>
<tr>
<td>11. Long-term Electric Motor Contract With Top U.S. Auto Maker..............</td>
<td></td>
</tr>
<tr>
<td>12. Charitable Contributions of the A &amp; S Company............................</td>
<td></td>
</tr>
<tr>
<td>13. Rock Video Popularity Hurting Tape Recorder Sales.......................</td>
<td></td>
</tr>
<tr>
<td>14. Salary Structure and Bonus Plans for Top A &amp; S Company Executives...</td>
<td></td>
</tr>
</tbody>
</table>

ENTER 1-7
In rank order, list the numbers and the titles of the five (5) reports you would most like to receive in your role as Financial Vice-President. You will receive these reports prior to making the third funding decision (October, 1984).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Report Number</th>
<th>Report Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 0

MANIPULATION CHECK: QUESTIONNAIRE E
QUESTIONNAIRE E

INSTRUCTIONS: Answer the following questions based upon what you remember about the case materials.

1. In Part II of the decision case, were you personally required to allocate the $20 million at that time (October, 1979)?
   YES  NO  DON'T KNOW (circle one)

2. If no, what else could you do with the money?

3. In Part II of the case, were there any "detailed reports" described?
   YES  NO  DON'T KNOW (circle one)
   If yes:

4. Who is preparing the reports?

5. In general, what type of information is contained in these reports?

6. When will you have the opportunity to receive this information?

7. I feel confident that the decision I made in Part II of the case was optimal.

   STRONGLY  DISAGREE  SOMEWHAT  AGREY  NEITHER  SOMEWHAT  STRONGLY
   DISAGREE  DISAGREE  DISAGREE  AGREE  NOR  AGREE  AGREE
   1      2      3      4      5      6      7

   RESPONSE (1-7): _______
APPENDIX P

POST QUESTIONNAIRE: QUESTIONNAIRE F
QUESTIONNAIRE F

INSTRUCTIONS: Using the scale shown below, indicate the extent to which you agree with each statement. If the question does not apply to you or you don't know how you feel about a statement, enter 0. Some questions will not apply to all people in the experiment.

<table>
<thead>
<tr>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>SOMEWHAT DISAGREE</th>
<th>SOMEWHAT AGREE</th>
<th>AGREED</th>
<th>STRONGLY AGREE</th>
<th>DOES NOT APPLY/DON'T KNOW (ENTER 1-7 OR 0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. The initial allocation of $10 million in Part I of the case affected my
   future allocations.................................................................

2. I understood the financial information presented to me................

3. I feel confident that the decision I made in Part II of the case was
   optimal.................................................................

4. A Vice-President of Research and Development was described in the case...

5. I believe that the Vice-President of Research and Development could make
   a better allocation decision than me (Financial Vice-President)........

6. The Vice-President of Research and Development was an expert in financial
   matters.................................................................

7. I didn't have much respect for the Vice-President of Research and Develop-
   ment.................................................................

8. I believed that I would receive additional information about the divisions
   in the form of reports during Part III.................................

9. I understood the financial information presented in the tables........

10. Once I got into it, the case seemed realistic............................

11. I enjoyed playing the role of Financial Vice-President...............

12. I understood the vocabulary used in the experiment..................

APPENDIX Q

MANIPULATION CHECK OPEN-ENDED RESPONSES
Table 15
Response Quality Frequencies for Follow-up Manipulation Check Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Independent Variable</th>
<th>Level</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2 (What else do with money?)</td>
<td>Courses of Action</td>
<td>Bolstering</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procrastinating</td>
<td>25</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shifting Responsibility</td>
<td>30</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>#4 (Who Prepares Reports?)</td>
<td>Forthcoming Information</td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>17</td>
<td>8</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>#5 (Type of Information in Reports?)</td>
<td>Forthcoming Information</td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>21</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>#6 (Opportunity to Receive Information?)</td>
<td>Forthcoming Information</td>
<td>No</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>26</td>
<td>4</td>
<td>2</td>
<td>1</td>
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</tbody>
</table>
APPENDIX R

CORRELATIONS AMONG COMMITMENT SCALE ITEMS
Table 16
Correlations Among Commitment Questionnaire Items (Decimal Point Omitted)

<table>
<thead>
<tr>
<th>Items</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (Care About Success)</td>
<td>44</td>
<td>31</td>
<td>15</td>
<td>13</td>
<td>38</td>
<td>45</td>
<td>28</td>
<td>39</td>
<td>27</td>
<td>20</td>
<td>21</td>
<td>37</td>
</tr>
<tr>
<td>3 (Strong Loyalty)</td>
<td>39</td>
<td>16</td>
<td>02</td>
<td>17</td>
<td>30</td>
<td>48</td>
<td>36</td>
<td>41</td>
<td>37</td>
<td>39</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>4 (Initial Choice was Correct)</td>
<td>25</td>
<td>28</td>
<td>55</td>
<td>10</td>
<td>49</td>
<td>24</td>
<td>18</td>
<td>07</td>
<td>24</td>
<td>49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 (Others do the Same as Me)</td>
<td>08</td>
<td>14</td>
<td>08</td>
<td>20</td>
<td>28</td>
<td>03</td>
<td>17</td>
<td>11</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 (Give Short Speech)</td>
<td>32</td>
<td>19</td>
<td>18</td>
<td>18</td>
<td>-01</td>
<td>-10</td>
<td>21</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 (Best Choice Available)</td>
<td>17</td>
<td>37</td>
<td>14</td>
<td>07</td>
<td>05</td>
<td>19</td>
<td>47</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 (Sense of Pride)</td>
<td>34</td>
<td>44</td>
<td>19</td>
<td>17</td>
<td>22</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>9 (Recommend Initial Choice)</td>
<td>36</td>
<td>30</td>
<td>12</td>
<td>25</td>
<td>46</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10 (Personal Responsibility)</td>
<td>20</td>
<td>23</td>
<td>42</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>11 (Stick with Choice)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>57</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>12 (Guilty if Abandoned)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>29</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>14 (Success Reflects on Me)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>15 (Difficult to Persuade Change)</td>
<td></td>
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<td></td>
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</tbody>
</table>
APPENDIX S

BOLSTERING TACTIC ITEM CORRELATIONS AND ROTATED FACTOR PATTERN MATRIX
<table>
<thead>
<tr>
<th>Item</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Emphasize Positive Features)</td>
<td>-05</td>
<td>-35</td>
<td>12</td>
<td>29</td>
<td>15</td>
<td>47</td>
<td>20</td>
<td>06</td>
<td>18</td>
<td>-19</td>
<td>23</td>
</tr>
<tr>
<td>2 (Reduce Personal Responsibility)</td>
<td>19</td>
<td>21</td>
<td>02</td>
<td>27</td>
<td>-01</td>
<td>17</td>
<td>16</td>
<td>03</td>
<td>31</td>
<td>-03</td>
<td></td>
</tr>
<tr>
<td>3 (Deemphasize Negative Features)</td>
<td>20</td>
<td>08</td>
<td>23</td>
<td>36</td>
<td>06</td>
<td>-03</td>
<td>20</td>
<td>01</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (Reverse or Undo Decision)</td>
<td>17</td>
<td>29</td>
<td>03</td>
<td>72</td>
<td>31</td>
<td>12</td>
<td>27</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 (Negative Features Desirable)</td>
<td>00</td>
<td>07</td>
<td>27</td>
<td>10</td>
<td>03</td>
<td>01</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 (Decision Off in Future)</td>
<td>39</td>
<td>29</td>
<td>38</td>
<td>34</td>
<td>01</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 (Attention to Good Points)</td>
<td>19</td>
<td>10</td>
<td>33</td>
<td>-11</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8 (Felt Could Change)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>38</td>
<td>10</td>
<td>17</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>9 (Decision is Secret)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31</td>
<td>19</td>
</tr>
<tr>
<td>10 (Little Attention to Bad Points)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>09</td>
</tr>
<tr>
<td>11 (Shifted Responsibility)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 (Negative Points Seemed OK)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Table 17
Correlations Among Bolstering Tactic Questionnaire (Decimal Point Omitted)
Table 18
Rotated Factor Matrix for Bolstering Tactics
Questionnaire (Decimal Point Omitted)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>1 (Emphasize Positive Features)</td>
<td>12</td>
</tr>
<tr>
<td>2 (Reduce Personal Responsibility)</td>
<td>08</td>
</tr>
<tr>
<td>3 (Deemphasize Negative Features)</td>
<td>-05</td>
</tr>
<tr>
<td>4 (Reverse or Undo Decision)</td>
<td>73</td>
</tr>
<tr>
<td>5 (Negative Features Desirable)</td>
<td>19</td>
</tr>
<tr>
<td>6 (Decision Off in Future)</td>
<td>15</td>
</tr>
<tr>
<td>7 (Attention to Good Points)</td>
<td>-02</td>
</tr>
<tr>
<td>8 (Felt Could Change)</td>
<td>85</td>
</tr>
<tr>
<td>9 (Decision is Secret)</td>
<td>28</td>
</tr>
<tr>
<td>10 (Little Attention to Bad Points)</td>
<td>-13</td>
</tr>
<tr>
<td>11 (Shifted Responsibility)</td>
<td>05</td>
</tr>
<tr>
<td>12 (Negative Points Seemed OK)</td>
<td>-09</td>
</tr>
</tbody>
</table>
APPENDIX T

CORRELATIONS AMONG MAJOR DEPENDENT VARIABLES
Table 19  
Correlations Among Major Dependent Variables

<table>
<thead>
<tr>
<th>Item</th>
<th>COR</th>
<th>LOY</th>
<th>SUC</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocations to Initial Choice</td>
<td>26</td>
<td>19</td>
<td>10</td>
<td>16</td>
<td>-11</td>
<td>-03</td>
<td>03</td>
<td>-05</td>
<td>-10</td>
</tr>
<tr>
<td>Correctness of Initial Choice (Commit.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty to Initial Choice (Commit.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactic 1 Composite (Exag. Favorable)</td>
<td>03</td>
<td>18</td>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactic 2 Composite (Minimize Unfavor.)</td>
<td>-18</td>
<td>09</td>
<td>-04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactic 3 Composite (Deny Aversive)</td>
<td>-15</td>
<td>07</td>
<td>-05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactic 4 (Exag. Remoteness)</td>
<td>-13</td>
<td>21</td>
<td>-06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactic 5 (Minimize Surveillance)</td>
<td>-28</td>
<td>06</td>
<td>-17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactic 6 Composite (Minimize Respon.)</td>
<td>-20</td>
<td>01</td>
<td>-06</td>
<td></td>
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</table>