

AN EXTENTION OF THE SELF-ESTEEM EXPLANATION FOR
INFORMATION SEARCH AND POLICY CONSISTENCY.

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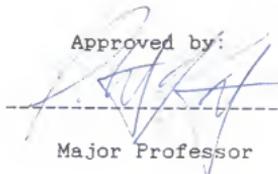
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INTRODUCTION

Understanding the set of psychological variables that affect the consistency of managerial practices has been an issue addressed in both experimental and field studies. The predominant, but not completely answered, question put forth by these studies is: What are the psychological individual difference variables that affect information search and consistency in the policy decision-making process? Understanding these intervening individual difference variables would allow for a systematic evaluation of an individual's decision processes as well as predictions for future situations based on the individual's psychological profile. Considering the dynamic nature of managerial positions, such prediction could allow for more valid selection procedures, and managerial training programs that expand managers' policy practices beyond their personality-based strategies.

In the chronological sequence of the policy decision-making process, four basic components can be specified. First, information is gathered in an attempt to understand the potential effects of the

policy and predict its ultimate success. Second, the policy is selected. Third, the policy selected in the second step is implemented. Finally, this policy's implementation will yield some effect producing feedback, either positive or negative, for the policy maker. It is in this step that policy effectiveness may be reduced if the policy maker is not flexible in considering possible alternatives or revisions to the already implemented policy.

An argument against rigid consistency in policy decisions was first proposed by Campbell (1969) in his discussion of "reforms as experiments." Campbell contended that we should be ready for an experimental approach to social reform, "an approach in which we try new programs, in which we learn whether or not these programs are effective, and in which we retain, imitate, modify, or discard on the basis of apparent effectiveness on the multiple imperfect criteria available" (Campbell, 1969; p. 1). The political program evaluation paradigm that Campbell proposed can easily be reconceptualized as a formalized policy evaluation program implemented at the managerial level of an organization. As Campbell (1977) noted, the advantages of such a system appear so obvious that one

might wonder why it is so infrequently used. Perhaps an important drawback to such a system is the necessity for flexibility on the part of those responsible for setting policies.

A major contribution to the area of managerial flexibility, and more specifically to the self-justification process, has come from the work of Staw and his associates (i.e. Fox & Staw, 1979; Staw, 1981; Staw, 1976; Staw, 1976; Staw & Fox, 1977; and Staw & Ross, 1978). Staw (1976) described a somewhat counterintuitive situation, in which after a person's behavior has led to negative consequences, he or she cognitively distorts the consequences to more positively valent outcomes, rather than changing his or her behavior. Consider this situation in the context of an investment decision. Staw contended that a poor or unsuccessful decision will produce a negative cyclical process whereby the individual will increase commitment in the face of negative feedback (e.g devaluation of a newly purchased stock) in order to justify previous behavior. Unfortunately, this increase in commitment to the "failing" decision can often lead to further negative consequences.

This self-justification process, whereby an individual seeks to rationalize his or her previous behavior, or to psychologically defend himself or herself against adverse consequences, has most frequently been tested in the forced-compliance paradigm (Festinger & Carlsmith, 1959). Typically, an individual is induced to perform an unpleasant or dissatisfying act such as lying to a fellow subject about the nature of a task, or writing an essay against one's own position. Negative consequences result from carrying out each of these counterattitudinal acts when no external rewards are present to compensate for the dissatisfying task. However, since it is difficult for the subject in this forced compliance situation to ignore the consequences of his or her acts, the individual is expected to bias his or her attitude on the experimental task so as to cognitively reduce any negative outcomes resulting from this behavior (Staw, 1976). More specifically, it is predicted that the individual will justify his or her previous behavior through the perceptual biasing of behavioral outcomes.

Empirical research assessing the necessary components of this forced compliance paradigm has

suggested that two basic preconditions are necessary for the biasing of outcomes. First, the individual must be committed to a decision that is irrevocable or at least not easily changed (Brehm & Cohen, 1962). Second, and perhaps even more important, the individual must feel personally responsible for the negative consequences of the previous behavior (Carlsmith & Freedman, 1968). This responsibility comes from some degree of perceived choice in the initial decision, as well as anticipation of potential negative consequences from the decision. In the forced compliance paradigm both commitment and responsibility act as intervening variables that affect the salience and magnitude of perceptual and behavioral shifts.

Staw (1976) empirically assessed this self-justification process in the form of escalation of commitment to a previously chosen, failing course of action. Two-hundred and forty undergraduate business students were asked to read a case study (financial decision case) and act on the information as a financial decision maker. In short, the participants were asked to decide how much money should be allocated to an extended research and

development program. Variables manipulated involved consequences or outcomes (positive and negative) and personal responsibility (high and low). This formed a 2 x 2 factorial design in which personal responsibility and decision consequences were the manipulated independent variables. The most interesting result, confirming the escalation of commitment hypothesis, was the significant interaction of personal responsibility and decision consequence. The amount invested in the previously chosen alternative was greater in the high personal responsibility-negative consequences condition than in any of the other experimental conditions. Staw contended, from the results of the study, that individuals invested a substantially greater amount of resources when they were personally responsible for the negative consequences.

In an attempt to further specify the components underlying this escalation of commitment phenomenon, Staw and Fox (1977) conducted a study tapping some variables hypothesized to be relevant to the decision context. This study added to Staw's (1976) previous work by addressing three new questions. First, it asked whether the escalation of commitment is a

transitory phenomenon, or if it is capable of persisting over a period of time. Second, it asked if commitment to a losing alternative can be built up over time even though a decision maker may not have been personally responsible for the original course of action which led to adverse consequences. Third, it asked whether the efficacy of resources committed to a course of action will affect the process of escalation or withdrawal. That is, does it make a difference whether it is highly probable that the commitment of new resources will turn an unfavorable situation around (i.e. high efficacy) or if it is highly uncertain that new resources will improve investment returns (i.e. low efficacy)? This led to a 2 x 2 x 3 factorial design with personal responsibility, efficacy of resources, and time as independent variables, respectively. The experimental scenario was similar to that in the Staw (1976) study, where subjects played the role of a corporate executive making decisions about the allocation of research and development funds, with the addition of a three-incident temporal factor.

The results revealed a significant decline in commitment over time for high-responsibility subjects,

while low-responsibility subjects maintained or slightly increased their commitment. A similar trend was found for the efficacy manipulation. Apparently, after receiving negative feedback on the initial investment, a statistically significant number of subjects greatly escalated the commitment of resources to the previously chosen course of action. However, upon receiving additional negative consequences, subjects tended to withhold or reduce the magnitude of new investment. Finally, after receiving further negative results, investments increased again. The authors contended that this increase in the allocation of resources partially supported the self-justification explanation, emphasizing the importance of the slight increase in allocation of resources at the third temporal incident (which incidentally, followed a decrease after the second temporal incident). Although the self-justification explanation accounted for the escalation of commitment to a failing policy if efficacy and responsibility are high, it did not completely explain the willingness of subjects (in the face of continued negative feedback) to actively attempt to probe and learn from the system over time, thereby reducing commitment to the initial

decision. This led to a multitheoretical approach to the escalation of commitment.

In a study designed to tap some of the variables relevant to policy situations and to compare specific predictions derived from six psychological theories, Staw and Ross (1978) added a feedback manipulation and investigated how individuals process information following negative versus positive feedback. Among the theories tested in this decision context were reinforcement, expectancy, self-justification, reactance, learned helplessness, and invulnerability (for a complete explanation, see Staw & Ross 1978). In this study, previous success/failure and causal information about setback (or policy failure) were both experimentally varied.

Results showed that subjects invested more resources in a course of action when information pointed to an exogenous rather than endogenous cause of setback, and this tendency was more pronounced when subjects had previously been given failure rather than success feedback. These results were interpreted as showing that individuals will reduce their commitment to a course of action where prospects for future gain are bleak, but that they will continue to invest large

amounts of resources when provided an external cause for failure and some hope of recouping their losses (Staw, 1981). The results and corresponding interpretation of this study did not fully support the previous self-justification explanation for the escalation of commitment to a failing policy. Interestingly, the reactance explanation, which does not specify the direction of commitment, but states that in the face of failure the individual will become motivationally aroused to re-establish his or her competence (Brehm, 1968), appeared to have the greatest predictive value of all the models tested.

Brehm's (1968) theory of psychological reactance was originally formulated to account for individual reactions to a restriction of freedom. However, it has been extended to individual reactions to the restriction of outcomes (Wortman & Brehm, 1975). According to reactance theory, when individuals do not attain the outcomes they desire, they become motivated to take action to improve their fates. Therefore, this theory asserts that the individual will act rationally, intensifying information search and cognitive acuity to attain greater future outcomes.

Staw and his associates had previously emphasized the role of internal justification as the underlying process responsible for the "knee deep in the big muddy" phenomenon. However, Fox and Staw (1979) demonstrated the role of external justification in this decision process. In the "knee deep in the big muddy" scenario, administrators who are vulnerable to job loss or who implement a policy they know will be unpopular would be especially motivated to protect themselves against failure. This scenario should lead to a strong need for external (as opposed to internal) justification. The hypothesized outcome of this external justification for a failing policy would be the same as that for internal justification -- escalation of commitment of resources. As expected, through the use of a simulation manipulating job security and policy resistance, results showed that when a course of action led to negative consequences, the simulated administrators who were both insecure in their jobs and who faced stiff policy resistance were most likely to escalate their commitment of resources and become locked into the losing course of action (Fox & Staw, 1979).

Beyond the psychological justification processes that affect the policy decision-making practices observed in organizations and experiments, evidence for norms of consistency provide another explanation for the escalation of commitment to failing policies. It has been contended (Knight, 1984; Staw & Ross, 1980) that society might perceive administrators who are consistent in their actions as being better leaders than those who switch from one line of behavior to another. To test this empirically, Staw and Ross (1980) conducted an experiment on the reactions of individuals to selected forms of administrative behavior. Subjects were both practicing managers and undergraduates in business and psychology. Each subject read a case description of an administrator's behavior. Manipulated in the case descriptions were consistency versus experimentation in the administrator's course of action, as well as the ultimate success or failure of the policy. Results showed that administrators were rated highest when they followed a consistent course of action and were ultimately successful. Also, there was a significant interaction of consistency and success such that the consistent-successful administrator was

rated more highly than would be predicted by the two main effects of these variables.

The authors (Staw & Ross, 1980) contended that this supported their predicted "hero effect," where the administrator who remained committed through apparent strategic failures was expected to obtain eventual success. Furthermore, it was suggested that not only is consistency in action perceived to be part of effective leadership, but that this perception may be acquired through socialization in business and government roles (Staw, 1981).

To test this "heroism effect" for the consistent manager, Knight (1984) conducted a study testing the effects of heroism against an implicit theory of competent management. Knight noted Campbell's (1967, 1969, 1977) work suggesting that experimenting management should lead to a system in which ineffective solutions to problems are weeded out while effective solutions are expanded and utilized. In Knight's (1984) study 195 undergraduate psychology students read a case study describing a manager who was either experimenting or consistent, and either immediately successful or successful only after initial failure. The dependent measure was very

similar to that used in the Staw and Ross (1980) study, 7-point Likert items for rating the performance or competence of the manager in the scenario. The items were summed to form a single global rating.

The results supported the implicit theory of competent management; the consistent manager, whose first policies were effective, was rated significantly higher than the ultimately successful-experimenting manager (i.e. Staw and Ross' "hero") whose first policy failed. Also, contrary to Staw and Ross' (1980) findings, the immediately successful experimenting manager was rated significantly higher than all other managers. From these results, Knight (1984) concluded that there is not a general bias against experimentation in favor of consistency, and reactions to managers are based more upon evidence of competence than upon experimenting and consistency per se.

SELF-ESTEEM

While a number of factors related to commitment and experimenting have been studied, relatively little is known about the relationship between individual difference variables and these behaviors (Knight,

1980). Knowledge about the relationship between specific individual difference variables (e.g. self-esteem) and commitment versus experimenting in management practices would be useful for predicting individual effectiveness in various task situations. Along with "intelligence," "self-esteem" may be the attribute most commonly considered in both professional and lay discussions of personality and social functioning (Wells & Marwell, 1976). Its effects have been empirically assessed in a number of content areas, including conformity (Gergen & Bauer, 1976), dishonest behavior (Aronson & Mettee, 1968), competitive behavior (Graf & Hearne, 1970), interpersonal interaction (Lenard, 1973), task achievement (Korman, 1967), and information search and task success (Weiss & Knight, 1980).

Rosenberg (1965) viewed self-esteem as a kind of evaluative attitude. According to Rosenberg, all self-attitudes have an evaluative dimension which produces a "self-estimation" of the attitude object—"how the individual actually rates himself with regard to a particular characteristic" (Rosenberg, 1965, p. 246). All self-estimates are not equally important, but vary according to the self-value of the attitude-

"how much he cares about the quality" (Rosenberg, 1965, p. 246). With each self-estimate weighted by its corresponding self-value, the overall self-esteem of the individual represents some kind of psychological summation of these specific weighted self-evaluatlions. This weighted summation is conceptualized as chronic self-esteem, an enduring and stable self-evaluation.

In organizational behavior research, low self-esteem has generally been considered dysfunctional (Dipboye, 1978; Korman, 1966). Gefland (1962) defined self-esteem as a person's characteristic evaluation of himself or herself, and what he or she thinks of himself or herself as an individual. Thus, low self-esteem is characterized by a sense of personal inadequacy and a historical inability to achieve need satisfaction. Applying this definition, Korman (1966) contended that low-self-esteem people should be less likely to choose occupations that they perceive to be most likely to fulfill their specific needs, labeling them as "nonsself-appropriate." As part of his self-consistency theory, Korman (1970) went on to predict that people are motivated to maintain

consistency with the social, task, and chronic components of self-esteem. Therefore, individuals low in self-esteem should typically behave in ways that are consistent with their low self-image, as opposed to high-self-esteem individuals who perceive themselves as successful and behave accordingly. Dipboye (1977) contended that the low self-esteem person will attempt to maximize psychological success and minimize future failure through a defensive lack of effort. Furthermore, he suggested that these attempts might be self-defeating. Korman (1974) stated that his theory would predict that only high self-esteem individuals would use their individual motives and their desires to satisfy them as guides and cues to their behavior, since motive satisfaction would be consistent only with high self-esteem and not with low. According to this theoretical perspective, high self-esteem should always be functional and, conversely, low self-esteem always dysfunctional.

However, more recent empirical research efforts have yielded results suggesting that this simple dichotomy may not generalize to all performance-oriented situations. Weiss (1977, 1978) has suggested that differences in self-esteem will influence the

extent of information search. Individuals high in self-esteem generally have more confidence in their initial approaches to problems, and will therefore seek less information before offering solutions and making decisions. Weiss and Knight (1980) found that the self-esteem of subjects working on a problem-solving task was negatively correlated with both the extent of their information search and their ultimate task success. They concluded that self-esteem may be related to individual task efficiency, with low-self-esteem people, who gather more information about possible solutions before implementing them, performing better on tasks where the one best solution must be identified, and high-self-esteem people, who search for less information before trying a solution, performing better on tasks with obvious solutions, time constraints, or where information search is costly (Knight, 1980).

This theoretical conceptualization has much in common with the experimenting management approach described by Campbell (1977), where experimenting managers gather more information about their policies utilizing a quasi-formal policy evaluation. Weiss and

Knight's (1980) discussion predicts that experimenting managers may have lower self-esteem than consistent managers, or conversely, low self-esteem managers should display higher levels of experimenting.

As an extension of this theoretical paradigm, Knight and Nadel (1986) conducted research utilizing a computer simulation to study the relationship between self-esteem and the information search and policy consistency of subjects. Based on the results of prior research findings (Weiss & Knight, 1980), it was predicted that there would be a negative relationship between self-esteem and both experimenting and information search. In the scenario subjects were told that they were the manager of a large manufacturing corporation. Their task was to reduce an arbitrary defect rate described in the scenario by implementing any of three possible policies. A list of costs for policy implementation and an operating budget were given to the subjects. Two measures each of consistency (vs. experimenting) and information search were derived. The information search measures were the number of requests for performance feedback as well as requests for the operating budget balance. The consistency measures were the number of weeks (in

the scenario) the subject waited before the initial policy was abandoned in favor of one of the alternatives, and the number of times the subject changed policies. Self-esteem was measured using the Rosenberg Self-Esteem Inventory (Rosenberg, 1965). As predicted, there were significant negative relationships between self-esteem and both experimenting (number of policy changes) and information search (requests for performance feedback and other information).

OTHER THEORETICAL VARIABLES

In an attempt to further specify the relationship between self-esteem and information search and consistency in the policy decision making process, the present research expanded upon the existing literature. Staw (1976) found that commitment to failing policies was greater than commitment to successful policies, and that commitment to a failing policy was greatest when subjects were personally responsible for the policy. However, Staw's experiment dichotomized responsibility, splitting subjects into high- and low-responsibility conditions. Beyond this, little has been done to understand other

variables that might moderate the relationship between self-esteem and both information search and consistency in the policy-making context. It appears that the relationship of self-esteem and information search and consistency has been empirically confirmed (Knight & Nadel, 1986; Weiss & Knight, 1980); however, efforts need to be directed toward gaining a better understanding of the theoretically related variables.

Four hypothetically related mediator variables, commitment to, responsibility for, confidence in, and attribution (internal vs. external) for success or failure for the policy or policies chosen, were included in the study. As outlined in the hypotheses, it was expected that each of these variables would be differentially related to self-esteem.

HYPOTHESES

Based upon the findings discussed (Knight & Nadel, 1986; Weiss & Knight, 1980), it was hypothesized that self-esteem would be negatively correlated with the frequency of information search concerning additional policy information and policy performance, negatively correlated with the frequency of policy change, and positively correlated with the

length of time the initial policy is allowed to operate.

As in previous research, it was expected that self-esteem would be positively related to commitment, such that high-self-esteem subjects would remain more committed in the face of failing feedback than subjects lower in self-esteem. Although these effects have been shown behaviorally (Knight & Nadel, 1986; Weiss & Knight, 1980), with commitment being inferred from consistency in policy selection, the present study attempted to obtain a more direct measure of the relationship.

Confidence was hypothesized to be similarly related to self-esteem as commitment. Weiss and Knight (1980) suggested that individuals high in self-esteem generally have more confidence in their initial approaches to problems. Subjects high in self-esteem were expected to remain highly confident through the course of negative policy feedback, while those with lower levels of self-esteem were expected to feel progressively less confident throughout the simulation, resulting in increased experimenting behavior.

The relationship of self-esteem to responsibility for policy selection was hypothesized to be more complex. High-self-esteem subjects were expected to initially perceive high personal responsibility for their positive policy outcomes; however, these perceptions of responsibility were expected to reduce slightly in the face of continued failing feedback. This effect was expected to be reflected behaviorally, following Staw's (1976) logic that high personal responsibility should lead to greater investment of resources. Furthermore, when the continued allocation of resources to a failing policy did not rectify the situation, the self-justification process should shift responsibility to external channels. Low-self-esteem subjects, maintaining consistency with their self-image (Korman, 1970), were expected to perceive increasing personal responsibility for their negative situation as they searched for information that could lead to success.

Finally, it was hypothesized that high self-esteem subjects would initially attribute their performance to internal factors. High self-esteem individuals typically attribute their success to internal factors while individuals lower in

self-esteem are generally less likely to internalize their success (Wells & Marwell, 1976).

High-self-esteem subjects were expected to remain fairly consistent in their internal attributions. However, with the continued negative feedback over the course of the second simulation, subjects low in self-esteem were expected to internalize the attributions of failure, attempting to rectify their situation and find the best solution to the problem.

In summary, it was expected that differences in self-esteem would lead to differential psychological reactions to the negative policy feedback received in the second simulation. More specifically, these differential psychological reactions were expected to produce behavioral differences reflected in policy consistency and information search.

METHOD

Subjects

Subjects were 98 undergraduate students (41 female, 57 male) enrolled in General Psychology at Kansas State University. Subjects participated in the study in partial fulfillment of a course requirement.

Procedure Overview

Subjects were run individually, completing a two-part management computer simulation run on a microcomputer. After filling out a self-esteem measure, each subject worked on the first management simulation. The simulation presented a problem that the subject, playing the role of a manager, was to solve, given three policy options recommended by a consultant. The subject was instructed to select and implement a policy. Upon receiving policy feedback, the subject was given the option to either "stick with" or change his or her selected policy. In the first simulation, the subject was given success feedback regardless of policy(s) selected. The subject then filled out two scales; one tapping task-specific self-esteem, and the other assessing commitment to, confidence in, responsibility for, and

internal versus external attribution for the outcomes of the implemented policy(s). Once these scales were completed, the subject returned to the computer for the second part of the management simulation. This procedure was identical to the first simulation, except the subject received feedback indicating the failure of his or her selected policies. At the completion of the second simulation, the subject filled out a second set of scales identical to those given at the completion of the first simulation. The subject was then fully debriefed.

Procedure

All subjects were given a chronic self-esteem scale at the beginning of the experiment, the Rosenberg Self-Esteem Inventory (Rosenberg, 1965; see Appendix A). Subjects were run individually. After completing the chronic self-esteem scale, subjects began the management simulation, run on a microcomputer. The simulation presented a problem that the subject, playing the role of a manager, was to attempt to solve. The simulation consisted of two parts, with the subject attempting to consecutively solve the problems of two closely similar companies.

In each part of the simulation the subject was told that he or she was to play the role of a manager of a large manufacturing corporation that had been losing profits due to low employee motivation and consequent low production. Three policy options, supposedly recommended by industrial psychologists, were presented to the acting manager. The subjects were instructed to select one of these policies in an attempt to raise employee motivation and production. A simulated time frame of 18 "weeks" was given for the subjects to solve the problem; they received feedback "every two weeks" on how they were doing. This provided a total of 9 chances to either "stick with" or change policies in hope of solving the problem and bringing production back up to an acceptable level of 10 units per hour per employee.

Each subject was given an operating budget of \$10,000 at the beginning of the simulation. Cost and pay-off contingencies for changing policies, inquiring about operating budget balance, and increasing production level (above 10 units/hour), as well as receiving additional information on each of the policies, were also given to the subjects. Subjects were told that the simulation would be successfully

terminated if they had maintained a production level of 10 units/hour or above for two consecutive feedback periods (4 weeks). For the complete simulation instructions, see Appendix B.

Once the instructions had been given to the subjects, they began the first part of the simulation. In this initial task all subjects were told that they had successfully solved the motivation problem during the first two feedback periods by restoring the production level to 10 units/hour. This was the task-specific self-esteem manipulation. At this point the subjects were asked to fill out a task-specific (versus chronic) self-esteem scale, as well as graphic rating scales measuring levels of commitment to, responsibility for, confidence in, and internal vs. external attribution for outcomes of the implemented policy. See appendixes C and D, respectively, for these scales.

Once these two scales were completed, the subject began the second part of the management simulation. This second simulation differed from the first in that the subject received failure feedback regardless of the type or number of policies he or she implemented over the course of the 18 weeks. At the completion of

the managerial simulation, each subject filled out a second set of graphic rating scales measuring levels of commitment, responsibility, confidence, and attribution for failure, and a task-specific self-esteem scale. Finally, subjects were fully debriefed.

Self-Esteem

Self-esteem was measured by two different scales, one for chronic self-esteem and one for task-specific or state self-esteem (used twice, once after each simulation). Chronic self-esteem was measured using the Rosenberg Self-Esteem Inventory (Rosenberg, 1965). This scale has 10 four-point Likert items on which subjects indicate the extent of their agreement with statements about their own competence and worth. Knight and Nadel (1986), from two separate samples, reported coefficient alpha reliabilities of .82 and .83, with mean scores around 32.2 (32.19 & 32.11) and standard deviations of 4.08 and 4.40. The mean of the Rosenberg Self-esteem Inventory in the present sample was 33.4, and the standard deviation was 3.50. The coefficient alpha reliability was .78.

The task-specific self-esteem scale was in graphic rating scale format. Subjects responded to statements concerning their competence and ability on the task simulated in the computer scenario (see Appendix C for the scale). The mean, standard deviation, and coefficient alpha reliability for the first administration of the scale were 21.38., 4.29, and .79, respectively. The mean, standard deviation, and coefficient alpha for the second administration (after the failing policy feedback) were 19.40, 4.80, and .83, respectively.

Other Theoretically Related Variables

Other variables assessed in this study included commitment to, responsibility for, confidence in, and attributions for the policy decisions made during the simulation. Each of these variables was measured using a graphic rating scale similar to that used for the task-specific self-esteem scale. Subjects responded to statements, indicating their degree of agreement (see Appendix D for scale). The 14-item scale, administered twice (once after each simulation), was composed of items that tapped each of the four variables. Both confidence and attribution

were measured with the sum of 4 items, while commitment and responsibility were each measured with the sum of 3 items. The means, standard deviations and coefficient alpha reliabilities for all mediator variables (time 1 and time 2) are presented in Table 1.

TABLE 1
Means, Standard Deviations, and Coefficient Alpha
Reliabilities.

| | Mean | S.D. | Coefficient Alpha |
|------------------------|-------|------|-------------------|
| <u>Criteria</u> | | | |
| 1. Policy Change | 1.47 | 1.42 | |
| 2. Request Balance | 1.44 | 1.56 | |
| 3. Additional Info. | 1.66 | 1.04 | |
| 4. Policy Length | 10.28 | 5.77 | |
| <u>Scale Measures</u> | | | |
| 5. Self-Esteem | 33.40 | 3.50 | .782 |
| 6. Task S.E. (1) | 21.38 | 4.29 | .798 |
| 7. Task S.E. (2) | 19.40 | 4.80 | .834 |
| 8. Commitment (1) | 14.06 | 3.07 | .745 |
| 9. Commitment (2) | 12.80 | 3.30 | .781 |
| 10. Confidence (1) | 18.30 | 3.68 | .789 |
| 11. Confidence (2) | 16.08 | 4.17 | .821 |
| 12. Responsibility (1) | 12.98 | 2.84 | .480 |
| 13. Responsibility (2) | 12.26 | 2.84 | .642 |
| 14. Attribution (1) | 17.76 | 3.48 | .454 |
| 15. Attribution (2) | 14.29 | 4.05 | .643 |

Criteria

Two measures of information search and policy consistency were utilized. The first information search measure was the number of times the subjects requested the operating budget balance. Although the subjects could have figured out their operating budget themselves, previous research (Knight & Nadel, 1986) suggests that they do not. The second, and perhaps more relevant, measure of information search was the number of requests for additional information about each of the policies. Obtaining additional information about a failing policy should enhance one's ability to determine the optimal solution for rectifying the policy situation. The consistency measures were the number of weeks before the initial policy was abandoned in favor of one of the alternatives, and the number of times the subject changed policies. The inverse relationship between length of first policy and frequency of policy change led to the differential hypotheses of these variables as correlated with self-esteem.

RESULTS

It was predicted that self-esteem would be negatively correlated with the frequency of information search concerning additional policy information and policy performance, negatively correlated with the frequency of policy change, and positively correlated with the length of time the initial policy was allowed to operate.

In summary, it was expected that differences in self-esteem would lead to differential psychological reactions to the negative policy feedback received in the second simulation. More specifically, these differential psychological reactions were expected to produce behavioral differences reflected in policy consistency and information search.

In order to interpret the self-esteem correlations reported below, it is necessary to demonstrate that initial policy choice was unrelated to either self-esteem or subject sex. If high- and low-self-esteem subjects (or male and female subjects) tended to select different initial policies, it is possible that those differences could account for

subsequent differences in consistency and search behaviors (Knight & Nadel, 1986). A multiple discriminant function analysis, predicting initial policy choice from self-esteem and subject sex, was conducted and showed that neither self-esteem nor sex predicted initial policy choice, Wilk's Lambda = .708, $X^2(2, N=98) = 2.066, p > .35$.

Zero-order correlations among the criteria, subject sex, and all of the proposed mediator variables (time 1 & 2) are presented in Table 2. The marginally significant positive correlation between chronic self-esteem and initial policy length ($p < .10$) suggests that subjects high in self-esteem did hold onto their initial policy longer than those lower in self-esteem. All other correlations involving chronic self-esteem and the behavioral measures were not statistically significant, thus failing to support the hypothesis. The correlation between subject sex (coded 1=female, 2=male) with number of balance requests was marginally significant ($p < .10$), with women requesting operating budget balances more often than men.

TABLE 2
Correlations of all Variables.

| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------------------------|-----|--------|-------|---------|--------|---------|--------|---------|--------|---------|--------|--------|--------|--------|-------|
| 1. Self-Esteem | .07 | -.04 | .15* | -.10 | .34*** | .43*** | .01 | .31*** | .09 | .24** | -.01 | .14 | .13 | .13 | .04 |
| 2. Add. Info. | | .54*** | -.12 | .16* | -.18* | -.11 | .11 | .04 | -.06 | .12 | -.04 | .28** | .04 | .13 | .00 |
| 3. Balance Req. | | | -.17* | .20** | -.20** | -.24*** | -.04 | -.11 | -.03 | -.02 | -.12 | .03 | -.01 | -.05 | -.16* |
| 4. Policy Length | | | | -.72*** | -.05 | .07 | -.08 | .43*** | -.01 | .29*** | .12 | .12 | -.04 | -.17* | .12 |
| 5. Policy Change | | | | | .07 | -.02 | .18 | -.36*** | .07 | -.28*** | -.02 | -.06 | .09 | .22** | -.11 |
| 6. Task Self-Esteem (1) | | | | | | .73*** | .43*** | .28*** | .53*** | .25*** | .26*** | .10 | .13 | .09 | .11 |
| 7. Task Self-Esteem (2) | | | | | | | .29*** | .32*** | .35*** | .17* | .16* | .11 | .02 | .16* | |
| 8. Commitment (1) | | | | | | | | .37*** | .68*** | .31*** | .41*** | .21** | .28*** | .06 | .02 |
| 9. Commitment (2) | | | | | | | | | .31*** | .67*** | .34*** | .41*** | .26*** | .10 | .03 |
| 10. Confidence (1) | | | | | | | | | | .35*** | .33*** | .19 | .31*** | .09 | .03 |
| 11. Confidence (2) | | | | | | | | | | | .26*** | .40*** | .14 | .07 | .12 |
| 12. Responsibility (1) | | | | | | | | | | | | .49*** | .28*** | .08 | .05 |
| 13. Responsibility (2) | | | | | | | | | | | | | .37*** | .39*** | .12 |
| 14. Attribution (1) | | | | | | | | | | | | | | .50*** | .00 |
| 15. Attribution (2) | | | | | | | | | | | | | | | -.03 |
| 16. Sex | | | | | | | | | | | | | | | |

* = p. < .10.

** = p. < .05

*** = p. < .01

Note that task-specific self-esteem showed significant correlations with the information search measures, additional information ($p. <.10$) and balance requests ($p. <.05$ & $p. <.01$). However, no significant correlations were found for task-specific self-esteem with the policy consistency measures, policy length and policy change.

It was expected that self-esteem would be positively related to commitment, such that high-self-esteem subjects would remain more committed in the face of failing feedback than subjects lower in self-esteem. Confidence was also predicted to be positively related to self-esteem. Subjects high in self-esteem were expected to remain highly confident through the course of negative policy feedback, while those with lower levels of self-esteem were expected to feel less confident, resulting in experimenting behavior.

The correlations show support, at time 2, for the relationships between chronic self-esteem and both commitment ($r = .31, p.<.01$) and confidence ($r = .24, p.<.05$). As predicted, high-self-esteem subjects

remained more committed to, and confident in, their policy decision in the face of failing feedback.

The relationship of self-esteem to responsibility for policy selection was hypothesized to be more complex. High-self-esteem subjects were expected to initially perceive high personal responsibility for their policy outcomes; however, these perceptions of responsibility were expected to eventually reduce in the face of continued failing feedback. Low-self-esteem subjects, maintaining consistency with their self-image (Korman, 1970), were expected to perceive increasing personal responsibility for their negative situation as they searched for information that could lead to success.

Time 1 versus time 2 t tests, dichotomizing self-esteem, were used to assess differential changes in responsibility over time. As predicted, with the repeated failure feedback received in the second simulation, the high-self-esteem group showed a significant decrease in responsibility over time ($t=2.05$, $p.<.05$). Although the low-self-esteem group did not show the expected increase in responsibility at time 2, their decrease was not statistically

significant ($t=1.54$, N.S.). This suggests that the low-self-esteem subjects, relative to their higher-self-esteem counterparts, did maintain greater responsibility for their failing policies.

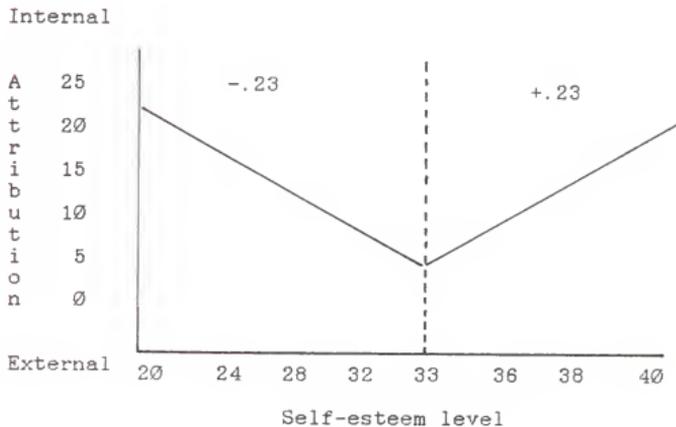
Finally, high-self-esteem subjects were expected to remain fairly consistent in their internal attributions. However, with the continued negative feedback over the course of the second simulation, subjects low in self-esteem were expected to shift from external to internal attributions for their failure.

Although no significant correlations between chronic self-esteem and attribution were found at time 1 or 2 for the entire sample, the differential pattern of correlations for the dichotomized groups (high- vs. low-self-esteem) suggested a partial confirmation of this hypothesis. It was expected that high-self-esteem subjects would remain fairly consistent in their attributions across the positive and negative feedback, while the low-self-esteem subjects would internalize their failure. After the success feedback received in the first simulation, no significant correlations were found between chronic self-esteem and attribution for either the high- or low-self-esteem subjects ($.015$ and

.108, respectively). However, after the second simulation, where the subjects received only failure feedback, the correlation between self-esteem and attribution was .236 ($p. < .10$), for high-self-esteem subjects (34 and above), and $-.230$ ($p. < .10$) for the low-self-esteem subjects (33 and below). See Figure 1 for graph of dichotomized attribution correlations.

FIGURE 1

Graph of dichotomized correlations for attribution variable.



Although neither of these correlations reached traditional significance levels, they do suggest an interesting attributional pattern. As predicted, it appears that the lowest-self-esteem individuals did, relative to those with more moderate self-esteem, shift toward internal attributions as a consequence of the second simulation's failure feedback. However, the marginally significant positive correlation found for the high-self-esteem subjects indicates that those very high in chronic self-esteem also internalized the failure feedback. It is suggested that individuals who are very high in self-esteem could possibly maintain internal attributions for all behavioral outcomes, both positive or negative, even if they are non-self-appropriate.

Note that the task-specific self-esteem showed similar relationships as chronic self-esteem with the mediator variables. As with chronic self-esteem, task-specific self-esteem was significantly correlated with commitment and attribution ($p. < .01$). Task-specific self-esteem was also significantly correlated with responsibility at time 1 ($p. < .01$). This suggests that the task-specific self-esteem scale might have been

more sensitive to subjects' levels of commitment, confidence, and responsibility for their selected policies.

The entire sample showed a statistically significant decrease on all of the proposed mediator variables (as well as the task specific self-esteem measures) from time 1 to time 2, as revealed by significant t -tests. See Table 3 for the source table. The significant decreases on these variables support the effectiveness of the feedback manipulation. More specifically, the failure feedback received in the second management simulation effectively reduced subjects' levels of task self-esteem, commitment, confidence, and responsibility, as well as shifting attributions toward external channels.

TABLE 3

Planned Comparison t -Tests for all Intervening
Variables.

(Time 1 vs. Time 2).

| | Mean | S.D. | t | p. < |
|-------------------------|-------|------|-------|------|
| 1. Task Self-Esteem (1) | 21.38 | 4.29 | | |
| 2. Task Self-Esteem (2) | 19.40 | 4.80 | 8.20 | .001 |
| 3. Commitment (1) | 14.06 | 3.07 | | |
| 4. Commitment (2) | 12.80 | 3.30 | 4.91 | .001 |
| 5. Confidence (1) | 18.30 | 3.68 | | |
| 6. Confidence (2) | 16.08 | 4.17 | 6.94 | .001 |
| 7. Responsibility (1) | 12.98 | 2.84 | | |
| 8. Responsibility (2) | 12.26 | 2.84 | 3.49 | .01 |
| 9. Attribution (1) | 17.76 | 3.48 | | |
| 10. Attribution (2) | 14.29 | 4.05 | 12.95 | .001 |

A MANOVA conducted on all of the mediator variables, dichotomizing chronic self-esteem, revealed significant ($p < .05$ & $p < .10$) chronic self-esteem by time interactions for task-specific self-esteem, commitment, and confidence. This suggests that subjects responded differently to the failing policy feedback depending on their chronic level of self-esteem (see Tables 4 & 5). Although these differential psychological reactions did not produce the expected behavioral differences (policy consistency and information search), they did indicate that self-esteem level is related to psychological variables that affect the determination of policy decision strategies.

To determine more specifically how the differential psychological reactions are associated with self-esteem, the relationship between both commitment and confidence and self-esteem were re-examined. The significant correlations between both confidence and commitment and self-esteem suggest that the relationship between self-esteem and length of first policy (consistency) might be due to the mediating effects of these variables, rather than self-esteem alone.

TABLE 4

Partial Source Table for Manova (Interactions).

| Source | df | SS | F Value | p. < |
|--|----|-------|---------|------|
| 1. S.E. Level*Time (Task S.E.) | 1 | 18.40 | 3.28 | .10 |
| 2. S.E. Level*Time (Commitment) | 1 | 28.32 | 4.56 | .05 |
| 3. S.E. Level*Time (Confidence) | 1 | 16.90 | 1.64 | .10 |
| 4. S.E. Level*Time (Responsibility) | 1 | .0016 | 0.00 | --- |
| 5. S.E. Level*Time (Attribution) | 1 | 1.313 | 0.18 | --- |

TABLE 5

Means for all Intervening Variables, Dichotomizing
Self-Esteem.

| | | Mean (time 1) | | Mean (time 2) |
|-------------------|-----|---------------|-----|---------------|
| 1. Task S.E. | (H) | 22.70 | (H) | 21.35 |
| | (L) | 20.12 | (L) | 17.54 |
| 2. Commitment | (H) | 14.12 | (H) | 13.64 |
| | (L) | 14.00 | (L) | 12.00 |
| 3. Confidence | (H) | 18.56 | (H) | 16.93 |
| | (L) | 18.06 | (L) | 15.26 |
| 4. Responsibility | (H) | 13.31 | (H) | 12.60 |
| | (L) | 12.66 | (L) | 11.94 |
| 5. Attribution | (H) | 18.22 | (H) | 14.91 |
| | (L) | 17.34 | (L) | 13.70 |

To test this possibility, part correlations between self-esteem and length of first policy, first removing the shared variance with the mediators, were computed. These correlations were $r_{part} = .014$ with commitment removed, and $r_{part} = .077$ with confidence removed. Both part correlations differ significantly from the zero order correlations ($p. < .05$). These results are consistent with the proposition that confidence and commitment act as mediators, affecting the relationship between self-esteem and policy consistency.

DISCUSSION

It was expected that differences in chronic self-esteem would lead to differential psychological reactions to the negative policy feedback received in the second computer scenario. More specifically, these differential psychological reactions were expected to produce behavioral differences reflected in policy consistency and information search. Unfortunately, the results only weakly supported the behavioral effects that were expected. The marginally significant ($p. < .10$) correlation between chronic self-esteem and length of

first policy is consistent with the notion that high-self-esteem individuals are more resistant to change a failing policy than their low-self-esteem counterparts. This effect replicates the findings of Knight and Nadel (1986), who suggested that the resistance to changing might be due to a maintenance of confidence that persists in the face of negative feedback.

Two explanations for the lack of behavioral effects are proposed; both involve the task-specific self-esteem manipulation. As stated previously, the present study was, in part, a replication of the Knight and Nadel (1986) study. However, in the Knight and Nadel study subjects only participated in one computer simulation involving only negative policy performance feedback. More specifically, subjects had no expectations of success (or failure) based on previous experience with the policy-making task at hand. In the present study, all subjects were given positive or success feedback in the first simulation, which was in contrast to the negative or failure feedback received in the second simulation. Accepting Korman's (1970) self-consistency notion, it was felt that the initial

success would be more salient (or in line with self-image) to the high self-esteem subjects than to those lower in self-esteem. Therefore, it was felt that the initial success would carry over to the second simulation for the high-self-esteem subjects but not for those low in self-esteem. This logic suggested that the behavioral differences (consistency and information search) would be exaggerated with this manipulation.

An alternative explanation can be postulated which would account for the obtained results (or lack thereof). Weiss and Knight (1980) have suggested that the differential levels of confidence associated with corresponding levels of self-esteem produce differences in policy behavior, such that high self-esteem individuals engage in less information search and remain more committed to failing policies than those lower in self-esteem. However, it has been shown (Shrauger & Rosenberg, 1970) that task-specific self-esteem can be affected by feedback (both positive and negative). Data from numerous studies (e.g. Fitch, 1970; Stotland & Zander, 1958) indicate that the effects of feedback manipulations are much more marked

for low than for high self-esteem individuals. If this is the case, then it is possible that the initial success feedback in the present study had a greater positive effect on the confidence of the low-self-esteem subjects relative to those high in self-esteem. This might have been due to a ceiling effect on confidence for the high-self-esteem subjects. The marginally significant ($p < .10$) chronic self-esteem by time interaction showed that the confidence means (for high- and low-self-esteem) were similar at time 1 (18.56 vs. 18.06) but significantly different at time 2 (16.93 vs. 15.26). Thus, the confidence instilled in the low self-esteem subjects after the success feedback may have suppressed the predicted behavioral effects, with the decrease in task-specific self-esteem for the low-self-esteem group occurring too late to result in those effects.

A second explanation for the lack of behavioral effects also stems from the bogus success feedback received in the first computer simulation. The almost identical means for confidence at time 1 suggest that the bogus feedback effectively reduced the differences between the high- and low-self-esteem subjects.

However, at time 2 there was a significant difference in confidence (as well as task-specific self-esteem and commitment). This suggests that the behavioral differences associated with differences in self-esteem were not given enough time to manifest themselves. If the simulation duration were extended (for example from 9 feedback loops to 12 feedback loops), these behavioral differences might have become more apparent. The results concerning the mediator variables offered fairly strong support for the hypotheses, suggesting that chronic self-esteem may be a useful predictor of not only policy consistency, but the psychological prerequisites of consistency. More specifically, it appears that confidence in, and commitment to a policy decision are directly related to self-esteem. Furthermore, these relationships identify the possible cause for the policy consistency (in the face of failing feedback) attributed to high-self-esteem individuals. This coincides with Weiss and Knight's (1980) discussion, suggesting that the high-self-esteem subjects were relatively confident in their ability to deal with the problem, and felt little need for information concerning their selected policy and its

performance. This confidence and commitment apparently persisted in the face of repeated negative feedback, as indicated by the longer duration of the first policy, and the subjects' responses after the second (failing feedback) computer simulation.

It seems logical that a model of policy decision-making style could be proposed that identifies self-esteem as a predictor of policy consistency and information search. However, a complete model should identify the differential psychological reactions to policy feedback that lead to policy behavior. A basic and recurrent finding in experimental research is that people with different levels of "chronic" self-esteem respond to positive and negative self-relevant information in very different ways; high-self-esteem persons are more receptive to positive information about themselves, and low-self-esteem persons are more receptive to negative information (Wells & Marwell, 1976). Applied to the policy decision context, when high self-esteem individuals receive information that is incongruent with their self-image (negative feedback), they essentially reduce its importance or salience and hold on to their failing policy with

expectations of ultimate success. In contrast, those low in self-esteem respond to the failing feedback as a "realistic" appraisal of their decision, and engage in information search in an attempt to rectify the policy outcome.

Formally, this model identifies self-esteem as a predictor of psychological reactions to policy feedback. These reactions are a function of the congruency of the feedback with the individual's self-image (in this context self-image is directly related to self-esteem). The reactions can be operationalized as confidence in, and commitment to the policy; both maintain the same, positive relationship with self-esteem. These psychological reactance variables, or mediators, direct the manifestation of the policy behaviors. More specifically, self-esteem directs the psychological reactions (commitment and confidence) to policy feedback, which in turn produce policy behavior.

Previous research (i.e. Staw, 1976; Staw & Ross, 1978) has attempted to identify the psychological processes involved in the escalation of commitment to a failing policy. In describing the "knee deep in the

big muddy" phenomenon, Staw (1976) identified self-justification as the underlying process. This suggested that, when faced with failing performance feedback, individuals seek to rationalize their previous behavior or psychologically defend themselves against adverse consequences. However, Staw and Ross (1978) found reactance theory to have superior explanatory power over self-justification in accounting for their data in a study manipulating previous success/failure and causal information about policy failure. Reactance theory contends that when an individual has been exposed to a failure situation, he or she will become motivationally aroused to re-establish his or her competence. Both approaches (self-justification and reactance) assume that the individual acts defensively to protect his or her self-concept as a rational person, yet each approach posits strikingly different results (Staw & Ross, 1978). The major distinction lies in the necessity of demonstrating irrational behavior to confirm self-justification theory, and heightened rationality to confirm reactance theory. Behaviorally, in a failing policy situation, self-justification would

predict commitment or consistency (especially if responsibility is high), while reactance theory would predict heightened information search.

The present research suggests that neither theory alone accounts for the escalation of commitment phenomenon. However, the appropriateness of each theory should be determined by the moderating effects of self-esteem. Specifically, an individual's self-esteem directs his or her reaction to failing feedback. High-self-esteem individuals acknowledge failure as non-self-appropriate (i.e. are more confident) and cognitively distort the consequences associated with the policy decision. Low-self-esteem individuals, on the other hand, acknowledge failure as self-appropriate and remain sensitive to informational cues in an attempt to recoup their losses through additional effort and acuity. The explanatory power of this multi-theoretical model is superior because it identifies the appropriate prediction based on an individual's self-esteem.

The results and model presented here have potentially important implications for the exercise of Campbell's (1977) experimenting approach to managerial

decision-making. The present model suggests that high-self-esteem managers will often find themselves "knee deep in the big muddy" (Staw, 1976, 1981), escalating the commitment of time and resources to failing policies. How does this lack of managerial flexibility affect the performance of the high-self-esteem manager? The implications of the rigid policy approach associated with the high-self-esteem manager and his or her ultimate effectiveness should depend upon the nature and context of the policy decision. For example, some tasks may require that one best approach or solution among several be identified (i.e. optimizing). In such a situation, an experimenting style would most often be preferable to a consistent style. In contrast, other tasks involve long-term processes which, in order to succeed, must be implemented for a certain minimum length of time. In these situations a consistent approach should be most effective. Finally, where any satisfactory policy will suffice (i.e. satisficing), the efficacy of experimenting or consistent management would depend upon the effectiveness of the first policy chosen (Knight & Nadel, 1986). To the extent that

policy tasks vary along dimensions such as these, the effectiveness of policy style is a function of the policy context. Therefore, knowledge of a manager's self-esteem and policy context could allow for predictions of performance based on policy consistency or experimenting.

In conclusion, the present study attempted to identify the psychological reactions to policy failure that account for the escalation of commitment phenomenon. Although the predicted behavioral effects did not achieve traditional levels of statistical significance, the effects involving psychological reactance did reveal their mediating effects on policy decision style. Future research should focus on the mediating links between self-esteem and policy behavior, to isolate and specify their effects on behavior. Furthermore, continued validation efforts are in order to assess the appropriateness of chronic measures of self-esteem as opposed to task- or dimension specific measures of self-esteem.

Two design problems were noted in the present study that may have suppressed the predicted behavioral effects. A future study is proposed that would

independently manipulate policy feedback. As in the present study, measures tapping confidence in, commitment to, and responsibility for the decisions would be utilized. However, the differential feedback for different groups would enable a comparison of the psychological reactions based on chronic self-esteem. Furthermore, the time frame of the managerial decision scenario would be lengthened to ensure ample time for the manifestation of behavioral effects. This research would serve two purposes. First, it would attempt to replicate the escalation of commitment and reduced information search associated with high-self-esteem individuals. Second, and perhaps more importantly, it would allow for specific predictions based on the model identified in the present study.

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Appendix A

Instructions: Indicate your agreement with each of the following statements by circling the appropriate number after each statement:

1. Strongly agree (SA) 2. Agree (A) 3. Disagree (D) 4. Strongly disagree (SD)

| | SA | A | D | SD |
|--|----|---|---|----|
| 1. I feel that I'm a person of worth, at least on a equal basis with others..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 2. I feel that I have a number of good qualities..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 3. All in all, I am inclined to feel that I am a failure..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 4. I am able to do things as well as most other people..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 5. I feel that I do not have much to be proud of..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 6. I take a positive attitude toward myself..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 7. On the whole, I am satisfied with myself..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 8. I wish I could have more respect for myself..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 9. I certainly feel useless at times.... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |
| 10. At times I think I am no good at all..... | SA | A | D | SD |
| | 1 | 2 | 3 | 4 |

APPENDIX B

COMPUTER SCENARIO:

Welcome to the management computer simulation, or MCS. MCS is a computer program that simulates a number of common organizational problems, and asks you to play the part of a manager whose task it is to solve one of these problems within a given period of time.

You will be working on a simulation called 'The Employee Motivation Problem'. In just a moment you will receive more information about your managerial task. Before that, however, a few details about what you will need to do to operate the computer will be described.

Several times during the simulation you will be asked to choose between several options. The computer will present your options, and tell you to type a number corresponding to the option you want. You should then make your choice, and type in the number.

Let's try this. Type 1 if you are female, type 2 if you are male.

Good! That is all you have to do when the computer asks for information. If you have any

questions during the simulation, or if you have any problems with the computer, ask the experimenter for help.

Now to explain the simulation. As stated earlier, this version of MCS is called 'The Employee Motivation Problem'. It is based upon actual reports of similar events in large manufacturing plants, and the solution is based on what was actually done to solve those companies' problems. You will play the role of manager of a large manufacturing plant in charge of production. You are personally responsible for all production-policy decisions made in your plant.

Over the past year a serious motivation problem has decreased the production in your plant. The standard performance rate of ten units per hour, which had been consistent over a ten year period, has not recently been obtained. A complete analysis of the situation reveals that the jobs themselves have not changed in difficulty, and the ability of the average worker has not declined. This implies that the root of the production problem is low worker motivation. Your task is to increase the motivation of your

workers, thereby returning their performance to the expected level (ten units per hour).

In order to help you plan your policy, you engage the services of a team of industrial psychologists. Their report contains three possible plans of action to increase the performance of your workers.

Briefly, the plans are:

(1) Piece-rate, in which the workers are paid for each unit completed (\$1/unit as opposed to \$7/hour).

(2) Praise or reward techniques, in which workers receive praise from their floor managers for performing quality work at a fast rate.

(3) Profit sharing, in which each worker is rewarded for good performance by receiving a share of the profit above and beyond their normal salary.

It should be noted that the psychologists could not identify the exact cause of this motivation problem, making it difficult to determine which policy would be most effective, or how quickly each policy might start to work.

However, they were able to rank the three plans in the order of their estimated effectiveness, based upon past experience in similar situations. The consultants ranks (from most effective to least effective) were:

- (1) Piece rate.
- (2) Praise technique.
- (3) Profit sharing.

Your task is to increase your employee's performance (up to ten units per hour) over the course of 18 weeks by implementing one of these three policies.

RULES FOR THE GAME:

For simplicity sake your success or failure will be measured in terms of dollar amounts, and time will be measured in weeks. These values are not meant to reflect the actual profit or loss the company might experience, nor the time it would take to introduce the new policies and their effectiveness. Rather, they are used only to give you a way to judge how well you are doing.

Let's go over the rules for the simulation:

(1) You will start out with \$10,000 in your operating budget. This amount will increase or decrease during the simulation, depending upon what you do and how successful you are.

(2) It will cost \$1,000 to implement your first policy, or to change to a new policy later on (if you decide to do so). This amount is to cover the costs of new policies (e.g. book-keeping, supervisor training, etc.).

(3) It will cost you \$100 for each week that the production rate averages below ten units per hour (10 units/hour). However, you will earn \$100 for each week that your average production rate is above ten units per hour.

(4) It will cost \$50 to find out how much you have in your operating budget. This can be used as an index of your success in policy selection.

(5) It will cost \$50 to find out more information about the each of the three

policies. This information can give you a better understanding of the policies which might help in your policy selection. For simplicity sake, you can only request this information if your company's production rate is below 10 units/hour.

(6) At least one of these policies can solve the motivation problem of your employees. You should be aware, however, that the correct policy may or may not increase the production rate immediately. That is, although the correct policy will increase the production rate, it might have to be in effect for a number of weeks before an improvement is seen.

(7) You will have 18 weeks to solve the employee motivation problem. If you hold the production rate above ten units per hour for 4 weeks you will have successfully solved the employee motivation problem and the simulation will be over.

(8) You will receive feedback on how you are doing every 2 weeks.

(9) Your goal is to solve the employee motivation problem before the 18 weeks are up by increasing your employees' production level to or above 10 units/hour, while maintaining as high a balance as possible in your operating budget.

The simulation will be broken down into two similar exercises. You will be attempting to solve two similar, but not identical, motivation problems. In each case, as described previously, you will have 18 weeks to solve the motivation problem. If you bring the production rate up to 10 units per hour for 4 consecutive weeks, you will have successfully solved the motivation problem, and that part of the exercise will end even if the 18 weeks are not completed. In the event that you do not solve the first company's problem within the 18 week time-frame, you can begin the second exercise after a short break. Between the two exercises you will be asked to

fill out a short questionnaire. Now, you can begin working on the first problem.

Which policy do you wish to implement at this time?

To implement the "piece rate", press 1.

To implement the "praise technique", press 2.

To implement the "profit sharing", press 3.

After the first two feedback loops (4 weeks) in the simulation the subject will receive this feedback.

Good! You have successfully solved the first motivation problem, maintaining a production rate above 10 units per hour for four weeks, with the policy (s) you have chosen. A job very well done!

Now, the experimenter has a couple of questionnaires for you to fill out. Once you have completed the two questionnaires you can finish your task by attempting to solve the motivation problem of a different divisional plants of the same company.

Once the subjects complete the questionnaires they return to the computer to begin the second task in the simulation, when they will read:

Which policy do you wish to implement at this time?

To implement the "piece rate", press 1.

To implement the "praise technique", press 2.

To implement the "profit sharing", press 3.

At this point the subject will receive negative feedback regardless of his or her chosen policy. This continues for the complete simulated 18 week cycle. The subject is asked to fill out two more questionnaires and is then thanked for his or her participation in the experiment, and fully debriefed.

Additional Information Screens

Piece-rate: As stated previously, under this system workers are paid for each unit satisfactorily completed (\$1/unit as opposed to \$7/hour). The workers should realize that working faster will lead to making more money. In this system the worker will be paid for each unit of production provided that it meets some predetermined quality level. Psychological studies have shown that this technique does increase the motivation of workers if it is possible for them to maintain fast rates of

production throughout the day without becoming too tired.

Praise or reward techniques: This technique developed by B. F. Skinner, was first introduced as operant conditioning. Skinner demonstrated that if an individual is rewarded or reinforced for a given behavior, he or she would be more likely to repeat that behavior. In a managerial context, if you (the manager) give praise to a worker for performing quality work, the worker should find this rewarding and continue to perform at a high quality level. Many studies have shown that this technique is very effective for increasing employee motivation. The end result of this, of course, is an increased production rate.

Profit-sharing: In this technique, workers are rewarded for good performance by receiving a share of the profit above and beyond their normal salary. This should make each worker more motivated to be productive, with high levels of quality work. With this technique each employee works toward a common cause, attempting to increase profits for the whole company, because it is from these profits that the employee is given

the bonus. This motivation technique has been very successful in a broad range of organizational applications.

Appendix C

Mark the line at the point that indicates the extent of your agreement with each of the following statements.

1) Ability - I have the ability to succeed as a manager in a company such as the one described in the scenario.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

2) Decision Making - I am generally good at making decisions like the ones made in this simulation.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

3) General Business Skills - I possess a high level of general business skills.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

4) Goal Achievement - I typically achieve the goals I set out to accomplish.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

5) General Knowledge - I have the knowledge necessary to be a successful manager of a company such as the one in this scenario.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

Appendix D

Please respond to the following statements concerning the policies you chose in the management simulation. Mark the line at a point that indicates your response for each statement.

1) Commitment - I felt committed to the policy decisions made in the scenario.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

2) Assignment of Credit - I should receive credit for the outcomes in the simulation.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

3) Confidence - I was confident that my policy selections would lead to success.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

4) Cause of Success - The success of the policies I selected was due to factors unrelated to my policy selection.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

5) Assignment of Blame - I should receive the blame for the outcomes in the simulation.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

6) Cause of Failure - The failure of the policies I selected was due to factors unrelated to my policy selection.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

7) Dedication - I was very dedicated to the policies I chose in the simulation.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

8) Certainty - I was very certain that the policies I selected would be successful.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

9) Assignment of Responsibility - The positive outcomes of the simulation were due to the decisions I made.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

10) Conviction - I was not convinced that my policy selection would lead to success.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

11) Cause of Outcomes - The decisions I made had little to do with the increase or decrease of the production rate in the company.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

12) Attachment - I was not very attached to the policy decisions I made in the scenario.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

13) Assurance - I felt assured that the policies I selected would be effective.

Agree /-----/-----/-----/-----/-----/-----/ Disagree

14) Credit - I believe that my managerial competence should be judged on the basis of the outcomes of the decisions I made (good or bad).

Agree /-----/-----/-----/-----/-----/-----/ Disagree

AN EXTENTION OF THE SELF-ESTEEM EXPLANATION FOR
INFORMATION SEARCH AND POLICY CONSISTENCY

by

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B.A., University of South Florida, 1984

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Abstract

A computer simulation of a managerial task was used to study the relationship between self-esteem and the information search and policy consistency of subjects. Confidence in, and commitment to policy choice were identified as variables that mediate this relationship. Based on these findings, a model of policy decision-making style was proposed. The implications of these results and model for the practice of experimenting decision making are discussed.