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The Impact of Evaluative Feedback on  
Affective and Behavioural Reactions

Kathleen Joy Kitching

B.A. Bishop's University, 1986

Submitted to the Department of Psychology  
in partial fulfillment of the requirements

for the Master of Arts degree

Wilfrid Laurier University

1988

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## Affective and Behavioural Reactions

I dedicate this thesis to my mother, Rachel Joy Kitching, for her unconditional emotional support throughout the trials and tribulations of my life and for her intuitive knowledge of the appropriate use of both positive and negative feedback that only a mother can have.

## Affective and Behavioural Reactions

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## Affective and Behavioural Reactions

### Abstract

A study was conducted to examine the impact of outcome (success or failure) and attribution information cues (none, internal, external) on affective and behavioural reactions to performance feedback. Following the theorizing of Weiner, Russell, and Lerman (1978, 1979) and Liden and Mitchell (1985), it was predicted that the outcome manipulation would determine a global affective reaction and that the attribution information cues manipulation would polarize these reactions. Sixty university undergraduate students were randomly assigned to success or failure on a practice and final creativity test and were induced to attribute their performance to internal or external causes depending on attribution information type condition. The results indicated that successful participants reported greater positive affect; evaluated the task, the feedback, the experimenter, and the experiment more favourably; and expressed a greater willingness to attempt more problems and participate in future psychological studies than did unsuccessful participants. However, in some instances, these effects were moderated by the type of information provided with the feedback. Thus, the results indicated that there are both outcome- and attribution-dependent effects on affective and behavioural responses to outcomes.

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The Impact of Evaluative Feedback on  
Affective and Behavioural Reactions

Feedback, a topic of intense interest in evaluative and performance-oriented settings, has been the focus of extensive research in the last 10 years (Greller & Herold, 1975). Feedback may simply be regarded as information received by an individual about previous behaviour. The information conveyed concerns the correctness, accuracy or adequacy of the individual's responses or behaviour (Ilgen, Fisher, & Taylor, 1979). Feedback is considered to be both motivational and directional in nature by informing individuals of behaviours that are expected or by providing information about outcomes (Ilgen et al., 1979; Matsui, Okada, & Inoshita, 1983). Matsui et al. (1983) asserted that feedback is critical in situations in which individuals have made unsatisfactory progress. They asserted that goals and feedback are important in improving performance and enhancing motivation. In their work, participants given feedback halfway through a problem solving task reported being more involved in the task in the second half and worked faster than participants who had received no feedback. Greller and Heron (1975) argued that evaluative feedback is central to performance, motivation, and satisfaction.

In spite of the extensive research literature on the impact of feedback on performance, motivation and satisfaction, Ilgen et al., (1979) commented that very few generalizations about the nature of feedback may be made due to the complex nature of the construct, the

few attempts to relate feedback to psychological processes and the general lack of empirical rigour. These researchers asserted that due to the tremendous importance of feedback in interpersonal interactions and in performance-oriented organizations, it is necessary to explore the area more fully. This viewpoint was echoed in the more recent research of Lidén and Mitchell (1985). Lidén and Mitchell (1985) recognized the abundance of research done on the topic but asserted that there is a general lack of research dealing with affective and behavioural consequences of supervisor feedback from a subordinate's point of view. It is of critical importance to understand the influence of feedback, especially in evaluative settings such as schools and businesses, because of its established impact on performance, motivation, persistence and its potentially tremendous impact on the relationship between the evaluator and evaluatee.

One of the more successful models used to understand the impact of feedback on affective and behavioural reactions is Weiner's model of achievement motivation and emotion (1985). The basic premise of the model is that individuals will attempt to determine the causes of their successes or failures (e.g., Griffon, Combs, Land, & Combs, 1983; Lefcourt, Martin, & Ware, 1984; Weiner, 1979, 1985). With regard to feedback, individuals will attempt to determine the causes of their successful or unsuccessful feedback for a variety of reasons.

Forsyth (1980) suggested that these causal searches have three functions: explanation and prediction, egocentric, and interpersonal. Causal beliefs reinforce a sense of personal control, in that they

provide an explanation of behaviour and outcomes and they ease prediction of future behaviours and outcomes. Causal beliefs have an egocentric function, in that they may protect, maintain, or extend beliefs about the self or the environment. Attributions' interpersonal function lies in their potential to explain or describe reasons for other people's behaviours. Andrews and Debus (1978) and Forsyth and McMillan (1981) contended that causal beliefs have important consequences for subsequent behaviours, expectancies, confidence, motivation, and affective reactions. A substantial amount of research has been done to support their contentions (e.g., Lefcourt et al., 1984; McCaughan, 1978, 1983; Pancer, 1978; Pancer & Eiser, 1977; Powers & Rossman, 1983; Valle & Frieze, 1976).

Weiner's model of achievement motivation and emotion (1985) can be summarized by suggesting that individuals will attempt to explain the causes of their successes or failures. A variety of factors (not discussed in the present paper) will determine what kinds of attributions will be made in a given situation. The causes to which most outcomes are attributed are ability, typical/stable effort, immediate/unstable effort, mood, task difficulty, teacher's bias, unusual help from others, and luck in an academic achievement situation. These eight causes may be classified along three dimensions: locus of causality, stability, and controllability. The three dimensions are linked specifically with affective reactions, expectancy and persistence, and interpersonal judgements, respectively. In addition, there are predicted secondary linkages

between the dimensions and psychological effects. The secondary linkage of primary interest in this paper is that of the social context of the evaluation.

Weiner's model of achievement, motivation and emotion (1985) represents a successful attempt at identifying underlying similar characteristics or dimensions of these possible causes and at determining the possible psychological reactions to those dimensions (e.g., expectations, affective reactions, and interpersonal judgements). A substantial amount of evidence has been found to support Weiner's contentions and the links between the dimensions and psychological reactions (e.g., Andrews & Debus, 1978; Griffon et al., 1983; Frieze & Weiner, 1971; Lefcourt et al., 1984; McCaughan, 1978, 1983; McFarland & Ross, 1982; Weiner, Heckhausen, Meyer, & Cook, 1972; Weiner, Nierenberg, & Goldstein, 1976).

Weiner's attributional approach to feedback provides a model for understanding and dealing effectively with evaluative feedback in both academic and business settings. Brown and Weiner (1984) suggested that, "an understanding of the emotional consequences of these ascriptions [attributions] would provide information about common occurrences in life, especially in educational settings, where success and failure are so common" (p. 146).

The purpose of the present research is to examine the impact of feedback that provides information (or cues) that is expected to elicit internal or external attributions on affective and behavioural reactions to that feedback. A detailed examination of Weiner's model

of achievement motivation and emotion (1985) provides the structure for the study.

The examination of Weiner's model of achievement motivation and emotion in the present research takes the following form: each part of the model is examined and evidence is provided to support that part of the model. Specifically, an examination of Weiner's causal attributions, classification of the causal attributions, the effects of the classification, the affective reactions to evaluative feedback, the self-serving bias in attributional inferences, and the generalization of Weiner's model are presented along with a discussion of supportive research.

The major contributions of the present study lie in the extension of Weiner's model (1985) towards understanding the impact of feedback on the social context of the evaluation (i.e., the relationship between the evaluator and evaluatee), an expansion of the knowledge of the effects of feedback on affective and behavioural reactions to that feedback, and the use of a more realistic experimental methodology.

#### Weiner's Causal Attributions

Extrapolating from Heider's postulations (1967), Weiner, Frieze, Kukla, Reid, Rest, and Rosenbaum (1971) originally asserted that there were four predominant causes to which people attribute their successes or failures: ability, effort, task difficulty and/or luck. Effort was later delineated into typical/stable effort and immediate/stable effort. The four causes have grown to encompass mood, teacher's bias, and unusual help from others. The attributions now used in Weiner's



model (1985) are ability, typical/stable effort, immediate/unstable effort, mood, task difficulty, teacher's bias, unusual help from others, and luck. These eight causes represent the greatest percentage of those cited in attributional research and are the most predominant in academic settings (Weiner, 1979, 1985). The eight causes may be seen in a positive or negative light. For example, an individual may attribute his or her success to high ability, or strong effort or good luck and attribute his or her failure to low ability or weak effort or bad luck. Support for these causes has been found by a number of researchers (e.g. Forsyth, 1980; Frieze, 1976; Frieze & Weiner, 1971; Weiner et al., 1976).

Frieze (1976) examined causal attributions for success or failure in academic and nonacademic settings. University students read vignettes describing a variety of situations involving a success or failure outcome. They were asked to report why they thought a particular outcome occurred. The basic assumptions of Weiner's model (1985) were supported. The majority of students attributed success or failure in both academic and nonacademic situations to ability, effort, luck or task difficulty. Frieze's study (1976) supported the validity of Weiner's model and previously employed causal categories.

In a more realistic experiment, Elig and Frieze (1979) led students to believe that they had succeeded or failed at an anagrams task. The students were then asked to complete three different measures of attributions: open-ended questions, unipolar 9-point structured rating scales, and percentage ratings. The majority of

attributions were represented by ability, task difficulty, luck, typical/stable and immediate/unstable effort, and mood. Some of the other cited attributions in this study were interest and motivation.

Griffon et al. (1983) provided additional support for Weiner's model (1985) in their research on attributions by university students. Average and advanced university students were asked to evaluate their performance on midterm examinations and explain their performance. The majority of attributions were represented by ability and effort.

In summary of the research done in the area of attributions in academic settings, one can say that the research is supportive of the attributional model proposed by Weiner (1985). Support for the eight causes has been found using a variety of experimental methodologies and is considered to be quite experimentally robust.

#### Classification of Causal Attributions

In order to generalize beyond specific causes, Weiner (1979) developed a classification schema. The classification schema identifies the basic underlying characteristics of the causes and classifies them according to three dimensions: locus of causality, stability and controllability (see Table 1, Weiner, 1979).

#### Locus of Causality

Locus of causality was originally derived from Rotter's concept of locus of control (1966, as cited by Weiner, 1979). Locus of control refers to an individual's perception of personal control over the environment. Internal locus of control reflects the belief that

Table 1

Weiner's Causal Schema of Attributions (1985)

Control	Internal		External	
	Stable	Unstable	Stable	Unstable
Controllable	Typical Effort	Immediate Effort	Teacher Bias	Unusual help From Others
Uncontrollable	Ability	Mood	Task Difficulty	Luck

an individual controls his or her own behaviour, has control over the environment, and rewards and punishments are contingent on his or her behaviour. External locus of control reflects the belief that an individual does not have any control over his or her life, and rewards and punishments are indicative of luck or fate. Weiner's locus of causality dimension reflects Rotter's ideas; however, the dimension specifically distinguishes causes on the basis of where they lie (within the person or outside of the person) from the idea of volitional control. Rotter's locus of control is also different from Weiner's locus of causality in that locus of control reflects a stable dispositional personality characteristic, whereas, locus of causality reflects a transient situational-dependent characteristic. Also, Weiner et al. (1971) suggested that locus of causality is a backward-looking belief; locus of control refers to typical behaviour across situations. The four internal causes are ability, typical/stable effort, immediate/unstable effort, and mood. The four external causes are task difficulty, teacher's bias, unusual help from others, and luck.

### Stability

The stability dimension was introduced in Weiner's earlier attribution research, the argument being that within internal and external causes, some of these causes are subject to fluctuation or changes over time. Stability denotes the perceived variability of causes over time (Weiner et al., 1972). Stable causes may be seen as

constant and invariant and unstable causes may be seen as changing and variant. In the classification schema, the four stable causes are ability, typical effort, task difficulty, and teacher bias. The four unstable causes are mood, immediate effort, unusual help from others and luck.

### Controllability

The third dimension, controllability, was introduced to distinguish between causes that are under volitional control (controllable or uncontrollable). Locus of causality and controllability are closely linked; however, their distinction arises from the perceived degree of volitional control involved in the controllability dimension versus the location of the cause in the locus of causality dimension (internal/external). An examination of specific causes may illustrate the distinction. Ability, mood, typical effort and immediate effort may all be seen as being internal; however, ability and mood are quite distinct from typical effort and immediate effort due to the amount of perceived volitional control. Both typical effort and immediate effort can be seen as being more controllable than ability and mood. The four controllable causes are typical effort, immediate effort, teacher bias and unusual help from others. The four uncontrollable causes are ability, mood, task difficulty and luck.

In an evaluative situation, individuals will attempt to find an understanding of the cause of successful or unsuccessful feedback. In

the greatest percentage of times, individuals will attribute their performance to one of eight causes. Weiner's attributional model (1985) is an attempt to deal with multiple causes by classifying the eight predominant causes according to similar characteristics. Weiner (1979) suggested that while individual placement of the causes may vary from person to person, the underlying characteristics remain constant. Multidimensional scaling and factor analyses performed on free-form attributional questionnaires have provided strong support for the attributional model (e.g., Meyer, 1980; Meyer & Koelbl, 1982; Wimer & Kelley, 1982).

The fundamental purpose of developing a classification schema for causal attributions is to be able to generalize beyond specific causes and understand the impact of attributions on affective and behavioural reactions. That is, instead of determining one person's reactions to an ability attribution and another person's reactions to an effort attribution and so on, the attribution researcher becomes more interested in the underlying characteristics of these attributions, e.g. internal attributions versus external attributions, stable attributions versus unstable attributions, or controllable attributions versus uncontrollable attributions. Since Weiner's earliest work in the area, the main focus of research has been on the effect of the causal dimensions on psychological reactions (Weiner, 1979).

#### Effects of the Causal Dimensions

Weiner's proposed three causal dimensions have been linked with

different psychological reactions: stability with expectations and persistence, locus of causality with affective reactions, and controllability with interpersonal behaviours and judgments (Russell, McAuley, & Tarico, 1987; Weiner, 1979, 1985).

### Stability

The stability dimension has been closely linked with expectations for future success or failure. Andrews and Debus (1978) contended that perceived stability is critical in expectancy of success. Performance outcomes that are attributed to stable causes are expected to recur because they are seen as constant and invariant. Hence, repeated success is expected if success is attributed to stable causes and repeated failure is expected if failure is attributed to stable causes. Performance outcomes that are attributed to unstable causes are not necessarily expected to recur because they are seen as variant and changing. Hence, neither success nor failure is expected to recur if attributed to unstable causes. Weiner et al. (1972) suggested that individuals have a tendency to discount outcomes that are attributed to unstable causes and their future expectancies for success regress towards the mean. Using a variety of experimental methodologies, a tremendous amount of research has been found supporting the link between stability and expectations (e.g. Andrews & Debus, 1978; Fontaine, 1974; McMahan, 1973; McCaughan, 1978, 1983; Medway & Venino, 1982; Pancer, 1978; Pancer & Eiser, 1977; Weiner et al., 1971; Weiner et al., 1972).

Valle and Frieze (1976) examined the impact of the stability of attributions on expectations for future performance. In both of their studies, participants were asked to imagine themselves as managers of a life insurance company. They were asked to read a summary sheet of an interview with an applicant. The summary sheet provided information concerning the sex and competency of the applicant, and the average performance of the company's employees. Participants were then asked to indicate their desire to hire the applicant and their expectations for the applicant's potential sales performance. In the second phase of the study, participants were given a summary of the applicant's above average performance at the end of three months. In the first study, participants were asked to give their explanations for the applicant's performance and their expectations for the applicant's future sales performance; while in the second study, participants were given six different explanations for the applicant's performance and they were asked to indicate their expectations for the applicant's future sales performance after each explanation. Strong support for the link between stability of attributions and expectations was found in both studies. Also, by manipulating explanations for performance, Valle and Frieze (1976) were able to manipulate participants' expectations for the applicant's future sales performance. Valle and Frieze (1976) concluded that stable attributions elicit stronger expectations of future success following success than do unstable attributions.



Locus of Causality

Locus of causality has been linked with affective reactions to performance evaluation and feedback. Riemer (1975) manipulated causal cognitions to examine the impact of locus of causality on affective reactions to success on a music practice task. Students were led to believe that they had succeeded on the task due to ability, effort, luck or task difficulty. The stability of attributions was linked with interest and persistence. Perceived locus of causality was linked with positive affect. Internal attributions (ability and effort) resulted in greater positive affect than did external attributions (luck and task difficulty).

Forsyth and McMillan (1981), in a more realistic evaluative setting, examined students' reactions to outcomes from midterm examinations. Students reported higher positive affect in successful outcomes accompanied by internal attributions than students who experienced success accompanied by external attributions. Students who experienced failure accompanied by internal attributions reported greater negative affect than students who experienced failure accompanied by external attributions. Greater positive affect was reported by those participants who felt they had controlled their successful outcomes. The greatest positive affect was reported by students who attributed their performance to internal, stable, and controllable causes.

McFarland and Ross (1982) replicated these results in their study

examining the impact of outcome (success or failure) and attribution (internal or external) on affect in an achievement setting. Participants were induced to believe they had succeeded or failed on a bogus social accuracy test and were also induced to make internal attributions or external attributions. This attribution manipulation was done by varying information given about the performance of other university students on the test (that is, the consensus information). Participants in the success/internal information condition were told that other students had not done as well as they had on the test while participants in the success/external information condition were told that other students had also done well on the test. Participants in the failure/internal information condition were told that other students had done better than they had on the test while participants in the failure/external condition were told that other students had also done poorly on the test. Greater positive affect was reported by participants in the success/internal information condition than those in the success/external information condition. Greater negative affect was reported by participants in the failure/internal information condition than those in the failure/external information condition. Further support for the link between locus of causality and affective reactions may be found by examining the research of Lajoie and Bolten (1984), Lefcourt et al. (1984), and Weiner, Russell, and Lerman (1978, 1979).

### Controllability

Controllability is most closely linked with interpersonal judgments, helping, evaluation and sentiments. In his review of the literature, Weiner (1979) found that individuals were most likely to provide help to others when the need for help was seen as uncontrollable. Also, it was suggested that individuals are rewarded or punished more for their good or bad behaviour if the behaviour is seen as being under volitional control. In the same vein, individuals who are lonely are liked less if they are seen as being personally responsible for their loneliness (Weiner, 1979).

The following sections deal with affective reactions to success and failure, the self-serving bias in attribution formation, and the hypothesized generalizability of Weiner's model to understanding the impact of outcome and attributions on the social context of the evaluation.

### Affective Reactions to Evaluative Feedback

The recent focus of Weiner's work in the attribution field has been on the affective reactions to success and failure. The high value placed on success and the notion that an individual's self-worth is tied up with his or her performance supports the idea that an individual will respond in an affective manner to success or failure feedback.

Research by Weiner and his associates, Russell and Lerman (1978, 1979) demonstrated that there are two distinct types of affective

reactions to performance outcomes and evaluations. The first type of affective reaction is termed outcome-dependent affect and the second type of affective reaction is termed attribution-dependent affect (Weiner et al., 1978, 1979).

Outcome-dependent affect is associated with the global general positive affective reaction following a successful outcome and the global general negative affective reaction following an unsuccessful outcome. Weiner (1979) contended that the experienced outcome-dependent affective reaction is the initial and possibly the strongest reaction to a performance outcome.

Attributions for a successful or unsuccessful outcome mediate the positive or negative affective reactions. Attributions and their associated causal dimensions intensify or polarize the general global affective response. These affective responses are termed attribution-dependent affect. Weiner (1979) also argued that attribution-dependent affect may be long lasting and the affects most related to locus of causality are most significant. For a sample of some attribution-dependent affects, see Table 2.

Weiner et al. (1979) examined the impact of attributions on affective reactions. In the first of two studies, students were asked to report past successful or unsuccessful outcomes and three experienced affects. Internal attributions for success were closely linked with pride, competence, confidence, and satisfaction and external attributions were closely linked with gratitude, thankfulness, surprise, and guilt. With failure, internal

Table 2

## Attribution-Dependent Affects

Attribution	Affects	
	Success	Failure
Unstable effort	Activation Augmentation Relief Satisfaction	Guilt Shame Fear
Stable effort	Relaxation Contentment	Guilt Shame
Ability	Competence Confidence Pride	Incompetence Resignation Unhappiness
Personality	Self-enhancement	Resignation
Others	Gratitude Thankfulness Excitement	Aggression Anger
Luck	Surprise Guilt Relief	Surprise Sadness Stupidity

Note: Attribution-dependent affects are based on the research of Weiner et al. (1978, 1979) and Russell and McAuley (1986):

attributions were linked with feelings of incompetence, resignation, and guilt; while with external attributions the affects reported were anger and surprise. In the second study, participants read vignettes describing an evaluative academic situation. The situation described a student who had experienced a specific affect following a positive or negative evaluation. Participants were then asked to infer the cause of the outcome from the given affective reaction. The results supported the link between attributions and their related affective reactions.

Additional support for Weiner's model of attributions and affective reactions was provided by Russell and McAuley (1986). In their first study, participants were asked to imagine themselves as the student in eight different achievement-oriented vignettes. The vignettes provided both the outcome and the attribution for the outcome. After reading each vignette, participants were then asked to complete an affective rating scale and the Causal Dimension Scale (Russell, 1982). It was found that in successful outcomes, positive affect was the highest given internal and controllable attributions. Also, in successful outcomes, ability and effort attributions enhanced positive affect and feelings of competence; while, gratitude and feelings of low competence were linked with attributions to help from others, luck, low ability, and unstable effort. In unsuccessful outcomes, anger was most closely linked with attributions to help from others, and low attributions to ability and effort; guilt was linked with lack of effort; and surprise was linked with attributions to luck

and task difficulty.

In Russell and McAuley's second study (1986), students were asked to report their appraisal of their evaluated performance on a midterm examination, their attributions for their performance, and their expectations for future success. Successful students were more likely to make ability and effort attributions than unsuccessful students, and unsuccessful students were more likely to make luck and unstable effort attributions than successful students. Also, higher ratings of competency were made by successful students who made controllable attributions. In the case of unsuccessful students, anger was reported with greater frequency by students who attributed their failure to task difficulty than to other attributions. Both studies indicate that there are distinctive attribution-dependent affective experiences. The results strongly suggest that the individual's emotional response to successful or unsuccessful outcomes can be influenced by the individual's attribution for that outcome. Also, the pattern of attributions made by the participants in Russell and McAuley's study (1986) suggest that individuals are more willing to take personal responsibility for their successes than for their failures.

In summary, Weiner's hypothesized outcome- and attribution-dependent affective reactions have been confirmed by a number of research methods and designs. Thus, it can be said that Weiner's attributional model (1985) is indeed quite useful in understanding and predicting the impact of successful or unsuccessful outcomes on

affective and behavioural reactions. Smith and Kluegal (1982) suggested that Weiner's model provides a promising starting point for the investigation of the relations between cognition and affect.

Brown and Weiner (1984) suggested that research in this area provides valuable information about common occurrences in our lives; as well, the ability to identify potential affective reactions to both outcomes and attributions gives justification for further research on affective reactions; and justification in promoting or attempting the use of particular attributions in dealing with successful or unsuccessful outcomes. Further, Brown and Weiner (1984) contended that, "the behavioural consequences of emotions may constitute one of the unstudied central elements determining the effectiveness of achievement-change programs" (p. 158). Therefore, one may conclude that there is sufficient justification to continue research in the area of affective and behavioural reactions to evaluative feedback.

A review of the discussed literature may lead the reader to ask if causal judgements are more self-protective than strictly truthful. That is, is the model suggested by Weiner (1985) and others a strictly rational process from beginning to end with individuals carefully weighing the merits of the different causes in deciding on an attribution for an outcome and then reacting to the final perceived cause? Evidence would suggest that this is not the case. The next section deals with the very strong possibility of a self-serving bias in causal judgements.



  
The Self-serving Bias in Attributional Inferences

The pattern of attributions in the research literature has demonstrated the tendency of individuals to attribute success to personal dispositions and failure to situational factors. This persistent tendency has been labelled 'self-serving bias' (Bradley, 1978; Harvey & Weary, 1984; Kelley & Michela, 1980; Zuckerman, 1979).

McFaflin and Blascovich (1981) argued that individuals seek to maximize their self-esteem and view themselves in a positive light and that they will respond in a manner consistent with their self-esteem. Their motivation is to enhance their feelings of worth, competence and satisfaction. Success, highly regarded in the North American culture, has positive implications for the individual if he or she is seen as personally responsible; failure has negative implications if the individual is personally responsible. Outcomes may indeed influence the esteem in which the person is held by others and that in which he or she feels for himself or herself (Snyder, Stephan, & Rosenfield, 1978). Self-enhancing attributions (high self-attributions) for success are mediated by and serve to enhance self-esteem and positive affect. Self-protective attributions (low self-attributions) for failure are mediated by and serve to protect self-esteem and reduce negative affect. Simply put, an individual may enhance his or her self-esteem by assuming personal responsibility for positive outcomes and protect his or her self-esteem by denying responsibility or by projecting that responsibility to an external source (Harvey & Weary, 1984; Kelley & Michela, 1980; Snyder et al., 1978; Weary, 1980; Weary

& Arkin, 1981).

A self-serving bias will cause individuals to assume more responsibility for their success than for their failures. This bias has been demonstrated by Larson (1976). Students were told that their performance was above average, average, or below average on a problem solving task with another student. When asked to rate the extent to which their performance was due to their ability or partner's ability, their effort or partner's effort, luck or task difficulty, participants consistently assumed personal responsibility for success and projected external responsibility for failure. There was a significant decrease in assumed responsibility for failure outcomes.

To further examine the impact of a self-serving bias on attributions, Miller (1976) extended the generalizability of Larson's findings (1976) by manipulating task importance. Miller (1976) predicted that by increasing the importance of the experimental task for the participant, there would be greater likelihood of finding a bias in attributions. In his study, participants were led to believe they had succeeded or failed on a bogus social perceptiveness test. Half of the participants were told that the test was a valid test of social perceptiveness and the other half were told that the test was faulty. Hence, for half of the participants the task was important or ego-involving and for the other half the task was unimportant or nonego-involving. When the test was described as being valid, participants assumed more personal responsibility for the success and rated the test as more valid than students who failed the test. When

the test was described as being faulty, the self-serving bias was still present but noticeably reduced. Participants consistently assumed more responsibility for their success than for their failure. McFarland and Ross (1982) and Pyszczynski, Greenberg, and Holt (1985) both found similar results in their studies using a similar experimental paradigm.

In order to verify that the self-serving bias would generalize to realistic settings outside of the laboratory, Arkin and Maruyama (1979) asked students to complete a questionnaire concerning their attributions for their own performance at university and that of the average university student. Consistent with the self-serving bias, students assumed more personal responsibility for their successes than failures and they were more willing to attribute the causation of other's successes to external attributions and other's failures to internal attributions. Class ratings and teacher evaluations were positively related to internal attribution for success and external attributions for failure. That is, students evaluated their teachers more favourably when they attributed their successes to themselves or when they attributed their failures to outside circumstances.

Forsyth and McMillan (1981) suggested that "attributions about failure and success become important because they provide the means through which students can isolate themselves from the negative implications of the performance or take advantage of examination information that may have a positive impact" (p. 440). Further, in his review of the literature, Zuckerman (1979) concluded "Overall, the

available evidence suggests that for both individuals and groups, performance outcomes yield self-serving attributions" (p 225).

The importance of research of the self-serving bias phenomenon lies in its logical explanation of consistently found results in past research (e.g., Forsyth & McMillan, 1981; Lao & Bolen, 1984; Weiner et al., 1978, 1979). Also, it provides a way of predicting the manner in which Weiner's model of achievement motivation and emotion may generalize to the social context of performance outcomes.

#### Generalization of Weiner's Attributional Model (1985)

Previous research has demonstrated that attributions may have a significant impact on performance, motivation and persistence, and affective reactions. It is of further interest to examine its potential impact on evaluator and evaluatee relations. That is, can the affective reactions to feedback be generalized to the social context of the evaluation?

Some initial support has been found for the generalization of affective and behavioural reactions from feedback to the evaluative setting. Liden and Mitchell (1985) provided the initial support from their study on the impact of feedback that provides attributional information on reactions to the feedback and to the evaluator. Kelley (1967) suggested that individuals make use of three types of information in making causal inferences. These three types of information are consistency, distinctiveness, and consensus. Consistency information deals with the individual's past performance on similar tasks; distinctiveness deals with the individual's past

performance on different tasks; and consensus information deals with the past performance of others on similar tasks. Kelley (1967) asserted that specific patterns of consistency, distinctiveness, and consensus information would lead to specific types of attributions. High consistency, low distinctiveness, and low consensus information would elicit internal attributions; whereas, low consistency, high distinctiveness, and high consensus would elicit external attributions. Liden and Mitchell (1985) suggested, additionally, that feedback that provided informational cues for causal attributions (specific feedback) would be preferred to feedback that provided no informational cues (nonspecific feedback). They argued that specific feedback would be preferred because it would appear more valuable to the recipient in assessing the evaluation. Liden and Mitchell (1985) predicted that, in light of overwhelming self-serving bias in attribution styles, participants would rate both the professor and feedback as more fair and helpful when the students were provided with information that elicited external attributions for failure.

In their study, university students were given vignettes to read. Each vignette described a student receiving an unsuccessful test evaluation from a professor. The feedback was manipulated by varying the levels of consistency, distinctiveness, and consensus information, each at high, low or none. The students were asked to answer ten questions; three questions dealt with the participant's perceptions of the information manipulations and six questions dealt with the participants' perceptions of the feedback and of the professor.

As predicted, participants rated the specific feedback more positively than nonspecific feedback. Feedback that provided external attribution information was rated more positively than feedback that provided internal attribution information. Also, professors in the vignettes that provided external attribution information were rated more positively than those in the vignettes that provided internal attribution information.

Several criticisms may be leveled against Liden and Mitchell's study. The first major criticism, as with many others in the attribution field, is the use of vignettes in examining the impact of feedback on affective reactions. Weiner's model is arguably quite logical in its predictions; therefore, in a vignette study, one must question if participants are reacting in a true fashion or simply in a manner they deem to be logical. Also, one must question the true impact of an imaginary successful or unsuccessful experience on an individual. Surely, it can be argued quite convincingly that to read about an imaginary outcome is not the same as having experienced a true success or failure. A second major criticism of their study lies in their measurement of their information manipulations. Using only one question to determine the internality of causal responsibility leaves a great number of doubts in terms of reliability and validity of the measurement and results. And, finally, one must raise serious questions about the completeness of their questionnaire on reactions to the feedback and professor using only six questions.

In a similar study, Bogles, Kitching, Lea, Pancer, Pawson, and

Robins (1986) examined the effects of success or failure feedback given for a creativity task from an expert or nonexpert. The effects were examined with respect to affective and behavioural reactions. In their realistic experimental design, Bogles et al. (1986) gave university students a creativity task to complete. At a later date, participants were led to believe they had received successful or unsuccessful feedback from an expert or nonexpert. They were then asked to complete a questionnaire concerning their reactions to the feedback, their evaluations of the task, the feedback, and the evaluator. In successful feedback conditions, the expert was rated more favorably than the nonexpert. However, in the unsuccessful feedback conditions, the opposite effect occurred. The nonexpert was rated less negatively than the expert. The results indicated that the relationship between the evaluator and evaluatee may be affected by the affective reactions to success and failure.

In order to determine the specific effects of outcome and attributions on affective and behavioural reactions, Kitching and Pancer (1987) examined the impact of feedback that explicitly provided attributions for the evaluatee's performance. University students read vignettes describing an academic evaluation occurring between a professor and a student. Unlike the Liden and Mitchell (1985) study, both a success and failure condition were included and, more importantly, the feedback provided explicit attributions rather than informational cues from the professor. The students were asked to complete the Causal Dimension Scale (Russell, 1982), an affective

ratings scale and a questionnaire concerning their evaluation of the professor. The results provided strong support for Weiner's schema of causal attributions as the students saw the attributions along the same dimensions. Evaluations of the professor and liking of the professor were much higher in the success conditions than in the failure conditions. Greater positive affect was reported when attributions were given to internal and/or controllable causes in successful outcomes. Also, in successful outcomes, evaluations of the professor and liking of the professor were higher when attributions were made to internal and/or controllable causes. Thus, evaluations and liking of the evaluator consistently remained outcome dependent; however, they may be moderated by attributions.

The above studies support the notion that affective reactions to feedback may generalize to the evaluator in the feedback situation. This generalization of affective reactions to the relationship between the evaluator and evaluatee may be supported and discussed through an examination of cognitive consistency. Proponents of this model maintain that individuals will strive to achieve consistency and coherence amongst their cognitions. That is, individuals will attempt to maintain the same positive or negative relation between their beliefs. A new belief will be assimilated if consistent with past beliefs or attitudes. However, if the new belief is inconsistent, an unbalanced state is created and stress is produced. In order to reduce the stress, an individual will change the belief requiring the least effort to achieve balance or consistency (Heider, 1967; Sears,



Freedman, & Peplau, 1985, pp 140-143; Wrightsman, & Deaux, 1981, pp 340-342).

In an evaluative situation, individuals receive success or failure feedback concerning their performance on a task. With regard to the evaluation, there are three components to their belief or attitude about that evaluation: the individual's attitude towards his or her work; the individual's attitude towards the evaluator, and the evaluator's attitude towards the individual's work. In light of the literature investigating the self-serving bias, one can assume that individuals will most likely hold a positive attitude towards their own work. Therefore, one can also assume that in the majority of cases, the attitude most likely to change is the individual's attitude towards the evaluator.

In a success outcome situation, one can assume the following three cognitive components: (1) the individual's positive attitude towards his or her own performance; (2) the evaluator's positive attitude towards the individual's performance; and (3) the individual's attitude towards the evaluator. Given that the individual and the evaluator hold positive attitudes towards the performance, the individual will generalize his or her positive attitude about the performance to the evaluator in order to maintain a cognitive balance in the attitude triad. In this case, all three components are balanced as all attitudes are positive.

In a failure outcome situation, one can assume the following three cognitive components: (1) the individual's positive attitude

towards his or her own performance; (2) the evaluator's negative attitude towards the individual's performance; and (3) the individual's attitude towards the evaluator. In this situation, the individual will change an existing positive attitude towards the evaluator to a negative one or maintain an existing negative attitude.

Therefore, one can say that the outcome-dependent affect may generalize to an individual's assessment of the evaluator, and to any behavioural reactions towards the evaluator. This generalization is consistent with the literature supporting cognitive consistency (e. g. Heider, 1967; Sears et al., 1985; Wrightsman & Deaux, 1981). The previously discussed studies indicate that this generalized affect may be strongly affected by the attribution made for the performance (e.g. Bogles et al., 1986; Kitching & Pancer, 1987; Lidew & Mitchell, 1985). That is, in success outcomes, internal attributions may intensify the individual's positive affect and, as a result, intensify the positive affect felt towards the evaluator much more so than external attributions. In failure outcomes, internal attributions may intensify the individual's negative affect and, as a result, intensify the negative affect felt towards the evaluator much more so than external attributions. This dynamic relationship is further investigated in this study.

#### The Present Study

The ~~present research~~ examined the effects of feedback that provided attributional cues on affective and behavioural reactions to the feedback, the task, and the evaluator. The research examined the

potential of generalizing Weiner's model of achievement motivation and emotion (1985) to the relationship between the evaluator and evaluatee. Initial support has been found for the notion that outcome and attribution dependent affect experienced by the evaluatee may be generalized to the evaluator (Bogles et al., 1986; Kitching & Pancer, 1987; Liden and Mitchell, 1985). Additional support is necessary to lend further credence to the generalizability of the model. Also, validity and reliability of experimental results was enhanced through the use of a realistic experimental design, in sharp contrast to the popular vignette style design used in attributional research (Weiner, 1983; Zuckerman, 1979). Liden and Mitchell (1985) asserted that additional research examining the impact of feedback on affective and behavioural reactions is necessary because "neither feedback nor organizational behaviour research has examined to any degree the impact of feedback that provides attributional cues on affective and behavioural reactions..." (p. 291) and that "little actually is known about the reactions of observer's causal judgments for their own or others' behavioural outcomes" (p. 292).

The research was based on Liden and Mitchell's study (1985) and criticisms leveled at their study. In contrast to their work using vignettes, the present study involved a more realistic evaluative situation. University students participated in a realistic one-on-one test situation. Participants were asked to complete a practice and final test involving ambiguous creativity problems and received false success or failure feedback. Two evaluative outcomes were included in

the present research in order to examine possible interactions between feedback, attributions, and affective and behavioural reactions. The success or failure feedback also contained information concerning consistency, distinctiveness, and consensus. Unlike the manipulations of Liden and Mitchell's work (1985), only three conditions were used for the feedback manipulation. In one level, participants were given feedback that provided high consistency, low distinctiveness, and low consensus information, in order to elicit internal attributions. At another level, participants were given feedback that provided low consistency, high distinctiveness, and high consensus information, in order to elicit external attributions. Finally, to allow for a control condition, participants in the third level did not receive any information concerning consistency, distinctiveness and consensus. Also, in contrast to Liden and Mitchell's study (1985), participants were asked to complete the Causal Dimension Scale (Russell, 1982) in order to assess their perceived responsibility of their performance. Also, participants were asked to complete an affective rating scale and a general reaction questionnaire to allow for a thorough understanding of affective and behavioural reactions to evaluative feedback.

The uniqueness of the present research lies in the use of a realistic experimental design, rather than the popular vignette style design; the use of an established reliable and valid causal dimension measure, rather than one or two items on a simple questionnaire; the use of expanded measures of affective and behavioural reactions, to

allow for a thorough understanding of possible reactions; and in the manipulation of antecedent information (consensus, consistency, and distinctiveness) to allow for an understanding of the specific effects of the locus of causality dimension on affective and behavioural reactions to evaluative feedback.

### Hypotheses

Based on the work of Liden and Mitchell (1985), it was hypothesized that feedback that provided high consistency, low distinctiveness, and low consensus information would elicit more internal attributions for achievement than feedback that provided low consistency, high distinctiveness, and high consensus information as measured by the locus of causality subscale of the Causal Dimension Scale (Russell, 1982).

With regard to the research on affective reactions to outcomes and, specifically, the work of Weiner et al. (1978, 1979), it was hypothesized that: in general, participants in the successful conditions would report greater positive affect than participants in the failure conditions.

Also, with regard to the research on the self-serving bias (e. g., Arkin & Maruyama, 1979; Bradley, 1978; Snyder et al., 1978), it was hypothesized that: participants in the success/internal information condition would report greater positive affect than participants in the success/external information condition; and, participants in the failure/internal information condition would report greater negative affect than participants in the

failure/external information condition.

Based on the work of Liden and Mitchell (1985), it was hypothesized that feedback that provided attributional information (specific) would be rated more positively than feedback that does not provide attributional information (nonspecific). Also, based on the research on the self-serving bias and Liden and Mitchell's work (1985), it was predicted that participants in the success/internal information condition would rate the feedback more positively than participants in the success/external information condition; and participants in the failure/internal information condition would rate the feedback more negatively than participants in the failure/external information condition.

With regard to the suggested generalization of Weiner's model to the social context of evaluative feedback and the work of Liden and Mitchell (1985), Bogles et al. (1986), and Kitching and Pancer (1987), it was hypothesized that: participants in the success/internal information condition would rate both the experiment and the experimenter more positively than participants in the success/external information condition; and participants in the failure/internal information condition would rate both the experiment and the experimenter more negatively than participants in the failure/external information condition.

It was also predicted, on the basis of research done on the generalizability of Weiner's model, that participants in the success conditions would evaluate the task more positively than participants

in the failure conditions.

Finally, with regard to Weiner et al.'s work (1978, 1979), it was predicted that participants in the successful conditions would report they were more strongly motivated while doing the creativity tasks than participants in the unsuccessful conditions. Also, successful participants would report a greater willingness to attempt more problems and participate in future studies than unsuccessful participants.

#### Method

##### Design:

The experiment utilized a 2X3 factorial design. There were two levels of outcome: success and failure. There were three levels of feedback information: none, feedback implying internal causation (high consistency, low distinctiveness, low consensus), and feedback implying external causation (low consistency, high distinctiveness, high consensus).

##### Participants:

Sixty undergraduate Wilfrid Laurier University students participated individually. Participants were taken from the psychology department's participant pool list. All participants were randomly assigned to experimental conditions. Thirty participants were assigned to the success outcome condition and 30 participants were assigned to the failure outcome condition. Ten participants were

assigned to each of the six experimental conditions. Twenty-four women and 6 men were assigned to the success condition, 8 women and 2 men per condition. Twenty-four women and 6 men were assigned to the failure condition, 8 women and 2 men per condition.

Materials:

Participants were given a package of materials that was comprised of the following: a practice test, a final test, the Causal Dimension Scale (Russell, 1982), an affective rating scale, and a general reaction questionnaire.

The practice test and the final test were composed of sample creativity test problems taken from the Aptitudes Research Project (Anastasi, 1982) (see Appendices A and B). Due to the nature of the research design (using bogus feedback) it was necessary to utilize a task of an ambiguous nature in order to lend credence to the success or failure feedback. The practice test was composed of ten sample creativity items. The test was composed of one type of problem taken from the practice test. The variety of items on the practice test was necessary in order to manipulate consistency (performance on similar problems) and distinctiveness (performance on different problems).

In order to assess the effectiveness of the feedback manipulation, a questionnaire designed to measure the participants' perceived attributions for their performance was necessary. Elig and Frieze (1979) expressed their concerns over the general lack of reliability and validity of attribution measures. In their study,



three different measures (open-ended, structured scale ratings, and percentage ratings) were taken from university students after manipulated success or failure at an anagram task. The participants demonstrated a marked preference for structured scale ratings. The structured scale ratings demonstrated a much better fit with Weiner's motivational model and higher response reliabilities, convergent and discriminant validities. The Causal Dimension Scale was designed to enhance the measurement of attributions and to increase replicability of studies due to improved reliability and validity of an attribution measure (Russell, 1982). Researchers have found this measure to be of good reliability and validity (Russell, 1982; Russell, Lenel, Spicer, Miller, Albrecht, & Rose, 1985; Russell et al., 1987).

The Causal Dimension Scale (Russell, 1982) was designed to measure individuals' perception of the stability, locus of causality, and controllability of causal attributions. The scale consists of nine questions, three questions per dimension. Each question is placed along a 9-point rating scale (see Appendix C).

For the study, one composite affective rating scale was designed based on the research of Forsyth and McMillan (1981), Lefcourt et al. (1984), Russell and McAuley (1986), and Weiner, et al. (1978, 1979). The bipolar affects listed on the scale have been found to be representative of both outcome- and attribution-dependent affects (e.g. pleased/displeased, positive/negative, calm/tense). Also, the affective scale represents an amalgamation of previously used positive and negative affective scales in the research of Russell and McAuley

(1986) and Kitching and Pancer (1987) (see Appendix D).

Participants were asked to rate on a 9-point scale how strongly they felt on 19 bipolar affective scales (e. g. competent/incompetent, happy/unhappy, resentful/grateful, calm/tense, astonished/not astonished). They were also told to indicate if they did not feel a particular emotion or affect by circling NA, indicating not applicable. For example, participants were asked to rate the extent to which they felt competent. An answer of 1 would indicate the participant felt very competent whereas an answer of 9 would indicate the participant felt very incompetent. However, an answer of NA would indicate that the feeling of competence did not enter into the participant's mind.

The general reaction questionnaire was designed as a further measure of the participant's affective and behavioural reactions to the feedback. Participants were asked to evaluate the task on three 9-point bipolar adjectives (interesting/boring, good/bad, easy/difficult) and the experimenter on six 9-point bipolar adjectives (like/dislike, positive/negative, warm/cold, not angry/angry, good/bad, pleased/displeased). Participants were also asked to indicate their motivation level and their overall rating of the feedback, the experiment, and their willingness to work on more problems, willingness to participate in a future study, and work with the experimenter. Three manipulation check questions were asked to assess the participants' perceptions of the information conveyed in feedback and information conditions. These questions asked

participants to rate on a 9-point scale how they thought they did relative to other students on the test and how they thought they did on the the test relative to the the same and different items on the practice test (see Appendix E).

Procedure:

Participants were contacted through the Wilfrid Laurier University participant pool. Participants were contacted by telephone by the experimenter to schedule an appointment.

When contacted by the experimenter, participants were told that the study was concerned with creativity and they would be asked to complete both a practice test and a final test on creativity. Participants were told that the practice test was to warm them up and the final test would be composed of five problems similar to one of the type of problems from the practice test. They were also told that the experimenter would score their answers and give them feedback on their performance. Participants were told that they would be asked to complete a questionnaire concerning their reactions to the study. Finally, participants were told that the study would take approximately 30 minutes of their time. Participants were also assured by the experimenter that their participation in the study was completely voluntary and that they should feel free to withdraw at any point during the study; they were also told that any information generated from their participation would be held in complete confidence and only be seen by the experimenter.

Participants participated individually in a laboratory setting. Participants were greeted by the experimenter and shown to a study room. The participants were asked to seat themselves comfortably at the provided seat and table. The experimenter reiterated the basic purpose of the study, the voluntary nature of their participation, and the confidentiality of their participation. Participants were also asked if they had heard of the experiment from any of their fellow students.

Participants were given the practice creativity test. The experimenter informed the participants that they should work through the practice test as efficiently as possible and not feel that they had to write numerous answers down for each question because creativity was a qualitative characteristic, not a quantitative one. Upon completing the practice test, participants were given the final creativity test and were told that the test was composed of one type of problem from the practice test and there would be five of them. Again, participants were told that they should not feel that they had to write numerous answers down for each question and to work through the test as efficiently as possible.

After completing both the practice and final creativity test, the experimenter told participants that she would score their answers in another room and would return in approximately eight minutes to give them their feedback. Participants were told that they could look at their own schoolwork, if they brought any, or look at provided magazines. The experimenter then left for approximately eight

minutes.

In the scoring period of eight minutes, the experimenter randomly assigned the participants to one of the six experimental conditions.

Upon returning, the experimenter verbally gave the participants their pre-determined feedback specified by that condition.

In the success/no information condition, participants were only given their score of 42 out of 50 on the final creativity test (see Appendix F). In the success/internal information condition, participants were given their score on the final creativity test of 42 out of 50 and were told they had done equally well on the same and different practice test items, and that they had done better than other university students. This information corresponded to high consistency, low distinctiveness, and low consensus information (see Appendix G). In the success/external information condition, participants were given their score on the final creativity test of 42 out of 50 and were told they had not done as well on the same and different practice test items, and that most students had done as well as they had done. This information corresponded to low consistency, high distinctiveness, and high consensus information (see Appendix H).

In the failure/no information condition, participants were only given their score of 23 out of 50 on the final creativity test (see Appendix I). In the failure/internal information condition, participants were given their score on the final creativity test of 23 out of 50 and were told they had done equally poorly on the same and different practice test items and that other university students had

done better than they had done. This information corresponded to high consistency, low distinctiveness, and low consensus information (see Appendix J). In the failure/external information condition, participants were given their score of 23 out of 50 on the final creativity test and were told they had done better on the same and different items on the practice test items and that other university students had done as poorly as they had done (see Appendix K).

Participants were then asked to complete a three part questionnaire and they were told that the purpose of the questionnaire was to assess their reactions to the study and to allow the experimenter to learn from the study. Participants were told that there was no way they could be linked with a specific questionnaire by the experimenter because the participant's name would not appear anywhere on the questionnaire and the questionnaire would be placed by the participant in an envelope with other participants' questionnaires. Participants were asked to be as honest as they wished and that the experimenter was expecting both positive and negative reactions so they needed not feel shy about indicating negative reactions.

After the questionnaire was completed, participants placed their questionnaire in an envelope. The experimenter then proceeded to explain the true nature of the study and to give a thorough debriefing (see Appendix L). Participants were thanked for their participation and were told if they were interested in the results of the study, they could speak to the experimenter or look for posted results on a

feedback board. It was also emphasized that the participant should not discuss the true nature of the experiment with fellow students.

### Results

The data were analyzed in a 2 (success or failure outcome) X 3 (no information, internal information, or external information) between-subjects analysis of variance. All measures were scored such that the more positive the response, the higher the rating. Post-hoc analyses between conditions were carried out using Fisher's method of least significant differences and are simply reported as being significant.

#### Manipulation Checks

To determine the effectiveness of the experimental manipulations, four manipulation checks were conducted. A locus of causality score was determined for each participant from adding circled responses on questions 1, 5, and 7 on the Causal Dimension Scale. Also, three separate questions were asked to determine the participants' perceptions of the information given to them in the feedback.

It was predicted that participants in the internal information conditions would have higher internal locus of causality scores than would those participants in the external information condition. There was a significant main effect for information, this effect indicated that participants in the internal information conditions perceived the outcome to be more internally caused than those in the no information conditions,  $F(2,54)=3.89, p<.026$ . Contrary to predictions, there was

no significant difference between the two information conditions. A main effect of outcome revealed that participants in the success conditions perceived the outcome to be more internally caused than those in the failure conditions,  $F(1,54) = 18.41$ ,  $p < .001$ . There was no interaction between outcome and information type (see Table 3 for means).

It was expected that individuals given low consensus information would indicate their performance was better than other university students in the success condition, or that their performance was worse than other university students in the failure condition. It was also expected that individuals given high consensus information would indicate their performance was the same as other university students in both the success and failure conditions. The manipulation check on the consensus information asked participants to indicate how well they performed relative to other students from 1 (very poor) to 9 (very well). As expected, there was a significant outcome by information interaction,  $F(2,54) = 12.28$ ,  $p < .001$ . Participants in the success/internal information condition saw their performance as better than other university students to a larger degree than those in the success/external information condition. Participants in the failure/internal information condition saw their performance as worse than other university students to a greater extent than those in the failure/external information condition (see Table 4 for means).

It was expected that successful participants given high consistency information (internal information condition) would see



Table 3

Means for Locus of Causality

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M=19.0bc	M=24.1a	M=20.6ab	M=21.23
Failure	M=14.2d	M=16.4cd	M=18.5bc	M=16.37

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Note: The higher the score, the more internal attributions made. Means carrying different letters are significantly different at the .05 level.

Table 4

Means for Consensus Information Manipulation Check

<u>Outcome</u>	<u>Information Condition</u>			<u>Overall Mean</u>
	<u>Control</u>	<u>Internal</u>	<u>External</u>	
Success	M= 6.0b	M= 7.9a	M=5.6b	M=6.5
Failure	M= 3.5cd	M= 3.0d	M=4.3c	M=3.6

Note: The higher the score, the more positive the perception of the performance as compared to other university students. Means carrying different letters are significantly different at the .05 level.

their performance on the same items on the practice test as better than successful participants given low consistency information (external information condition). Also, it was expected that unsuccessful participants given high consistency information (internal information) would see their performance on the same items on the practice test as worse than unsuccessful participants given low consistency information (external information). The manipulation check on the consistency information asked participants to rate how they performed on the test relative to the same items on the practice test from 1 (very poorly) to 9 (very well). As expected, there was a significant outcome by information interaction,  $F(2,54) = 9.84, p < .001$ . Participants in the success/internal information condition saw their performance on the same practice items as much better than those in the success/external information condition. No differences emerged between the failure information conditions (see Table 5 for means).

Finally, it was expected that successful participants given low distinctiveness information (internal information condition) would see their performance on the different items on the practice test as better than successful participants given high distinctiveness information (external information condition). Also, it was expected that unsuccessful participants given low distinctiveness information (internal information condition) would see their performance on the different items on the practice test as worse than unsuccessful participants given high distinctiveness information (external information condition). As expected, there was a significant outcome.

Table 5

Means for Consistency Information Manipulation Check

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= 5.4bc	M= 8.2a	M= 5.9b	M= 6.50
Failure	M= 4.6cd	M= 3.5d	M= 3.6d	M= 3.90

Note: The higher the score, the more positive the perception of performance on the same practice test items. Means carrying different letters are significantly different at the .05 level.

by information interaction,  $F(2,54) = 12.17, p < .001$ . Participants in the success/internal information condition saw their performance on the different practice test items as better than those in the success/external condition. No differences emerged between the failure information conditions (see Table 6 for means).

### Affective Reactions

It was predicted that individuals in the success conditions would report greater positive affect than those in the failure conditions. It was also predicted that participants in the success/internal information condition would report greater positive affect than those in the success/external information condition. As well, participants in the failure/internal information condition were expected to report less positive affect than those in the failure/external information condition. Responses on the affective measures were scored in the following manner: the more positive the affective end of a scale, the higher the rating it would be given and responses of non-applicable were recoded as 5. Non-applicable responses were given a score of 5 as it was thought this score would represent a neutral response by the participants.

Intercorrelations amongst the 19 bipolar affective scales used to determine affective reactions were factor analyzed. The factor analysis revealed only one factor with an eigenvalue of greater than one, accounting for 37% of the variance. All measures that loaded greater than .5 on the factor were kept for further analyses. Participants' responses on these measures were then standardized and a

Table 6

Means for Distinctiveness Information Manipulation Check

<u>Outcome</u>	<u>Information Condition</u>			<u>Overall Mean</u>
	<u>Control</u>	<u>Internal</u>	<u>External</u>	
Success	M= 4.8bc	M= 8.2a	M= 5.7b	M= 6.23
Failure	M= 4.0cd	M= 3.4d	M= 4.0cd	M= 3.80

Note: The higher the score, the more positive the perception of performance on the different practice test items. Means carrying different letters are significantly different at the .05 level.

summary score was created by summing these standardized scores (see Table 7 for factor loadings).

An analysis of variance was performed on the summary scores derived from the above procedure. A main effect of outcome revealed that participants in the success conditions reported greater positive affect than those in the failure conditions,  $F(1,54) = 84.57, p < .001$ . Also, a significant outcome by information interaction emerged,  $F(2,54) = 3.80, p < .029$ . As predicted, participants in the success/internal information condition reported greater positive affect than those in the success/ external condition, and participants in the failure/internal information condition reported less positive affect than those in the failure/ external condition (see Table 8 for means).

#### Evaluation of the Feedback

Participants were asked to indicate how helpful they found the feedback in understanding the reason(s) for their performance outcome from 1 (very unhelpful) to 9 (very helpful). It was predicted that participants in the information conditions would rate their feedback as more helpful than those in the no information conditions. It was also predicted that participants in the success/internal information condition would rate their feedback as more helpful than those in the success/external information condition. Also, it was predicted that participants in the failure/internal information condition would rate their feedback as less helpful than those in the failure/external information condition. As predicted, participants in the information

Table 7

## Varimax Rotated Factor Loadings

	<u>Factor 1</u>
Competent/Incompetent	*.7126
Pleased/Displeased	*.8621
Satisfied/Dissatisfied	*.7317
Happy/Unhappy	*.7599
Guilty/Not Guilty	.0516
Adequate/Inadequate	*.7360
Confident/Not Confident	*.7320
Shame/Proud	.4023
Content/Discontent	*.6551
Resentful/Grateful	.0719
Surprised/Not Surprised	.0917
Positive/Negative	*.8016
Relieved/Not Relieved	.2086
Good/Bad	*.8168
Angry/Not Angry	.0262
Calm/Tense	.3334
Astonished/Not Astonished	.0307
Furious/Not Furious	.0723
Depressed/Hopeful	.2077

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Note: All loadings marked by an asterisk were kept for further analyses. Factor 1 has an eigenvalue of 6.94 and accounted for 37% of the variance.



Table 8

Standardized Means for Affect

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= .80c	M= 9.08a	M= 2.16b	M= 4.01
Failure	M=-12.72de	M=-13.81e	M=-11.38d	M=-12.64

Note: The higher the affective score, the greater the positive affective reaction. Means carrying different letters are significantly different at the .05 level.

conditions saw their performance as more helpful than those in the no information conditions,  $F(1,54) = 5.01, p < .029$ . Also, a significant interaction of outcome and information emerged,  $F(2,54) = 12.33, p < .001$ . Specifically, participants in the success/internal information condition saw their feedback as more helpful than those in the success/external information condition, and participants in the failure/internal information condition saw their feedback as less helpful than those in the failure/external information condition (see Table 9 for means).

Participants were also asked to indicate their overall rating of the feedback. The same effects as in the perceived helpfulness measure were expected. As predicted, participants in the information conditions evaluated the feedback more favourably than those in the no information conditions,  $F(1,54) = 8.19, p < .006$ . A significant interaction of outcome and information emerged,  $F(2,54) = 11.52, p < .001$ . Specifically, participants in the failure/internal information condition rated the feedback less favourably than those in the failure/external information condition. No significant differences were found between the two success information conditions (see Table 10 for means).

#### Evaluation of the Experimenter and Experiment

The preliminary focus in the analyses of the evaluation of the experimenter was on developing a summary score of the measures. Intercorrelations amongst 6 bipolar adjective scales (like/dislike, positive/negative, cold/warm, angry/not angry, good/bad,

Table 9

## Means for Helpfulness of Feedback

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= 2.6c	M= 7.1a	M= 6.4b	M= 5.37
Failure	M= 2.3c	M= 2.3c	M= 6.4b	M= 3.67

Note: The higher the score, the more positive the evaluation of helpfulness of the feedback. Means carrying different letters are significantly different at the .05 level.

Table 10

Mean Scores for Overall Rating of the Feedback

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= 3.8c	M= 7.8a	M= 6.8ab	M= 6.13
Failure	M= 3.0c	M= 3.0c	M= 5.5b	M= 3.83

Note: The higher the score, the more positive the evaluation of the overall quality of the feedback. Means carrying different letters are significantly different at the .05 level.

pleased/displeased) and one general question (willingness to work with the experimenter) were factor analyzed.

The factor analysis revealed only one factor with an eigenvalue of greater than one, accounting for 65% of the variance. All measures loaded greater than .5 on this factor, which was interpreted as a general evaluative factor (see Table 11 for factor loadings). Participants' responses on all 7 measures were then standardized and a summary score was created by summing these standardized scores.

It was predicted that participants in the success/internal information condition would evaluate the experimenter more positively than those in the success/external information condition. Also, it was predicted that participants in the failure/internal condition would evaluate the experimenter more negatively than those in the failure/external information condition. As predicted, a significant interaction of outcome and information emerged,  $F(2,54) = 6.25, p < .004$ . Participants in the failure/internal information condition evaluated the experimenter more negatively than those in the failure/external information condition. No differences emerged between the two information conditions in the success outcomes (see Table 12 for means).

Participants were asked to indicate their overall rating of the experiment. The same effects as in evaluation of the experimenter measure were expected. As expected, a significant main effect of outcome indicated that participants in the success conditions saw the experiment as better than those in the failure conditions,  $F(1,54) =$

Table 11

Factor Structure of the Evaluation of the Experimenter

Factor Matrix using Principal Factor with Iterations

<u>Evaluations</u>	<u>Factor 1</u>
Like/Dislike	.85303
Positive/Negative	.87516
Cold/Warm	.88942
Angry/Not Angry *	.59430
Good/Bad *	.85898
Pleased/Displeased	.76558
Work with Experimenter	.51598

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Note: All measures were kept for further analyses. Factor 1 has an eigenvalue of 4.23 and accounted for 65% of the variance.

Table 12

## Standardized Means for Evaluation of the Experimenter

Information Condition

	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
<u>Outcome</u>				
Success	M=-1.21b	M= 5.61a	M= 4.25a	M= 2.88
Failure	M=-3.69c	M=-5.41c	M= .45b	M=-2.88

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Note: The more positive the score, the more positive the evaluation of the experimenter. Means carrying different letters are significantly different at .05 level.

19.09,  $p < .001$ . Also, participants in the information conditions evaluated the experiment better than those in the no information conditions,  $F(1,54) = 9.69$ ,  $p < .001$ . No other differences emerged (see Table 13 for means).

#### Evaluation of Creativity Tasks

Participants were asked to evaluate the creativity tasks on two 9-point bipolar scales: interesting/boring and good/bad. A separate analysis of variance was performed on both of the bipolar scales. It was predicted that participants in the success conditions would rate the task more positively than those in the failure conditions.

As predicted, a significant main effect for outcome indicated that participants in the success conditions saw the task as more interesting than those in the failure conditions,  $F(1,54) = 12.32$ ,  $p < .001$ . No other differences emerged (see Table 14 for means).

As predicted, a significant main effect of outcome indicated that participants in the success conditions saw the task as better than those in the failure conditions,  $F(1,54) = 4.87$ ,  $p < .032$ . No other differences emerged. (see Table 15 for means).

#### Behavioural Measures

Several measures were assessed to indicate behavioural reactions to both the outcome and information manipulations. Motivation, willingness to attempt more problems, and willingness to participate in future psychological studies were measured on 9-point scales with higher scores indicating more positive responses.



Table 13

Means for Evaluation of the Experiment

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= 5.2cd	M= 7.5a	M= 7.0ab	M= 6.57
Failure	M= 4.5d	M= 4.6d	M= 5.8c	M= 4.97

Note: The higher the score, the more positive the evaluation of the experiment. Means carrying different letters are significantly different at the .05 level.

Table 14

Means for Evaluation of Creativity Task (Interesting/Boring)

<u>Outcome</u>	<u>Information Condition</u>			<u>Overall Mean</u>
	<u>Control</u>	<u>Internal</u>	<u>External</u>	
Success	M= 5.9bc	M= 7.9a	M= 7.5ab	M= 6.63
Failure	M= 4.9c	M= 5.1c	M= 5.9bc	M= 5.30

Note: The higher the score, the more positive the evaluation of the creativity tasks on the interesting/boring dimension. Means carrying different letters are significantly different at the .05 level.

Table 15

Means for Evaluation of Creativity Task (Good/Bad Dimension)

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>Failure</u>	<u>Overall Mean</u>
Success	M= 5.5b	M= 7.1a	M= 6.9a	M= 6.50
Failure	M= 4.8b	M= 5.2b	M= 5.9ab	M= 5.30

Note: The higher the score, the more positive the evaluation of the creativity tasks on the good/bad dimension. Means carrying different letters are significantly different at the .05 level.

Participants were asked to indicate how motivated they felt they were when completing both the practice test and final test. It was predicted that participants in the success conditions would report feeling more motivated than those in the failure conditions. As predicted, a significant main effect for outcome indicated that participants in the success conditions saw themselves as being more motivated than those in the failure conditions,  $F(1,54) = 7.30, p < .009$ . No other differences emerged (see Table 16 for means).

Participants were also asked to indicate if they were willing to attempt more creativity problems. It was predicted that participants in the success conditions would be more willing to attempt more problems than those in the failure conditions. This hypothesis was confirmed by the data,  $F(1,54) = 19.95, p < .001$ . No other differences emerged (see Table 17 for means).

With regard to participating in future psychological studies, it was predicted that participants in the success conditions would express a greater willingness to participate in future studies than those in the failure conditions. Again, this hypothesis was confirmed by the data,  $F(1,54) = 9.39, p < .003$ . No other differences emerged (see Table 18 for means).

#### Generalizability of Affective Responses

One of the critical assumptions of this study was that the affective responses to successful or unsuccessful outcomes would generalize to the feelings towards the task, the feedback, the experimenter, and the experiment. The test of this assumption

Table 16

Means for Motivation

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= 6.3ab	M= 7.4a	M= 6.8a	M= 6.83
Failure	M= 5.7ab	M= 4.4b	M= 5.9ab	M= 5.33

Note: The higher the score, the greater the reported motivation for the tasks. Means carrying different letters are significantly different at the .05 level.

Table 17

Means for Willingness to Attempt More Problems

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= 7.5a	M= 8.2a	M= 8.0a	M= 7.90
Failure	M= 5.5b	M= 5.4b	M= 6.6ab	M= 5.83

Note: The higher the score, the greater the willingness to attempt more problems. Means carrying different letters are significantly different at the .05 level.

Table 18

Means for Willingness to Participate in Future Psychological Studies

<u>Outcome</u>	<u>Information Condition</u>			
	<u>Control</u>	<u>Internal</u>	<u>External</u>	<u>Overall Mean</u>
Success	M= 7.2ab	M= 8.0a	M= 7.6a	M= 7.60
Failure	M= 5.9bc	M= 5.5c	M= 7.2ab	M= 6.20

Note: The higher the score, the greater the willingness to participate in future psychological studies. Means carrying different letters are significantly different at the .05 level.

involved a regression analysis with the positive/negative affect, as the predictor variable, predicting evaluations of the task, the feedback, the experimenter, and the experiment.

It was expected that the positive/negative affect would be a critical predictor of evaluations of the task on the evaluations of the task measures. With regard to the interesting/boring dimension, the regression analysis produced a significant  $F(1,58)=17.65$ ,  $p<.001$ . Thus, the affective measure was a significant predictor of evaluations of the interesting/boring dimension. This corresponded to a R squared of .23 indicating that the affective measure accounted for 23% of the variance on the interesting/boring dimension. With regard to the good/bad dimension, the regression analysis produced a significant  $F(1,58)=17.91$ ,  $p<.001$ . Thus, the affective measure was a significant predictor of evaluations of the good/bad dimension. This corresponded to a R squared of .24 indicating that the affective measure accounted for 24% of the variance on the good/bad dimension.

It was expected that the positive/negative affect would be a significant predictor of evaluations of the feedback. As expected, the regression analysis for the positive/negative affect on helpfulness produced a significant  $F(1,58)=17.83$ ,  $p<.001$  and for the positive/negative affect on quality of feedback a significant  $F(1,58)=29.86$ ,  $p<.001$ . Thus, the positive/negative affect was a significant predictor of helpfulness and quality of feedback. This corresponded to R squares of .24 and .34 respectively, and indicated that the affective measure accounted for 24% of the variance on the helpfulness



of feedback measure and 34% of the variance on the quality of feedback measure.

It was also expected that the positive/negative affect would be a critical predictor of evaluation of the experimenter and of the experiment. The regression analysis concerning the evaluation of the experimenter produced a significant  $F(1,58) = 32.34, p < .001$ . Thus, the affective measure was a significant predictor of evaluations of the experimenter. This corresponded to a R squared of .36 indicating that the affective measure accounted for 36% of the variance on the evaluation of the experimenter measure. With regard to evaluation of the experiment, the regression analysis produced a significant  $F(1,58) = 30.41, p < .001$ . Thus, the affective measure was a significant predictor of evaluations of the experiment. This corresponded to a R squared of .34, indicating that 34% of the variance on the evaluations of the experiment measure.

#### Discussion

An examination of the analyses of the manipulation checks revealed mixed results. There were no significant differences in locus of causality between the internal conditions and the external conditions for either outcome level. Individuals were most likely to assume the same level of responsibility regardless of type of information given to them. However, successful individuals were more likely to make internal attributions than those in the failure conditions.

Examination of the consensus, consistency, and distinctiveness

manipulation checks again produced mixed results. Individuals saw the consensus information exactly as predicted: those in the success/internal information condition saw their performance as better than the average university student to a larger degree than did those in the success/external information condition. Individuals in the failure/internal information condition saw their performance as worse than the average university student to a greater extent than did those in the failure/external information condition. In terms of the consistency and distinctiveness information, the manipulations were inconsistent. Participants in the success conditions saw the information in the expected manner; those in the success/internal information condition saw their performance on the same and different items on the practice test as better than those in the success/external information condition. However, in the failure condition, there were no differences in how the individuals saw their performance on the same and different problems.

These results, while in some instances inconsistent with predictions may be readily explained in terms of self-serving biases. The literature on the self-serving biases indicates that individuals will consistently assume greater personal responsibility for their successes than for their failures (Snyder et al., 1978). These biases were confirmed by the results. Higher internal locus of causality scores were reported in the success conditions than in the failure conditions. Also, with regard to the inconsistent findings with the consistency and distinctiveness information, these may be explained by

what Pyszczynski et al. (1985) termed, "a bias in information evaluation" (p. 179). That is, individuals will interpret information in ways that are consistent with their self-serving bias.

Stevens and Jones (1976) manipulated the distinctiveness of failure on problems. Participants were led to believe they had failed at only one task from a multitude of tasks (high distinctiveness) or they had failed at a multitude of problems (low distinctiveness). Stevens and Jones (1976) hypothesized that participants receiving high distinctiveness information would make external attributions for their failure while those receiving low distinctiveness information would make internal attributions for their failure. Their results revealed the opposite pattern. Stevens and Jones (1976) interpreted their results in terms of a self-serving bias and contended that "such attributions seem to be motivated by the desire to make as weak as possible a self-attribution when the pattern of outcomes points the blame at self..." (p 105). Snyder et al. (1978) concurred with this analysis in their review of the literature on attributional egotism.

The impact of the consistency and distinctiveness information may be understood in the same manner. In the success conditions, participants interpreted the information as expected. However, in the failure conditions, there was no difference between the internal and external information conditions. Thus, when it suits, individuals will interpret information accurately; however, in cases of failure, the self-protective bias promotes a distinct bias in information evaluation.

An examination of the affective reactions to the success or failure and information conditions revealed results consistently in line with predictions. Individuals in the success conditions reported greater global positive affect than those in the failure conditions. Also, there was a significant difference in affective reactions depending on outcome and information type. That is, individuals in the success/internal information condition reported greater positive affect than those in the success/external information condition; individuals in the failure/internal information condition reported less positive affect than those in the failure/external information condition.

A closer look at individuals' reactions to feedback revealed that perceived helpfulness and overall rating of the feedback depended quite considerably on both outcome and information type. Individuals reported the feedback as more helpful and generally better in the success/internal information condition than those in the success/external information condition. Also, individuals in the failure/internal information condition reported the feedback as less helpful than those in the failure/external information condition. Interestingly enough, participants in the success/ no information condition, failure/no information condition, and failure/internal information condition saw the feedback as equally unhelpful and generally negative. It would seem individuals prefer to receive feedback with information concerning their performance on other similar and dissimilar tasks and information concerning the

performance of similar others. Therefore, the results strongly suggest that proper feedback may moderate the impact of negative feedback and the perception of the quality of the feedback. These results are also supportive of the research done by Greller and Heron (1975), Ilgen et al. (1979), Matsui et al. (1983), and Liden and Mitchell (1985).

The results with regard to the evaluation of the experimenter and the experiment were mixed. Although, the analyses revealed a significant interaction of outcome and information, a closer examination identified the true differences as lying between the evaluations of the experimenter in the failure/internal information condition and the failure/external information condition. Participants in the failure/internal information condition evaluated the experimenter less favourably than those in the failure/external information condition. There were no differences in the information conditions in the successful outcomes. In their evaluations of the experiment, successful participants were more favourable than unsuccessful participants. No differences emerged between information conditions.

Successful participants also evaluated the creativity tasks more favourably than unsuccessful participants. Also, successful participants reported being more motivated than those who were unsuccessful. Finally, successful participants reported a greater willingness to attempt more problems and participate in future psychological studies than those who were unsuccessful.

These results suggest some important implications and extensions of Weiner's model in understanding the impact of outcome and attributions on the relationship between the evaluator and evaluatee. These results also lend further credence to previous research done by Liden and Mitchell (1985), Bogles et al. (1986), and Kitching and Pancer (1987). This study found support for Weiner's contentions of the strong impact of the positive/negative affect on affective and behavioural reactions (1979, 1985). Main effects due to outcome were consistently found throughout the affective and behavioural measures. Successful participants reported greater internal attributions than unsuccessful ones. Greater positive affect was reported by successful participants than those who were unsuccessful. Evaluations of the feedback, the creativity tasks, the experimenter, and the experiment were consistently better in the success conditions than in the failure conditions. Finally, the outcome-dependent affective reaction proved to be a significant predictor of evaluations of the feedback, the creativity tasks, the experimenter, and the experiment. Thus, one may suggest that the hypothesized generalizability of Weiner's model (1985) can be justified. The positive/negative affect may be regarded as one of the critical predictors of individuals' perceptions of prominent objects in the social context of an evaluative feedback situation.

There was also evidence that the kinds of attributions made for the outcome experienced may have a profound influence on one's reactions to the feedback and the evaluator. Thus, one can say that

the relationship between evaluator and evaluatee may be strongly influenced by the kind of feedback that is provided for the task performance.

Both evaluations of the helpfulness and overall quality of the feedback were strongly influenced by the type of information provided with the feedback. Participants in the success/internal information condition evaluated the feedback more favourably than those in the success/external information condition. Participants in the failure/internal information condition evaluated the feedback less favourably than those in the failure/external information condition. Also, evaluations of the experimenter differed significantly in the failure condition depending on information type. Those participants in the failure/internal information condition evaluated the experimenter much less favourably than those in the failure/external information condition. Thus, perceptions of the evaluator may be strongly influenced by the type of attribution inherent in the feedback.

Thus, the results strongly suggest that there are both outcome-dependent effects and attribution-dependent effects on evaluations of the feedback, the task, the experimenter, and the experiment. These results have implications for those individuals in evaluative positions in both academic and business settings. In terms of providing motivational and correctional feedback for successful performances, the evaluator need not worry about potential detrimental effects on the social context of the evaluation. However, in terms of

providing motivational and correctional feedback for unsuccessful performances, the evaluator should take into consideration the results of this study and Weiner's model of achievement motivation and emotion. In order to prevent negative affective and behavioural reactions, the evaluator should take into account the detrimental impact of internal attributions for unsuccessful performances on the part of the evaluatee and the much less negative impact of external attributions for unsuccessful performances on the part of the evaluatee. By this assertion, one is not suggesting to provide false feedback to subordinates or evaluatees, but, in cases of internal attributions for unsuccessful performances to take into account the probable negative reaction and deal with it during the evaluative exchange. Hence, the advice to the evaluator with regard to negative feedback is to keep the feedback accurate and to attempt to avoid possible defensive reactions on the part of the evaluatee.

In summary, the present research was based on the study of Liden and Mitchell (1985) and the criticisms laid by the present researcher against the study. As in their study, antecedent attribution information (consensus, consistency, and distinctiveness) was manipulated. Unlike their study, only three types of information condition were included: internal information, external information, and no information. Also, unlike their study, two levels of outcome were included to examine possible differing affective and behavioural reactions to success and failure feedback. Also, a stronger manipulation check was used to examine the participants' perceptions



of the locus of causality via the Causal Dimension Scale (Russell, 1982), and participants were asked to complete both an affective and behavioural reaction questionnaire.

The contribution of the present study then is its extension of Liden and Mitchell's results to success and failure conditions within a much more realistic feedback situation. The study shows that reactions to success and failure are different given different antecedent information and, hence, attributions for performance. It also shows that feedback situations can adequately be created within an experimental setting and can be studied in that manner.

The present study has a number of shortcomings. The first shortcoming deals with the salience of the information provided with the feedback. One may logically ask if the participants evaluated their performance in terms of the consistency and distinctiveness manipulations or if the only salient information was the consensus information and the score given. If the latter, then the inconsistent results within the manipulation checks can be explained. Perhaps, a more distinctive task or tasks could be used to more effectively manipulate the distinctiveness and consistency of the performance. If the former, then the results are interpretable as discussed previously using the self-serving bias approach. The second shortcoming is the fact that the experimenter was not blind to the participants' feedback condition. The criticism could be made that the experimenter may have inadvertently biased the results of the final questionnaires. However, in support of the research the experimenter practiced

delivering the feedback during informal pre-test situations. Participants of the pre-test found no differences in the delivery of the types of feedback. Finally, one may question the inherent value of creativity to the participants. Perhaps failure on a creativity task is not as inherently negative as failure on a midterm examination. Low levels of importance of the tasks may have affected the strength of the results. Future research may want to investigate the varying effects due to task importance.

Further research in the area of affective and behavioural reactions to feedback is certainly warranted. One may question the differences in information evaluation between those who succeed and those who fail. Results have consistently shown some kind of bias toward nonacceptance or misinterpretation of information in failure conditions (e.g., Bogles et al., 1986; Kitching & Pancer, 1987; Stevens & Jones, 1976; Stephan et al., 1978). Further research should investigate this phenomenon.

In the future, studies need to examine Weiner's model (1985) when applied to more ego-involving tasks. One must question the impact of laboratory manipulations on the internal reactions of participants. These may or may not be the same as those found in real life settings (e.g., reactions to midterm examinations, job performance evaluations).

In conclusion, Covington and Omelich (1984a) asserted that, "Weiner's contribution to our understanding of classroom achievement phenomena can scarcely be overstated...Today the area of achievement

motivation is once again vital and prosperous "thanks to Weiner's work" (p. 1210). Covington and Omelich's comments on Weiner's work (1984a, 1984b) are strongly supported by the results from this study. It is clear from the present research that Weiner's model (1985) does have a significant place in the literature and in the interpretation of how individuals react to feedback. The predictive power of our attributions for performance cannot be overlooked. What we do and how we feel about our successes and failures seem to be inextricably linked to our attributions for those performances.

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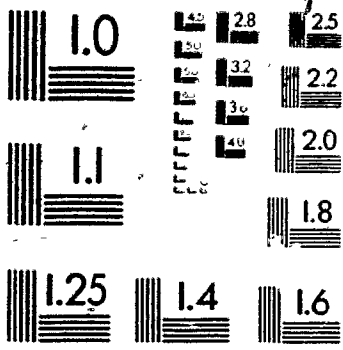
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Appendix A

Creativity Practice Test

The following items are taken from a standard creativity test. They represent a sampling of possible items. A sampling of items was taken to familiarize you with types of creativity problems. The test will be comprised of only one type of problem from the practice test. Your job is to work through the items as efficiently as possible. You will have a separate piece of paper for your answers.

1. Write words containing the letter: "Q".
2. Name things that belong to the following class: "Liquids that burn".
3. Write words similar in meaning to the word: "Hard".
4. Write four-word sentences, each word to begin with a given letter: "K-U-Y-I".
5. List possible uses for coat hanger.
6. List possible words you can derive from your name.
7. Complete the following simile in several different ways:  
"A woman's beauty is like the autumn; it...".
8. List possible jobs that might be symbolized by a light bulb.
9. List possible uses for a newspaper.
10. Write words containing the letter: "X".

Appendix B

Creativity Final Test

Only one type of item from the practice test will be used for this test portion of the study. Your job is to answer the questions as efficiently as possible on a separate piece of paper.

1. Write words similar in meaning to the word: "Soft".
2. Write words similar in meaning to the word: "Cold".
3. Write words similar in meaning to the word: "Hot".
4. Write words similar in meaning to the word: "Wet".
5. Write words similar in meaning to the word: "Talk".

Appendix C

Causal Dimension Scale

Instructions: Think about the feedback that you have just been given. Consider all the information that was given in the feedback you were given. The items below are concerned with your impressions or opinions of the cause(s) of your performance. Circle one number for each of the following scales.

1. Is the cause something that:

Reflects an aspect of yourself	9	8	7	6	5	4	3	2	1	Reflects an aspect of the situation
-----------------------------------	---	---	---	---	---	---	---	---	---	---

2. Is the cause:

Controllable by you or other people	9	8	7	6	5	4	3	2	1	Uncontrollable by you or other people
--	---	---	---	---	---	---	---	---	---	---

3. Is the cause something that is:

Permanent	9	8	7	6	5	4	3	2	1	Temporary
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4. Is the cause something:

Intended by you or other people	9	8	7	6	5	4	3	2	1	Unintended by you or other people
------------------------------------	---	---	---	---	---	---	---	---	---	---

5. Is the cause something that is:

Outside of you	1	2	3	4	5	6	7	8	9	Inside of you
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6. Is the cause something that is:

Variable over time	1	2	3	4	5	6	7	8	9	Stable over time
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Affective and Behavioural Reactions

7. Is the cause:

Something about you	9	8	7	6	5	4	3	2	1	Something about others
---------------------	---	---	---	---	---	---	---	---	---	------------------------

8. Is the cause something that is:

Changeable	1	2	3	4	5	6	7	8	9	Unchanging
------------	---	---	---	---	---	---	---	---	---	------------

9. Is the cause something for which:

No one is responsible	1	2	3	4	5	6	7	8	9	Someone is responsible
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Appendix D

Affective Rating Scale

This questionnaire deals with your emotional reaction(s) to your performance feedback on the practice test and final test. The following list of emotions may or may not have been experienced by you. Indicate how strongly you experienced each emotion. If, however, you feel that a specific emotion is not applicable to the situation, please circle NA (not applicable). Read each emotion and circle the appropriate number from 1 to 9 or NA.

COMPETENT	1	2	3	4	5	6	7	8	9	NA	INCOMPETENT
PLEASED	1	2	3	4	5	6	7	8	9	NA	DISPLEASED
SATISFIED	1	2	3	4	5	6	7	8	9	NA	NOT SATISFIED
HAPPY	1	2	3	4	5	6	7	8	9	NA	UNHAPPY
GUILTY	1	2	3	4	5	6	7	8	9	NA	NOT GUILTY
ADEQUATE	1	2	3	4	5	6	7	8	9	NA	INADEQUATE
CONFIDENT	1	2	3	4	5	6	7	8	9	NA	NOT CONFIDENT
SHAME	1	2	3	4	5	6	7	8	9	NA	PROUD
CONTENT	1	2	3	4	5	6	7	8	9	NA	DISCONTENT
RESENTFUL	1	2	3	4	5	6	7	8	9	NA	GRATEFUL
NOT SURPRISED	1	2	3	4	5	6	7	8	9	NA	SURPRISED

Affective and Behavioural Reactions

POSITIVE	1	2	3	4	5	6	7	8	9	NA	NEGATIVE
RELIEVED	1	2	3	4	5	6	7	8	9	NA	NOT RELIEVED
GOOD	1	2	3	4	5	6	7	8	9	NA	BAD
ANGRY	1	2	3	4	5	6	7	8	9	NA	NOT ANGRY
CALM	1	2	3	4	5	6	7	8	9	NA	TENSE
ASTONISHED	1	2	3	4	5	6	7	8	9	NA	NOT ASTONISHED
FURIOUS	1	2	3	4	5	6	7	8	9	NA	NOT FURIOUS
DEPRESSED	1	2	3	4	5	6	7	8	9	NA	HOPEFUL

## Appendix E

## General Reaction Questionnaire

Think about the feedback that you have just received concerning your performance on the practice test and final test. The following questions are concerned with your opinions and reactions to the task, the feedback and the experimenter. Please read each question carefully and answer as honestly as possible.

1. Evaluate the task on the following dimensions:

INTERESTING	1	2	3	4	5	6	7	8	9	BORING
GOOD	1	2	3	4	5	6	7	8	9	BAD
DIFFICULT	1	2	3	4	5	6	7	8	9	EASY

2. Indicate how strongly you were motivated to try your best on the practice and final test:

NOT AT ALL MOTIVATED	1	2	3	4	5	6	7	8	9	VERY MOTIVATED
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3. How well do you think you did relative to other university students taking the creativity test:

VERY POORLY	1	2	3	4	5	6	7	8	9	VERY WELL
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4. How was your performance on the test relative to the same items on the practice test:

VERY POORLY	1	2	3	4	5	6	7	8	9	VERY WELL
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5. How was your performance on the test relative to different items on the practice test:

VERY POORLY	1	2	3	4	5	6	7	8	9	VERY WELL
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6. How helpful were the comments in understanding why you succeeded or failed:

VERY HELPFUL	1	2	3	4	5	6	7	8	9	NOT AT ALL HELPFUL
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7. Indicate how willing you would be to attempt similar problems if given another test:

NOT AT ALL WILLING	1	2	3	4	5	6	7	8	9	VERY WILLING
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8. Indicate how strongly you feel towards the experimenter on the following dimensions:

LIKE	1	2	3	4	5	6	7	8	9	DISLIKE
NEGATIVE	1	2	3	4	5	6	7	8	9	POSITIVE
COLD	1	2	3	4	5	6	7	8	9	WARM
NOT ANGRY	1	2	3	4	5	6	7	8	9	ANGRY
GOOD	1	2	3	4	5	6	7	8	9	BAD
DISPLEASED	1	2	3	4	5	6	7	8	9	PLEASED

9. In general, how would you rate the feedback:

VERY GOOD	1	2	3	4	5	6	7	8	9	VERY BAD
-----------	---	---	---	---	---	---	---	---	---	----------

10. In general, how would you rate the experiment:

VERY GOOD	1	2	3	4	5	6	7	8	9	VERY BAD
-----------	---	---	---	---	---	---	---	---	---	----------

11. Indicate how willing you would be to participate in another study:

NOT AT ALL INTERESTED	1	2	3	4	5	6	7	8	9	VERY INTERESTED
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12. Indicate how willing you would be to work with the experimenter on a future study:

NOT AT ALL INTERESTED	1	2	3	4	5	6	7	8	9	VERY INTERESTED
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Appendix F

Success/No Information or Control Condition

You did really well on the test. Your score was 42 out of a possible 50.

Appendix G

Success/Internal Information Cues Condition

You did really well on the test. Your score was 42 out of a possible 50. It looks like you did pretty much the same on this test as you did on the same and different items on the practice test. Actually, most of the students who have taken this test have not scored nearly as well as you have. Let's see what your reactions to the study are.

Appendix H

Success/External Information Cues Condition

You did really well on the test. Your score was 42 out of a possible 50. It looks like you did better on this test than you did on the same and different items on the practice test. Actually, most students who have taken this test have also scored well. Let's see what your reactions to the study are.



Appendix I

Failure/No Information or Control Condition

I'm afraid that you didn't do very well on the test. Your score was only 23 out of a possible 50.

Appendix J

Failure/Internal Information Cues Condition

I'm afraid that you didn't do very well on the test. Your score was only 23 out of a possible 50. It looks like you did pretty much the same on this test as you did on the same and different items on the practice test. Actually, most students who have taken this test have scored better than you have. Let's see what your reactions to the study are.

## Appendix K

## Failure/External Information Cues Condition

I'm afraid that you didn't do very well on the test. Your score was only 23 out of a possible 50. It looks like you did much better on the same and different items on the practice test than you did on the final test. Actually, most students who have taken this test have also scored poorly. Let's see what your reactions to the study are.

## Appendix L

## Debriefing

Thanks. Now that you've completed the study, I'd like to give you a bit more of an explanation about what we're looking for in this study. The thing that we are more interested in is how people react to feedback - both positive and negative - that they receive on work they've done. Think of the times when someone has told you that you've done really well at something. How did it affect your feelings about the person you gave you the feedback? How did it affect your feelings about the person you gave you the feedback? Then think of a time when someone told you that you hadn't done well. How did that affect you? So we are using this research to find out how people react to positive and negative feedback.

Now, in order to find out how people react to this kind of feedback, we have to arrange it so that people actually get positive or negative feedback on something they've done. That's why we gave you this test and told you that you have done poorly ("well" for success conditions) on it. Actually, the score that I gave you WAS NOT YOUR ACTUAL SCORE. We used a random selection procedure to determine who would be told they had done well and who would be told they had done poorly. (For failure conditions: So you can rest assured that you're actually much more creative than the test results might have made you think). The reason we gave you this false feedback was to determine how you would react to the feedback. At

this point. I'd like to ask you if you understand that the feedback was false and had absolutely nothing to do with your performance?

We think this research is important, for a number of reasons. First of all, we would like to understand how this kind of feedback affects people. The research that has been done in this area so far, indicates that people don't always react to feedback - especially negative feedback - the way we would like them to. The reason negative feedback is given is usually to improve the person's performance in the future. But this isn't always what happens. Suppose a teacher tells a student that s/he did poorly on a test. This often makes the student feel badly, perhaps less motivated, and, as a result, even less likely to do well in the future. This leads to another reason for doing this research. We would like to find ways of giving people feedback so that it wouldn't have these kinds of undesirable effects.

So, I hope you can understand why we gave you a test score that was not your actual score, and why we think it's important to understand how people react to this kind of feedback. How did YOU feel when I told you what your score was on the test? (for those in the failure conditions: Well, I hope you feel better now that you realize that you didn't receive your actual score, and that you're likely a very creative person).

Do you have any questions or suggestions? Now, before you leave, I'd like to ask you not to say anything to any of your friends about this study. If they ask you, you can just tell them that you did a

psychological test and got some feedback on it. If any of your friends did find out about the study, it would, of course, invalidate the results, and may endanger the entire study. Great. Thanks again for participating. We'll be posting the results of the study on the bulletin board on the third floor of the Central Teaching Building in mid-March, so if you're interested in seeing what the results were, just take a look there. Thanks again. Bye.