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Perceptions of Fairness in the Frustration Effect: An Attributional Analysis

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Perceptions of Fairness in the Frustration Effect:

An Attributional Analysis

A Thesis

Presented to the

Department of Psychology

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

University of Nebraska at Omaha

by

David T. Van Dyke

November, 1990
# Thesis Acceptance

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Arts, University of Nebraska at Omaha.

## Committee

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A note of thanks is also extended to the members of the justice research group who provided me with valuable feedback and advice during the conceptualization of this study. Michelle Harrison deserves a special thank you for her willingness to assist me with data coding for the analyses.

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Finally, I dedicate this thesis to my best friend and wife, Renee. Only through her undying commitment and selflessness have I been able to pursue my educational interests. It would have been impossible for me to achieve this goal without her making the sacrifices she so willingly made.
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Experimental Design
Abstract

Theories of both distributive (Adams, 1963) and procedural justice (Thibaut & Walker, 1975) have been demonstrated to be accurate in describing subjective evaluations of fairness in a wide variety of circumstances. However, a phenomenon known as the frustration effect (e.g. Folger, 1977) results in perceptions of fairness that are incongruent with the predictions of these two theories. This study attempts to explain the discrepant results in terms of attribution theory as it was proposed by Weiner (1985). By manipulating and measuring the attributions made by subjects, the attributional explanation was tested. The results of this experiment were not supportive of this theoretical perspective, but several methodological factors may have hampered this attempt. The results and methodological difficulties encountered in this experiment are discussed in terms of their implications for future studies of the frustration effect.
Perceptions of Fairness in the Frustration Effect: An Attributional Analysis

Previous research has demonstrated that perceptions of fairness have a significant impact on the efficient functioning of and satisfaction with organizational and societal institutions (Folger & Greenberg, 1985; Friedland, Thibaut, & Walker, 1973; Thibaut, Friedland, & Walker, 1974; Tyler, 1987). These fairness evaluations are influenced by two different factors: the equity of the outcomes (distributive justice) and the appropriateness of the procedures that are used in arriving at these outcomes (procedural justice). While more equitable outcomes and more appropriate procedures normally result in increased evaluations of fairness, sometimes this combination actually results in lower evaluations of fairness (see Lind & Tyler, 1988, p. 180). Attempts to explain these divergent results have not netted an all-encompassing explanation of these varying perceptions of fairness. The following is a recapitulation of the research associated with psychological reactions to fairness, and a presentation of recent research that provides new insight into factors that may moderate the effect of the outcomes and procedures on perceptions of fairness.

Distributive Fairness

Historically, much of the research that dealt with the issue of fairness focused on the appropriateness of varying outcome levels for different individuals. Adam’s (1963) formulation of
Equity theory highlighted the importance of both inputs and outcomes as the basis for judging the fairness of differing allocation decisions. Inputs are defined as the perceived contributions of a person into a system or relationship. Outcomes are the things the person receives from the relationship or system. Within the framework of this theory, individuals evaluate their input/outcome ratio against the input/outcome ratio of a social referent. The system is fair when the ratio of inputs and outcomes for the two individuals is equal.

Equity theory suggests that people utilize a model of fairness which focuses on the purely distributive dimension, looking only at relative inputs and outcomes to determine whether or not justice has been served. With such a narrow focus, equity theory does not take into account the procedures by which outcomes are decided (Folger, 1986b). If an evaluation of the procedures did not take place and equity were the sole basis on which fairness was determined, each situation might require an analysis of the relative inputs and outcomes of each individual to determine whether everyone was being treated equitably. If this were the case, the evaluations would require a vast amount of information to be assimilated and, as such, would be an extremely inefficient way to evaluate fairness.

Procedural Fairness

In what has become a monumental series of studies in justice research, Thibaut and Walker (1975) studied the importance of
outcome decision procedures on perceptions of fairness. By manipulating both the outcomes received and the process by which the outcomes were determined, they demonstrated that procedures affect perceptions of fairness. Thus, in addition to evaluations of the input vs outcome ratios, the evaluation of procedures leading to outcome decisions is also an integral element of judgements of fairness.

With empirical evidence that evaluations of fairness occur on both procedural and distributive dimensions, subsequent research has routinely measured these dimensions independently. Evaluation of the fairness of procedures used to determine outcomes is labeled procedural justice (Thibaut & Walker, 1975), and evaluation of the fairness of outcomes is labeled distributive justice (Homans, 1961).

An illustration may prove useful in clarifying these two dimensions. Imagine that you have been wrongly accused of plagiarizing and have the option of either pleading guilty or defending yourself in front of a review board. After preparing a statement to defend your innocence, you show up on the morning of the hearing only to be told that the charge has been dismissed. This verdict was reached prior to any opportunity to make statements in your defense. Upon further inquiry, you find that accusations are routinely dropped for those who take the time to prepare a case. The logic presented is that you must be innocent if you took the time to prepare a case and are ready to present it.
to the board.

From a purely distributive standpoint, justice has been served; you have not been convicted of something of which you are innocent. If evaluations of fairness rested solely on this dimension, any skepticism about fairness could not be based on the actual outcome received. On the other hand, it is possible that a great deal of skepticism would follow procedures that resemble the above scenario. The procedures that were followed in determining your outcome, although leading to a verdict that happened to be correct, do not guarantee a just outcome will always be reached. Because no confidence in these procedures exist, the fairness of each outcome would have to be evaluated on a case-by-case basis.

Procedural Justice Effects

How does procedural justice affect perceptions of distributive justice? Several studies (La Tour, 1978; Lind, Kurtz, Musante, Walker, & Thibaut, 1980; Walker, LaTour, Lind, & Thibaut, 1974) have analyzed this relationship by varying the procedures used and the outcomes received. Results indicate that fairer procedures resulted in higher ratings of distributive justice, even if the two different procedures resulted in identical outcomes. The bottom line of these experiments is that satisfaction with the outcomes was improved merely by using better procedures (Lind & Tyler, 1988). Increasing the outcomes, therefore, is not a prerequisite to improving perceptions of distributive justice.
The implications of procedural fairness are best exemplified in two studies that contrasted the effects of varying procedures and outcomes. In a study of leadership endorsement, Tyler and Caine (1981) manipulated both outcomes and procedures and examined whether distributive or procedural fairness played a more important role in the support given to formal leaders (e.g. school teachers and politicians). While perceptions of distributive justice were important, perceptions of procedural justice accounted for a significantly greater percentage of the variance in ratings of leadership support.

Tyler and Caine provided additional support for their findings in a field study examining these same variables. In this latter study, the impact of procedural factors was even more dramatic. The regression coefficients linking perceptions of distributive justice to leadership support for various political figures generally were not statistically significant. In contrast, the regression coefficients linking perceptions of procedural justice to leadership support were significant accounting for 11 to 22 percent of the variance.

It is also important to note that the impact of procedural justice is greatest in cases where individual outcomes are negative. Research associated with attribution theory has demonstrated that decisions having a personal impact make individuals sensitive to the process by which the decisions are made, especially when the outcomes are negative or unexpected.
(Weiner, 1985, 1986; Wong & Weiner, 1981). While, in general, studies have demonstrated that fairer procedures result in greater outcome satisfaction (Thibaut & Walker, 1975), the evaluations associated with negative outcomes should make subjects especially sensitive to the types of procedures used (Lind & Tyler, 1988, p.186).

Empirical evidence exists supporting this hypothesis (Folger, 1986a; Folger & Martin, 1986). When outcomes are negative, the legitimacy of the process leading to the outcomes must be maximized if perceptions of justice are to be maintained (Bies, 1987). When the procedures are perceived to be fair, the system enjoys a cushion of support (Greenberg & Folger, 1983; Lind & Tyler, 1988, p.67), even in the face of negative outcomes. Investigating what factors contribute to the cushion of support is at the center of much of the procedural and distributive justice research.

**Voice**

By implementing a remarkably simple procedure called voice, the cushion of support is normally attained. This procedure involves allowing individuals the opportunity to express their opinion or concerns in an effort to influence a decision in which they have an interest (Greenberg & Folger, 1983). Simply providing interested individuals with an opportunity for voice improves their perceptions of procedural justice (Thibaut & Walker, 1975). This improvement is labeled the fair process
effect (Greenberg & Folger, 1983).

The original definition proposed by Greenberg and Folger (1983) implies that influence over the outcomes is important if perceptions of procedural justice are to be enhanced. Recent evidence indicates that the perception of influence over the outcome may not be that important.

Components of Voice

For purposes of studying the effect of voice on perceptions of fairness, a distinction has been made between voice which is merely expressive and that which is instrumental (Tyler, Rasinski, & Spodick, 1985). The expressive value of voice is nothing more than being able to express an opinion regardless of its perceived effect on the outcomes. In contrast, the instrumental value of voice is linked to the perception that expression will somehow lead to a fairer outcome (Thibaut & Walker, 1975).

While it has been demonstrated that the instrumental aspect of voice is important (Tyler et al., 1985), the value expressive component also affects perceptions of fairness (Earley, 1984; Earley & Lind, 1987; Tyler 1987, 1989). Just being allowed the opportunity to express an opinion has value over and above the perception of how much influence voice has on those outcomes.

In fact, the value expressive component of voice is so important that even in situations where it is clear that expressing an opinion will have no impact on the outcomes, ratings of procedural justice still improve compared to situations in
which voice is not allowed (Earley, 1984). In a study testing this effect, subjects were told that their outcomes were already decided and the decision was final. Nonetheless, subjects were given an opportunity to express their opinion after the outcomes had been announced, even though they knew their expressions would not alter the decision. With clear evidence that their voice did not represent an opportunity to influence the outcomes, subjects given voice still rated the procedures as more fair than did subjects who were not provided the opportunity for voice.

In contrast to earlier definitions of voice as an attempt to influence outcomes (Greenberg & Folger, 1983), the value expressive component appears to be a significant factor in the effect voice has on perceptions of fairness. Regardless of what factors contribute to increases in perceptions of fairness, the fair process effect associated with voice is one of the more robust findings in the domain of justice research (Lind & Tyler, 1988, p.179).

Referent Cognition Theory

In an effort to integrate the research on distributive and procedural justice, Folger (1986b; Folger & Martin, 1986) formulated referent cognition theory. This theory encompasses both distributive and procedural justice. From a distributive justice standpoint, it is suggested that outcomes are evaluated on how closely they resemble the evaluator’s perceptions of an equitable solution. In the same manner, the procedures are
evaluated against what is perceived as the most appropriate procedure for the given situation. As the actual outcomes and procedures more closely approximate the perceptions of that which is fairest, referent cognition theory predicts that judgements of fairness will increase.

This model suggests that the two dimensions make independent, additive contributions to evaluations of fairness. If this is correct, situations in which the procedures are held constant and the outcomes are changed so they become more equitable should result in higher fairness evaluations than situations in which the initially inequitable outcomes are unchanged. The same overt procedures are maintained; thus, according to referent cognition theory, there should be no differential contribution from the actual procedures employed to the perceived fairness of the outcomes. From a distributive justice perspective, the change to more equitable outcomes should result in improved evaluations of fairness.

In fact, enhancement of procedural and distributive fairness occurs when an initial inequity is corrected to meet the evaluator’s perception of equity (deCarufel & Schopler, 1979; Folger, 1977). However, in order for perceptions of fairness to improve it is important that the outcome increment closely resemble that which the evaluator thinks is fair. If voice is allowed, evaluations of fairness do not rise with outcome improvement if the outcome improvement is negligible. This
relationship between outcome and desired outcome is only important when the procedures allow for expression of voice (Folger, 1977). When voice is not allowed and a slight improvement in outcomes occurs, perceptions of fairness become a function of objective outcome equity.

**Frustration Effect**

When voice is allowed but outcomes are not improved to an equitable level, the cushion of support and the fair process effect normally associated with voice procedures do not occur (Conlon, Lind, & Lissak, 1989; deCarufel & Schopler, 1979; Folger, 1977). Not only do the perceptions of procedural and distributive justice not improve with the fairer outcomes, they actually decrease as compared to situations where the originally inequitable outcomes remain unaltered. The perception of fairness in this situation is also lower than if the outcomes were improved without the opportunity for voice. This phenomenon has been labeled the frustration effect (Folger, 1977), a label which has been attached to situations in which perceptions of fairness do not improve as would be expected given improvements in outcomes or the use of more appropriate procedures.

The first and most frequently cited study of the frustration effect was conducted by Folger (1977). In this experiment, fifth grade boys were asked to perform zip code sorting tasks for which they received varying levels of reimbursement as determined by another subject who was selected to play the role of manager. The
amount of reimbursement came from a fixed amount of money to be distributed between the manager and the worker.

Prior to task performance, subjects were asked to write on a fair payment card the proportion of each allocation they thought would represent the fairest distribution. The experimenter explained that since the worker and manager were randomly assigned to their positions, an even split of the money was usually deemed the most appropriate. As would be expected, almost all subjects indicated the equal division of outcomes was fair. The fair payment cards were used as the mode of voice. Subjects in the voice condition were told the manager was given the card to read after their second task performance session. Those in the mute condition filled out the cards, but were never told the manager would read what they had written.

In addition to the procedural manipulation of voice, the outcomes were manipulated so either the cumulative total compensation for the manager and worker were equal, or the cumulative total compensation for the worker was half of the manager’s compensation. The allocations were set up on a schedule whereby half of the subjects’ outcomes remained constant for each of the ten tasks, while the other outcomes became more equitable for each successive task performance. Thus, other than the voice vs mute condition, four additional situations existed in this experiment: constant, total equity; constant, total inequity; improving, total equity; and improving, total inequity.
Ratings on three categories of dependent variables were taken: managerial fairness, procedural fairness ("How fair was it to let your manager divide the money?"), and distributive fairness. As could be expected, conditions in which total cumulative equity existed between the worker’s and manager’s outcomes resulted in high ratings of managerial and distributive fairness. These particular results are consistent with referent cognitions theory, and are not specifically applicable to the frustration effect.

As would be expected on the basis of an independent evaluation of the procedures or outcomes, subjects in the mute-constant, total inequity condition rated the manager and distributions as less fair than did those who were in the voice-constant, total inequity or mute-improving, total inequity conditions. Subjects in the voice-improving, total inequity condition rated managerial and distributive fairness lower than those who were in either the voice-constant, total inequity or the mute-improving, total inequity conditions. Given the use of voice, which is a fairer procedure, and the improvement in outcomes, it would be expected that these ratings would have been higher. Focusing only on the conditions where voice was contrasted with a mute condition and outcomes were either improving or remained the same, an interaction occurred in the voice-improving outcomes condition but not in the direction predicted based on the improving outcomes and the use of fairer
procedures.

Measures assessing how fair it was to allow the manager to make the allocation decisions did not reveal the same pattern. Instead, ratings of fairness were higher for the voice than the mute procedures, and higher for outcome improvement than the outcome constant conditions. It appears that since it was the experimenter who set up the system providing the expression of voice, these ratings varied as a function of procedures irrespective of whether or not the manager utilized voice information. For subjects in the voice-improving, total inequity condition the manager is attributed with responsibility for the decision, as is evidenced by the differential ratings between managerial and, what is for this study, procedural justice.

These lower fairness judgements in situations of increased equity have been replicated elsewhere. deCarufel and Schopler (1979) asked subjects to perform a clerical task for which they perceived they would be compensated at a rate determined by a second subject. In reality, the outcome schedule was set up with the total cumulative outcome for each worker always equal to half that of the allocator.

Schedules of payment varied for each condition. Subjects in a constant condition received approximately the same inequitable proportion of the outcomes through each of the ten trials. Those in the equality condition received less than the allocator for the first five trials, but for the second set of five trials the
worker and allocator each received equal payments. Finally, those in the compensation condition received less than the allocator in the first five trials, but more than the allocator for the five remaining trials.

The procedures were manipulated by providing three types of voice after the fifth trial. Subjects in the voice conditions were allowed to pick out one of three cards that expressed either: (1) satisfaction with the allocations, and the allocator should keep more; (2) satisfaction with the allocations, and they should remain the same; or (3) dissatisfaction with the allocations, and the worker should receive more. In addition, the tone of the cards was altered; subjects were provided cards that either appealed to the allocator’s sense of justice, or contained a threat suggesting that the worker would get even. The threat and appeal conditions were contrasted with a mute condition in which subjects had no opportunity to convey a message to the allocator.

The first unique finding of this study, inconsistent with previous research, is that subjects in the voice conditions did not rate the procedures more fair as a result of voice. Because subjects were allowed to pick only one card which they agreed with the most and were not allowed to relay any of their own views, it is possible that this voice manipulation lacks the value expressive component of voice which later research has addressed. The lack of a fair process effect in this experiment, while present even when using a highly constrained voice in the Folger
(1977) experiment, suggests that the content of voice may have affected the results of this study.

However, the pattern of fairness ratings seen in the appeal compensation condition, when contrasted to the appeal equity condition, is unique to this study. Subjects who received outcomes that were greater than that of the allocator in the last five trials rated satisfaction and fairness lower than subjects whose outcomes during the last five trials were equal to that of the allocator. This occurred even though subjects in the compensation condition would have reason to believe the allocator was trying to rectify previous inequities.

deCarufel and Schopler (1979) suggest the disparate ratings could be explained by differing perceptions of distributive justice. Subjects in the equality condition may have believed the allocator was suggesting a "from now on" split of the outcomes was fair. Only the outcomes received after the voice card was delivered were assessed for fairness. In contrast, those in the compensation condition may have believed the allocator was using the cumulative total as a basis on which to evaluate the fairness of the outcomes. Thus, all the outcomes were assessed for fairness.

With the discrepant cumulative totals between the worker and the allocator, this explanation would appear plausible. Subjects in the equitable condition may have viewed the allocator as using a standard of justice involving a "from now on" approach; thus,
the fact that each subsequent allocation was equitable conformed to the "from now on" standard. In contrast, those in the compensation condition may have viewed the allocator as using total outcomes as the standard of justice. When subjects faced total outcomes that were not equitable, they felt the total outcome standard was violated, and the ratings of fairness reflected that fact.

This same pattern of results was not replicated in the threat conditions. Again, this may link back to the value expressive component of voice. The tone of the card, whether threat or appeal, may have affected whether subjects felt the card represented their own voice. With subsequent research demonstrating the importance of the value expressive component of voice, those in the threat condition may not have perceived that the card reflected their own position. For those in the appeal conditions, the card may have more closely represented their own views. As other factors were held constant, it would seem logical that the divergent ratings are an artifact of the nature of the voice.

These studies have involved the worker and the allocator in a non-correspondent relationship (Lind & Tyler, 1988); the allocator sacrifices what is given to the worker. As a result of this it could be suggested that this type of worker/manager non-correspondence may be a prerequisite to the frustration effect. However, recent evidence suggests that this need not be the case.
In a situation where subjects were deprived of varying amounts of their rightful earnings from a business game, a pattern of fairness ratings was exhibited that matched that of the frustration effect (Conlon et al., 1989). The difference in this study was that subjects no longer perceived the judge to have any interest in the outcomes other than a fair resolution of the conflict.

Each subject directed a group of individuals which had won a monetary prize in a business simulation game. After being told they had won, they were informed their winnings were in jeopardy because another group alleged they had violated one of the established rules of the game.

A mock trial was arranged with subjects represented by a law school student who presented their defense to a judge. After the judge heard the case, they were informed that either they had lost the case and would lose one-third, two-thirds, or all of their winnings, or they had won and could keep all of the total prize money.

Similar to the pattern of ratings seen in the Folger (1977) study, the fairness of the judge and procedures did not vary in a simple linear fashion with the amount of the money they were allowed to keep. Subjects who were allowed to keep only one-third of their winnings rated the procedures as significantly less fair than those who were deprived of all their outcomes.

Unique to this study was the fact that there were no
constraints placed on voice; yet, the frustration effect still occurred. The previous frustration effect studies have placed tight constraints on voice, which has caused some to suggest that this is a prerequisite to the frustration phenomenon (Lind & Tyler, 1988, p.183). Because subjects were active participants in forming their own defense and felt they were well represented by their lawyers, the necessity of a constrained voice does not appear to be a valid prerequisite to the frustration effect.

Because the frustration effect has been used to describe decrements in fairness ratings resulting from a variety of situations, it is necessary to delineate a definition which clarifies the phenomenon of interest. For this study, the frustration effect will be defined as low evaluations of fairness in situations where the procedures used and outcomes received would be independently rated as more procedurally or distributively fair than the actual ratings reported. This represents an interaction between perceptions of the procedures and outcomes that is in the opposite direction of the expected main effect for both variables. This definition necessitates a contrast of ratings between situations where the frustration effect occurs and situations where the procedures are the same and the outcome is less equitable, or the procedures are less fair and the outcomes are equally equitable.

Utilizing this definition, two experiments that do not fulfill all of the criteria, but are repeatedly referred to as
examples of the frustration effect, were reported by Folger, Rosenfield, Grove, and Corkran (1979). In these studies subjects were provided with two different procedures (voice vs mute) along with social information about a co-worker's perception of the equity of the outcomes. For all subjects the outcomes were inequitable and did not change after voice.

Subjects were told their co-workers thought the outcomes were either equitable or inequitable, thus, agreeing or disagreeing with the subject's perception of inequity. When the co-worker's opinion was that the outcomes were inequitable, the ratings of fairness associated with the voice procedure were no higher than those associated with the mute procedure; and in the second study, the ratings of fairness with the voice procedure were even slightly lower. In contrast, when the subjects were led to believe that the co-worker's opinion was that the outcomes were equitable, the ratings of fairness reflected the normal fair process effect associated with voice procedures.

These experiments vary in two ways from previous studies of the frustration effect. First, the ratings of fairness with a voice procedure were not significantly lower than the ratings of fairness with the mute procedure. All of the previous frustration effects have resulted in a significantly lower ratings of fairness when higher ratings would be expected. Second, it is the use of social information (Salancik & Pfeffer, 1978) which causes the ratings to differ from the normal pattern. The previously cited
experiments have manipulated perceptions of fairness using a combination of procedures and outcomes. As reflected in the conclusion reached by Folger et al. (1979), "when supportive social 'evidence' is available, the fairness of the allocation procedure becomes essentially irrelevant" (p. 2259). While social information is important, the focus of the present research is to investigate the role of procedures and outcomes in producing the frustration effect.

**Frustration Effect Explanations**

Explanations of the frustration effect in the other experiments have resulted in no clear cut understanding of its cause. Folger (1977) suggested that those in situations where they receive improvements in outcomes after voice say to themselves, "I could have done better," whereas, those who receive improvements in outcomes without voice say, "I could have done worse."

Relative to those in the mute group, those who were given the opportunity for voice would have perceived that they were successful in influencing the manager. Folger suggests that this perception of success would lead to a higher standard of evaluation resulting in the "I could have done better perspective." Those in the mute group simply were at the mercy of the manager, when the outcomes spontaneously improved, it represented good luck rather than something that could be expected.
Similar to the explanation provided for the deCarufel and Schopler (1979) study, subjects could have used a different comparison level (Thibaut & Kelley, 1959) to judge their outcomes. When voice is allowed, those who are in the no-improvement condition accept their stable outcomes as just, whereas, those in the outcome improvement condition use an equal distribution of the outcomes as a basis for evaluating their outcomes. The different perspective could have resulted in either a sense of relief or disappointment which is manifested in the differing judgements of fairness.

These explanations, however, are weakened by the Conlon et al. (1989) findings in which all of the subjects conceivably would have used the same outcome standard because of their innocence in the case. If the ratings of fairness are a function of the comparison level, the perceived fairness of the outcomes should vary as a linear function of the amount of earnings retained. As reflected by the results of this study, this pattern of judgements was not exhibited, calling into question the validity of this explanation.

In the Conlon et al. study, assessment of the subject's perception of whether or not the judge gave due consideration to their position provides some insight into factors that contribute to the frustration effect. As subjects' perceptions of the fairness of procedures varied, so did perceptions of the amount of consideration given to their arguments. This suggests that
fairness perceptions are not purely a function of the procedures or the outcomes. A personal evaluation of the amount of consideration given by the decision maker to subjects' voiced statements was an integral component of the ratings of procedural justice in this study.

Because assessment of due consideration in the Conlon et al. study was correlational, it is not clear whether due consideration moderates perceptions of justice, or perceptions of justice moderate due consideration. It is clear, however, that attributions about the decision maker covary with perceptions of fairness.

Attribution Theory

As stated earlier, research has demonstrated that causal attributions are routinely made in situations where failure or unexpected outcomes are experienced (Wong & Weiner, 1981). A three-factor model of attribution theory has been developed and verified for a variety of social situations (Weiner, 1986; Weiner, Perry, & Magnusson, 1988). This model makes use of judgements of stability, controllability, and locus of causality interacting to determine emotional reactions to a variety of social situations.

Attributions of stability are defined as the stability of the cause of an action by an actor. Weiner (1985) points out that perceptions of stability are important attributions which influence everything from parole decisions to decisions about whether to re-enter school. Previous research on perceptions of
fairness have not measured causal stability.

Subjects provided with outcomes that change will realize that the reason for, or cause of, the outcome decision is unstable. Whether the outcomes are changed because the decision maker took into account fluctuations in factors which affect the outcome, or the decision maker just had a change in attitude, the perception of causal stability will be lower. In contrast, when outcomes do not change, subjects are more likely to make an attribution of causal stability.

In either case, there is no evidence that attributions of causal stability moderate the anger experienced by individuals who are exposed to aversive outcomes. Although Weiner (1985) points out that parole decisions are based on attributions of this dimension, these decisions were tied to the anticipated recurrence of crimes rather than the affective reaction of individuals making parole decisions. From a theoretical perspective, attribution theory disregards perceptions of stability in explaining anger reactions, reactions which are assumed to be important in the frustration effect. The pertinent dimensions used to understand anger, along with their implications for the frustration effect, are locus of causality and controllability.

Locus of causality has been defined as whether the cause of an individual's behavior is perceived as external or internal to the actor (Weiner, 1985, 1986). Acts performed as a reaction to
some contextual demand are labeled as having an external locus of causality. Acts which are interpreted to be a result of a personal characteristic of the actor are defined as having an internal locus of causality.

Controllability of the act also plays a significant role in moderating emotional reactions. An act performed without the actor having control over the action is not likely to arouse the same type of reaction as when it is clear the actor did have some control. For example, a student who turns in a paper one day late is more likely to receive sympathy from an instructor if the reason is an unavoidable illness rather than a trip to the baseball park. With important implications for the frustration effect, acts which result in an internal locus of causality and are perceived to be controllable result in feelings of anger (Weiner, Graham, & Chandler, 1982).

Frustration Effect Attributions

The utility of attribution theory for the area of fairness perceptions lies in its ability to theoretically explain the frustration effect phenomenon. Subjects confronted with some improvements in outcomes after pleading their case to a decision maker make two important attributions. First, the decision maker clearly has control over the outcomes based on the outcome improvements after voice. If the allocator did not have control, no outcome changes would have taken place.

Second, the locus of causality for the allocation is now more
easily attributed to an internal cause. If the initial decision was based on some contextual factors, it would be unnecessary to heed the worker’s voice and provide increased outcomes. Based on evidence that the initial allocations were not contextually based, the worker is more likely to perceive an internal locus of causality for the decision maker’s behavior. In this case, outcomes that do not improve to equity will be perceived as caused by a personal characteristic of the actor, such as greed.

In contrast, those situations where the outcomes remain constant after voice provide no additional evidence that the decision maker has complete control over the outcomes. Had outcomes been altered, then it would have been clear to those who were receiving the outcomes that the decision maker did have control over how much they received. Even though subjects in each of the experiments were informed that the decision maker was in control, augmenting the perception of control by improving the outcomes may be an additional assault to further feelings of anger toward the decision maker (Kelley, 1972).

Similarly, subjects in a voice-no improvement condition lack further information on the locus of causality of the allocation. Having received no improvements in outcomes, subjects are likely to perceive that the initial allocations are relatively fair because they are based on some contextual factors of which they are not aware. What was fair before the expression of voice is just as fair afterwards, thereby confirming any external
attributions of causality for the decision maker’s allocations.

Subject-Allocator Relationship

An attribution perspective also sheds some light on the importance of the relationship between the decision maker and the subject. Given that the decision maker has an interest in the outcomes the subject receives in a non-correspondent relationship, a bias may exist toward perceiving that the allocations were influenced by an internal characteristic of the decision maker (i.e. a desire to keep as much of the allocation as possible). In contrast, in a judicial setting where the interest of the decision maker is perceived to be the resolution of a conflict, the bias toward an internal attribution of causality is not as strong. While the pattern of attributions in both cases may be relatively the same, the magnitude of the attributions should reflect these biases. This effect should also be manifested in evaluations of fairness.

It would seem that the frustration effect would be magnified by the relationship between the subject and decision maker. In a non-correspondent relationship, evaluations of the fairness of procedures and outcomes should be lower than when the relationships are neutral. This relationship should have the greatest impact in situations where there is sufficient evidence that the decision maker is not giving due consideration to the subject’s perspective. It is in this context that the search for a cause should be the most important, and trust in the decision
maker should be the most suspect. Thus, the nature of the relationship should prove to be important.

Summary and Hypotheses

The theories surrounding perceptions of fairness have now advanced to include both distributive and procedural factors. It is the combination of these two dimensions that normally contribute to perceived fairness. Yet one situation elicits patterns of fairness ratings which are inconsistent with predictions made by theories of fairness. Recent theoretical advances made in attributional models of achievement motivation and emotion now provide new insights through which the frustration effect can be viewed.

The purpose of this research was to determine how well the attribution model explains the frustration effect. More specifically, an investigation was conducted on how attributions impact perceived fairness and lead to the frustration phenomenon in the context of voice. Again, previous research has identified the frustration effect only when individuals are provided voice (Lind & Tyler, 1988). As a result, this study examined the effects of attributions on fairness perceptions only as they occurred in the context of voice.

It is necessary to recall that the frustration effect is defined as lowered perceptions of fairness accompanying slight outcome improvements as compared to the perceptions of fairness that accompany less equitable, but unchanged outcomes. More
equitable outcomes actually lead to the perception of less equity. Thus, the manipulation of outcome change is needed to study the variables believed to be responsible for the frustration effect. As such, subjects were exposed to either outcomes that were held constant or outcomes that improved slightly after they were given an opportunity for voice.

In addition to manipulating outcomes, subjects were also exposed to one of three different levels of feedback information designed to impact their attributions. The first level of the attribution manipulation was a partial replication of the previous frustration effect investigations. As in previous studies, some subjects were provided with outcomes that improved or stayed the same without receiving any additional attributional information. However, subjects in the second and third attribution levels were provided with attributional information designed to influence their evaluations of fairness. Those in the second level were told that the allocations they received were based on factors under the decision maker's direct control. Finally, subjects in the final attribution condition were led to believe that the decision maker could not control the outcomes they received. Thus, the final design was a 2 x 3 incomplete factorial with outcomes and attributional information as the independent variables (see Figure 1).

Given the design, the hypotheses are explicated in terms of the manipulated variables. The first hypothesis is that subjects
<table>
<thead>
<tr>
<th>Outcome</th>
<th>Constant</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controllable Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Experimental Design.
in the outcome improvement-no information condition will report the decision maker's allocations to be more internally caused (locus of causality) and controllable (locus of control) than subjects in the outcome constant-no information condition. By not providing the subject with any additional attributional information in the form of feedback, except what can be gleaned from the outcome allocations, it is hypothesized that the outcome improvements would indicate that the decision maker has outcome control and that the initially depressed outcomes are not justified by contextual factors.

The ratings of both distributive and procedural fairness are expected to covary as a function of attributions on these dimensions. That is, lower perceived justice should be caused by perceptions that the decision maker not only has control, but that the basis for the allocation is an internal characteristic of the decision maker. At the same time, perceptions of greater fairness should result from perceptions that the decision maker has less control and that the cause of the inequitable outcomes is contextually based. This difference in attributional perceptions is hypothesized to account for the frustration effect. The second and third hypotheses deal with the experimental manipulation of these attributions to establish their causal impact on perceptions of fairness.

The second hypothesis is that subjects in the outcome constant-controllable information condition should rate both
procedural and distributive fairness lower than subjects in the outcome improvement-controllable information condition. In both the outcome constant and the outcome improvement conditions, the ratings of fairness should reflect the equity of the outcomes when attributions are controlled by feedback. Thus, attributional perceptions which are manipulated through feedback should remain constant in both the outcome constant and outcome improvement conditions resulting in perceptions of fairness that mirror the equity of the outcomes. Previous research has failed to control the variation of attributions in these two conditions.

Finally, the third hypothesis is that subjects in the outcome constant-uncontrollable information condition should rate distributive and procedural justice higher than subjects in the outcome constant-controllable information condition. Subjects who do not receive any outcome improvement should be more willing to accept their unfair outcomes if they feel the decision maker does not have much control over the outcome allocations.
Method

Subjects

In exchange for extra credit toward grades in introductory psychology, 104 subjects were solicited from the University of Nebraska at Omaha. Subjects, who volunteered, were randomly assigned to one of five experimental conditions. Four subjects had to be eliminated from the experiment for one of three reasons. One subject did not speak English well enough to be able to follow the procedures as outlined. Another subject had to be eliminated because he chose not to make any voice statements to the decision maker, thus, it was impossible to provide him with any feedback from the manager about his voiced statement. Finally, two subjects stated they knew no manager existed and that they were being exposed to a scam. The last two subjects made these statements prior to debriefing, thus, their data were eliminated from further analyses.

Procedure

Subjects were solicited using bulletin board sign up sheets. At the scheduled time, subjects were placed in separate rooms where they were asked to read and sign a consent form. Because two subjects were run at a time, each subject was escorted to a room as they arrived so that they were unaware that another subject was being run at the same time.

Subjects were informed that the purpose of the experiment was to assess simple cognitive performance abilities in a business
simulation task. It was explained that these cognitive abilities were being measured by performance on a schedule-creating task. The subjects were also informed that to make the business simulation more realistic $60.00 had been set aside from which they would be compensated for their work. As this did not amount to enough money for everyone to share, a lottery was held with three winners each receiving $20.00 prizes.

The subjects were informed that for each of six task performance sessions they would receive a certain number of lottery tickets. A random drawing of the tickets determined the three different prize winners. It was stressed that because each ticket had an equal probability of being selected it was to the advantage of each subject to have as many tickets as possible.

Subjects were led to believe that a total of twelve tickets were available for each task session, and that they were to be divided between a "manager" and "worker" as the manager saw fit. In reality, the ticket distribution followed one of two set schedules outlined in Table 1. The role of manager and worker was also fixed, but all subjects believed that they had been randomly selected to play the role of worker.

After the lottery, the ticket distribution process, and the task had been explained, subjects were asked to select one of two pieces of paper to determine who would play the role of manager and worker for the six task sessions. The subjects were informed that the two pieces of paper had "manager" or "worker" written on
Table 1

Ticket Distribution Schedule

<table>
<thead>
<tr>
<th>Trial</th>
<th>No Change</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>3 9</td>
<td>3 9</td>
</tr>
<tr>
<td>#2</td>
<td>3 9</td>
<td>3 9</td>
</tr>
<tr>
<td>#3</td>
<td>3 9</td>
<td>3 9</td>
</tr>
<tr>
<td>#4</td>
<td>3 9</td>
<td>4 8</td>
</tr>
<tr>
<td>#5</td>
<td>3 9</td>
<td>4 8</td>
</tr>
<tr>
<td>#6</td>
<td>3 9</td>
<td>4 8</td>
</tr>
<tr>
<td>Total</td>
<td>18 54</td>
<td>21 51</td>
</tr>
</tbody>
</table>
them to determine who played which role. Because both slips of paper had "worker" written on them, the subject always assumed the role of worker.

After the role designation had been completed, the subjects were given instructions for the task and asked to complete a fair payment card. The subjects were instructed to write on the fair payment card what they perceived to be a fair distribution of the lottery tickets. It was explained that since each person had an equal chance at playing either role, most people write down an even split as being fair.

At this point subjects were asked to begin performing the first of six 5-minute task performance sessions. At the completion of the first session, performance was documented by counting the number of classes that subjects had scheduled. The experimenter then left the room allegedly to inform the manager how many classes the worker had scheduled and to ascertain the number of tickets that the manager had allocated the worker for that task session. Upon returning to the room, subjects were informed of the number of tickets the manager had allocated to them for the previous task session and the number of schedules created by the manager. The next task performance session then began.

For the first session subjects were always informed that they had scheduled one less class than the manager; for the second session, one more; the third the same number as the manager; the
fourth one more; the fifth the same; and in the last session the subjects were informed that they had scheduled one less class than the manager. All performance measurements, and information about the allocations were relayed to the subject in the same manner as was done during the first session.

Before the fourth task performance session, subjects were told that in order to more closely simulate a true business context they were now being given an opportunity to provide feedback to the manager. They were told that they should write down on a piece of paper what they thought of the previous ticket allocations and what they thought would be a fair distribution in the future. In addition, they could also write down any other comments they wanted to make to the manager.

The opinions of the subjects were then collected, and they were led to believe that the experimenter was going to give them to the manager to read. For subjects in feedback conditions, the feedback from the manager was provided to them approximately five minutes after the opinions were collected. Following this, the remaining task performance sessions were completed. After the sixth performance session the subjects were asked to complete a questionnaire which assessed their perceptions of the dependent variables.

**Tasks**

Each subject was asked to create student schedules in each of the six 5-minute performance sessions. For each schedule created
it was necessary for the subject to assess the classes that a hypothetical student still needed based on the classes that he or she had already taken.

Subjects were provided with a series of forms containing information pertinent to schedules that needed to be created. Each form contained a list of classes the student had already completed along with times the student had available to attend classes. For simplicity, subjects were informed that the forms had been sorted by the students' year in school, and that they were only going to work on schedules for students who were sophomores.

A separate list of the classes which each student should have completed by the end of the sophomore year was also provided. Combining all this information, subjects were told to write down on a lined piece of paper the student's identification number, class call number and name of the classes for which the student could reasonably be expected to register. Each student was to be scheduled for 12 to 15 hours worth of classes. The information about class time and dates were obtained from a copy of a previously used class schedule at the University. While working as rapidly as possible, subjects were asked to write both legibly and accurately insuring that there were no conflicts in the created schedules.

**Independent Variables**

Subjects were exposed to one of three responses by the
manager to their voiced opinion, along with either a slight improvement or no change in outcome after voice. These conditions resulted in a 2 x 3 incomplete factorial design.

The three different types of responses were: no information, a written statement stating "you're right, but I want to keep the tickets for myself," or the written statement "you may be right, but I can't change now." In the no information conditions subjects did not receive any feedback from the manager about the opinions they expressed. Thus, this manipulation replicates previous studies (e.g. Folger, 1977) of the outcome variable and was designed to provide ratings against which the effects of the attribution variable could be assessed.

In the controllable information condition subjects received a message from the manager indicating that the manager acknowledges what the worker has pointed out is correct. Although the statement indicated that the manager agreed with the worker and that the manager wanted to keep the tickets, no mention of any outcome changes was made in this statement.

In the uncontrollable information condition subjects were told that the ticket outcomes could not now be changed. No reference to whether the manager thought the worker was right was made. Again, no mention of future outcomes was made, the statement simply addressed the opinion expressed by the worker.

In addition to the response by the manager to voice, the outcomes after voice were manipulated. In the no change
condition, the proportion of the allocations the subject received after the expression of voice did not change. In contrast, subjects in the change condition received outcomes that improved after they voiced their opinion. The outcomes after voice were not a restoration of equity, but they were a moderate improvement over outcomes received before voice. The ticket distribution schedules are listed in Table 1. Because it was illogical for subjects to be told their outcomes could not be changed and then receive improvement in outcomes, this cell of the design was not run.

Dependent Variables

The major dependent variables were collected using a questionnaire following the sixth task performance session (Appendix A). Along with a series of questions dealing with how strenuous the task was perceived to be, the subjects were asked how fair they thought the manager was in dividing the outcomes, how fair they felt the outcomes were, how much control they felt the manager had in deciding the outcomes, and the amount of consideration they felt the manager gave to their voiced opinion. Each of these items was assessed using an 11-point Likert-type scale.

Covariate Assessment

After the experiment was run and some preliminary analysis had been completed, it became obvious that a large amount of within treatment variability existed in the data. In order to
increase the power of the statistical analyses a suitable covariate was needed. Because subjects’ voiced statements were made prior to the manipulation of the independent variables, it is acceptable to use information contained in the voiced statements as a covariate. Two of the dependent variables are procedural and distributive justice. Thus, assessing perceptions of fairness which existed at the time of voice should not only be linked to later perceptions of fairness, but it may also be used to factor out some of the within-treatment variability increasing the power of the statistical analyses. An acceptable method of obtaining these perceptions of fairness was needed.

Using the subjects’ voiced statements as a source, two raters evaluated the amount of outcome dissatisfaction portrayed by each subject. This was completed using a one to five scale with one being the most unfair. The raters, blind to experimental condition, had met prior to the ratings to agree on a few loosely defined benchmarks, however, these ratings were primarily subjective evaluations. Further discussion of the covariate will follow in the discussion of the results.
Results

Manipulation Check

To determine if attributions differed as a result of the feedback given, subjects were asked how much the manager considered only his or her own interest. This question was designed to assess locus of causality. All subjects perceived the manager to consider only his or her own interests in the outcome allocations as is evident by the high mean values for all the experimental conditions (see Table 2). As anticipated, subjects who received the controllable information (both outcome constant and outcome changing conditions) perceived the manager to consider only his or her own interest more (M=10.13) than did subjects who were given the uncontrollable information (M=8.80) (using an 11-point scale). An Analysis of Variance on these mean differences was significant ($F(1,95)=8.89$, $p<.01$).

Subjects were also asked how much influence they thought the manager had over the outcomes. This additional question was also intended to serve as a manipulation check by assessing perceived locus of control. Again, perceptions of managerial control over the outcomes was very high for all conditions (see Table 3). Subjects in the controllable information (both outcome constant and outcome changing) conditions perceived the manager to have greater control over the outcomes (M=10.30) than did those in the uncontrollable information condition (M=9.79). While this difference is in the anticipated direction, it failed to attain
Table 2

Means and Standard Deviations of Locus of Causality (Question 15)
(To what extent did the Manager consider his or her own interest?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 9.18</td>
</tr>
<tr>
<td></td>
<td>(SD) 2.01</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 10.35</td>
</tr>
<tr>
<td></td>
<td>(SD) 0.93</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 8.80</td>
</tr>
<tr>
<td></td>
<td>(SD) 1.39</td>
</tr>
</tbody>
</table>

Note: 11-point scale where higher values indicate the manager considered only his or her own interest.
Table 3

Means and Standard Deviations of Locus of Control (Question 14)
(How much influence did manager have over ticket distributions?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 10.36</td>
</tr>
<tr>
<td></td>
<td>(SD) (0.88)</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 10.18</td>
</tr>
<tr>
<td></td>
<td>(SD) (1.87)</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 9.79</td>
</tr>
<tr>
<td></td>
<td>(SD) (1.94)</td>
</tr>
</tbody>
</table>

Note: 11-point scale where higher values indicate the manager had a lot of influence over the tickets.
statistical significance ($F(1,95)=1.63$, n.s.). Further discussion of locus of control perceptions will follow.

An additional, but slightly different locus of control question asked subjects how much control they personally felt they had over the outcomes. This question does not directly address any of the stated hypotheses. An ANOVA on this question failed to reach statistical significance for feedback information ($F(2,95)=1.96$, n.s.), attained significance for outcome change ($F(1,95)=5.62$, $p<.05$), and did not reach significance for the interaction ($F(1,95)=1.79$, n.s.). The manipulation of outcome change resulted in subjects in the outcome improvement condition perceiving themselves to have greater control over their outcomes ($M=3.08$) than did subjects who received constant outcomes ($M=2.06$). However, the overall mean ($M=2.47$) indicates that they did not perceive themselves to have a great deal of control over their outcomes (see Table 4).

Subjects were also asked how hard they felt the manager worked relative to their own effort. The grand mean for all five conditions was $M=5.64$ (SD=1.04) indicating that they perceived the manager had expended just as much effort as they had at the task. Again, no specific hypotheses deal with this question. An ANOVA was conducted to determine if these perceptions differed by condition. This analysis failed to attain statistical significance for feedback information ($F(2,95)<1$, n.s.), for allocation amount ($F(1,95)<1$, n.s.), nor for their interaction.
Table 4.

Means and Standard Deviations of Locus of Control (Question 9)

*(How much influence did you have over ticket outcomes?)*

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 2.63</td>
</tr>
<tr>
<td></td>
<td>(SD) (2.76)</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 1.60</td>
</tr>
<tr>
<td></td>
<td>(SD) (1.54)</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 1.96</td>
</tr>
<tr>
<td></td>
<td>(SD) (1.57)</td>
</tr>
</tbody>
</table>

Note: 11-point scale where lower values indicate very little influence.
Concluding from the manipulation checks, the feedback was not entirely effective in altering attributions. Subjects' perceptions of the cause of the outcome distribution were successfully manipulated, but their perceptions of the amount of managerial control over the outcomes were not. Thus, if perceptions of fairness are altered by the attribution information about the manager, only locus of causality can be assumed to have caused those changes. It remains to be seen whether changes in locus of causality are enough to alter perceptions of fairness.

Attributional Change

The first hypothesis was that subjects in the no information conditions should attribute greater responsibility for the outcome allocations to the manager when the outcomes change as opposed to when they remain the same. This should be manifested in the perception that the manager had greater control over and displayed more self-interest (locus of causality) in the outcome allocations when the outcomes improved only slightly.

When asked how much they felt the manager considered only his or her self-interest, subjects in the outcome improvement-no information condition perceived that the manager was slightly less concerned with his or her self-interest (M=8.84) than did the subjects in the outcome constant-no information condition (M=9.19). However, this difference in attributions was not
statistically significant ($F(1,95)<1, \text{n.s.}$).

Subjects were asked how much control they felt the manager had over the outcomes received to assess locus of control. As anticipated, subjects who were given outcome improvements without any feedback reported the manager to have greater control over the allocations ($M=10.41$) than did those who were not given any outcome change and did not receive any feedback ($M=10.36$). Again, however, this mean difference is not statistically significant ($F(1,95)<1, \text{n.s.}$) nor is it practically significant.

Both the locus of control and locus of causality measures fail to support the first hypothesis. Demonstrating that the attribution model does not explain the frustration effect requires an assessment of whether the frustration phenomenon actually occurred in this study. Failure to attain a pattern of fairness perceptions that mirror the frustration effect would mean the displayed attributions may be unrelated to the phenomenon because it did not occur.

**Distributive Justice**

Eliciting the frustration effect in distributive justice perceptions is an important prerequisite to studying the causes of this phenomenon. To assess this dimension, subjects were asked how satisfied they were with the outcomes they received and how fair were the ticket distributions. The mean ratings for these questions are in Table 5 and Table 6. The reliability of these two questions was assessed using their mean within-cell
Table 5

Means and Standard Deviations of Dist. Justice (Question 11)

(How satisfied are you with the number of tickets received?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 8.75</td>
</tr>
<tr>
<td></td>
<td>(SD) 2.36</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 9.23</td>
</tr>
<tr>
<td></td>
<td>(SD) 1.49</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 7.86</td>
</tr>
<tr>
<td></td>
<td>(SD) 2.77</td>
</tr>
</tbody>
</table>

Note: 11-point scale where lower values indicate very satisfied.
Table 6

Means and Standard Deviations of Dist. Justice (Question 19)

(How fair was the ticket distribution?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 3.15</td>
</tr>
<tr>
<td></td>
<td>(SD 2.16)</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 2.66</td>
</tr>
<tr>
<td></td>
<td>(SD 1.59)</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 2.74</td>
</tr>
<tr>
<td></td>
<td>(SD 1.39)</td>
</tr>
</tbody>
</table>

note: 11-point scale where higher values indicate very fair.
correlation. This procedure controls the variability that results from experimental manipulation which may artificially inflate the reliability coefficient. The within-cells correlation between these two questions was $r = .59$ justifying their combined use as a measure of distributive fairness.

The first hypothesis stated that subjects in the outcome improvement-no information condition should rate satisfaction and fairness lower than those in the outcome constant-no information condition. Subjects’ satisfaction with the ticket distributions was actually higher in the outcome improvement-no information condition ($M=7.59$) than it was in the outcome constant-no information condition ($M=8.75$) (this item is reversed scored). Similarly, perceptions of outcome fairness were also higher in the outcome improvement-no information condition ($M=3.39$) than they were in the outcome constant-no information condition ($M=3.15$), but the magnitude of this difference is very small. Thus, satisfaction and perceived fairness had similar while differing patterns of mean ratings for these two conditions.

A MANOVA on this contrast using both the satisfaction and perceived outcome fairness questions failed to attain statistical significance ($F(2,94)=1.48$, n.s.). The univariate analysis for both satisfaction ($F(1,95)=2.55$, n.s.) and perceived fairness ($F(1,95)<1$, n.s.) were also not statistically significant.

Unfortunately, the frustration effect was not elicited in the perceptions of distributive justice. This results in an inability
to test an attributional explanation of the frustration phenomenon in this study. However, it is possible to conduct further analysis to determine whether perceptions of distributive fairness are affected by attributional information and outcome changes as predicted by the second and third hypothesis.

The second hypothesis was that subjects in the outcome constant-controllable information condition should rate procedural justice lower than subjects in the outcome improvement-controllable information condition. This hypothesis was based on the assumption that when attributions are controlled by the feedback information, the distributive justice perceptions reflect the equity of the allocations.

Subjects were only slightly less satisfied with the outcomes in the outcome constant-controllable information condition (M=9.23) than were subjects in the outcome improvement-controllable information condition (M=9.00) (again, this item is reversed scored). The ratings of outcome fairness elicited the same pattern: subjects in the outcome constant-controllable information condition (M=2.66) reporting less fairness than subjects in the outcome improvement-controllable information condition (M=3.15).

A MANOVA on these mean differences failed to reach significance (F(2,94)<1, n.s.). Both a univariate ANOVA on satisfaction (F(1,95)<1, n.s.) and on perceived fairness (F(1,95)<1, n.s.) also failed to attain statistical significance.
Thus, while the mean differences were consistent with the second hypothesis, no reliable difference was found on perceptions of distributive justice when attributions were controlled and outcomes vary.

Finally, the third hypothesis was that subjects who were not given any outcome changes would rate distributive justice higher when they were provided with uncontrollable as opposed to controllable information. The perception that the manager did not have any control over the outcomes should lead them to rate the outcomes as more fair.

Subjects asked about their satisfaction with the outcomes were more satisfied in the outcome constant-uncontrollable information condition (M=7.86) than were subjects in the outcome constant-controllable information condition (M=9.00)(again, reverse scored). The perceptions of outcome fairness were somewhat different. While subjects in the outcome constant-uncontrollable information condition rated outcome fairness higher (M=2.74) than those in the outcome constant-controllable information condition (M=2.66), the mean differences between these two conditions is not as great.

A MANOVA on the mean difference between the outcome constant-uncontrollable information and the outcome constant-controllable information conditions was statistically significant (F(2,94)=3.66, p<.05). While the univariate analysis of satisfaction reached significance (F(1,95)=3.93, p=.05) for this
contrast, the univariate analysis of perceived outcome fairness did not ($F(1,95)<1, \text{n.s.}$). Thus, while perceptions of satisfaction were influenced by the type of feedback received, perceptions of outcome fairness were not.

The perception of distributive fairness is not the only dimension on which the frustration effect manifests itself. In previous research (e.g. Folger, 1977; Folger et al., 1979), the perception of procedural justice has also been influenced by the frustration effect.

**Procedural Justice**

Perceptions of procedural justice were assessed by asking subjects how biased the manager was in the way that he or she distributed the tickets and to what extent the ticket allocation procedure favored the manager. The within-cells correlation of these two questions was rather low ($r=.34$), therefore, both will be assessed separately. The cell means for how biased the manager was are reported in Table 7, and the means for how much the procedures favored the manager are reported in Table 8.

Again, to support the first hypothesis the frustration effect should result in lower perceptions of procedural justice in the outcome improvement-no information condition than in the outcome constant-no information condition. Perceptions of bias indicated that subjects in the outcome improvement-no information condition felt the manager was less biased ($M=3.90$) than did subjects in the outcome constant-no information condition ($M=2.96$), opposite of
Table 7

Means and Standard Deviation on Procedural Justice (Question 17)

(How biased was the ticket distribution procedure?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 2.96</td>
</tr>
<tr>
<td></td>
<td>(SD) 2.16</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 3.80</td>
</tr>
<tr>
<td></td>
<td>(SD) 3.85</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 4.60</td>
</tr>
<tr>
<td></td>
<td>(SD) 3.15</td>
</tr>
</tbody>
</table>

Note: 11-point scale where higher values indicate very unbiased.
Table 8
Means and Standard Deviation on Procedural Justice (Question 18)
(How much did the distribution procedure favor the manager?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 2.01</td>
</tr>
<tr>
<td></td>
<td>(SD) (1.79)</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 1.46</td>
</tr>
<tr>
<td></td>
<td>(SD) (0.84)</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 2.33</td>
</tr>
<tr>
<td></td>
<td>(SD) (1.91)</td>
</tr>
</tbody>
</table>

note: 11-point scale where lower values indicate very favorable to the manager.
their predicted directions. However, this mean difference failed to attain a statistical level of significance ($F(1, 95) = 1.10$, n.s.).

Measures of the extent to which the ticket procedures favored the manager did not reflect the same perceptions. Subjects in the outcome improvement–no information condition felt the procedures favored the manager less ($M = 2.05$) than did subjects in the outcome constant–no information condition ($M = 2.01$). However, these are not practically significant differences and they also fail to attain statistical significance ($F(1, 95) < 1$, n.s.). Thus, neither question related to perceptions of fairness support the first hypothesis.

The second hypothesis, that procedural fairness should be influenced by the outcomes when attributions were controlled, also failed to receive any support from the measures of procedural fairness. More bias was reported by subjects in the outcome improvement–controllable information condition ($M = 3.41$) than subjects in the outcome constant–controllable information condition ($M = 3.80$). This result is opposite to that which was predicted, but it failed to reach statistical significance ($F(1, 95) < 1$, n.s.). Subjects also felt that the procedures favored the manager more in the outcome constant–controllable information condition ($M = 1.46$) than in the outcome improvement–controllable information condition ($M = 1.81$). This result is also opposite to that which was predicted, and it also failed to reach statistical
significance ($F(1,95)<1$, n.s.).

To determine whether any support existed for the third hypothesis, mean differences between the outcome constant-controllable information and outcome constant-uncontrollable information conditions were studied. Subjects in the outcome constant-controllable information condition perceived the manager to be more biased ($M=3.80$) than did the subjects in the outcome improvement-uncontrollable information condition ($M=4.60$). This difference, while in the anticipated direction, was not statistically significant ($F(1,95)<1$, n.s.). Subjects also felt that the procedures favored the manager more in the outcome constant-controllable information condition ($M=1.46$) than in the outcome constant-uncontrollable information condition ($M=2.33$). Again, the means are as predicted but they failed to reach a level of statistical significance ($F(1,95)=2.90$, n.s.). Thus, the third hypothesis also fails to receive any support in perceptions of procedural fairness.

Subjects were asked to answer one additional question dealing with procedural justice. This question, however, asked subjects their perception of how fair it was to allow the manager to decide how many tickets the worker received. In general, subjects felt that this procedure was neither fair nor unfair as evidenced by $M=5.82$ (SD=2.92). This question deals with a different type of procedural justice, one not under the manager's control. None of the hypotheses deal specifically with this question. Again, a
factorial ANOVA was used in the analysis. This analysis failed to reach significance for feedback information ($F(2,95)<1$, n.s.), for outcome change ($F(1,95)<1$, n.s.), and their interaction ($F(1,95)<1$, n.s.).

While perceptions of distributive and procedural fairness are the most predominantly utilized measures in the frustration effect research (e.g. deCarufel & Schopler, 1979; Folger, 1977, Folger et al., 1979), Conlon et al. (1989) recently demonstrated that perceptions of due consideration also manifest the frustration effect pattern. With this in mind, the subjects' perceptions of whether they were given due consideration were also assessed in this study.

**Due Consideration**

Perceptions of due consideration were assessed by asking subjects how considerate and how understanding was the manager. The within-cells correlation between these two measures was $r=.63$ justifying their combined use in MANOVA. The means for the consideration question are reported in Table 9 and the means for the understanding question are reported in Table 10.

If the first hypothesis were extended to due consideration, it would predict a drop in due consideration in the outcome improvement-no information condition as compared to the outcome constant-no information condition. Just the opposite pattern was manifested for both questions. Subjects in the outcome improvement-no information condition perceived the manager to be
Table 9

Means and Standard Deviations for Due Consideration (Question 8)

(How considerate was the manager?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 3.21</td>
</tr>
<tr>
<td></td>
<td>(SD 2.18)</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 2.77</td>
</tr>
<tr>
<td></td>
<td>(SD 1.53)</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 3.42</td>
</tr>
<tr>
<td></td>
<td>(SD 1.86)</td>
</tr>
</tbody>
</table>

*note: 11-point scale where higher values indicate very considerate.*
Table 10

Means and Standard Deviations for Due Consideration (Question 12)

(How understanding was the manager?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>No Information</td>
<td>M 3.34</td>
</tr>
<tr>
<td></td>
<td>(SD) (1.98)</td>
</tr>
<tr>
<td>Controllable Information</td>
<td>M 3.03</td>
</tr>
<tr>
<td></td>
<td>(SD) (2.20)</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td>M 3.54</td>
</tr>
<tr>
<td></td>
<td>(SD) (2.20)</td>
</tr>
</tbody>
</table>

Note: 11-point scale where higher values indicate very understanding.
more considerate (M=4.13) than subjects in the outcome constant-no information condition (M=3.21). The manager was also perceived to be more understanding in the outcome improvement-no information condition (M=4.53) than in the outcome constant-no information condition (M=3.34). These mean differences failed to reach a statistically significant level when analyzed using MANOVA (F(2,94)=1.69, n.s.). Both the univariate analysis for consideration (F(1,95)=2.63, n.s.) and understanding (F(1,95)=3.04, n.s.) also failed to reach significance.

Extending the second hypothesis to due consideration would result in the prediction that subjects in the controllable information conditions would rate consideration higher if they were provided outcome improvements as opposed to no outcome change. Consistent with this prediction subjects perceived the manager to be more considerate in the outcome improvement-controllable information condition (M=3.21) than in the outcome constant-controllable information condition (M=2.78). This same pattern exists in perceptions of managerial understanding with the outcome improvement-controllable information condition resulting in higher ratings (M=3.70) than the outcome constant-controllable information condition (M=3.03). An ANOVA on these mean differences failed to be statistically significant at the multivariate level (F(2,94)<1, n.s.) and both univariate levels for consideration (F(1,95)<1, n.s.) and understanding (F(1,95)<1, n.s.). Again, perceptions of due consideration are not supportive
of the second hypothesis.

Finally, the third hypothesis would predict that due consideration would be higher with the uncontrollable information feedback than with the controllable information feedback when the outcomes did not change. Both perceived consideration and understanding were consistent with this hypothesis. However, subjects in the outcome constant-controllable information condition rated consideration only slightly lower (M=2.78) than those in the outcome constant-uncontrollable information condition (M=3.43). Likewise, managerial understanding was perceived to be only slightly lower in the outcome constant-controllable information condition (M=3.03) than in the outcome constant-uncontrollable information condition (M=3.54). Again, the multivariate analysis failed to reach statistical significance (F(2,95)<1, n.s.). The univariate analysis also failed to reach statistical significance for both the consideration question (F(1,95)<1, n.s.) and the understanding question (F(1,95)<1, n.s.).

One additional question assessed how much subjects felt the manager listened to what they had to say. This question is different than the other two due consideration questions in that the question merely asks whether the manager listened to what was said rather than how much it was considered. Thus, an ANOVA was used in the analysis rather than specific, planned comparisons. In this analysis the effect for feedback was not significant
the main effect for outcome change was significant ($F(1,95) = 4.49, p < .05$), and the interaction was not ($F(1,95) = 2.91, n.s.$). Subjects in the outcome improvement conditions reported that the manager listened to them more ($M = 4.13$) than did subjects in the outcome constant conditions ($M = 2.23$). Again, the overall mean ($M = 2.99$) indicates that the manager did not listen a lot to what was said (see Table 11). However, subjects provided with improving outcomes did feel the manager listened to them more.

In summary, while the perceptions of managerial consideration and understanding were not affected by the manipulations, perceptions of how much the manager listened was altered by outcome improvements but not by the type of feedback information provided.

**Analysis of Covariance**

As noted before, a high level of within-treatment variability exists which reduces the power of the statistical analysis. In an effort to remove some of this variance, an analysis of covariance was utilized. The covariate was computed from two independent raters' evaluations of how unfairly the subject felt that he or she was treated in the three initial allocations. These ratings were based on each subjects' voiced statements.

Each subjects' voiced statements were rated on a 1 to 5 scale, where 1 is the most unfair. Rater #1 had a mean rating of 3.64 and a standard deviation of 1.02 across subjects while rater
Table 11

Means and **Standard deviations** for Due Consideration (Question 10)
(How much did the manager listen?)

<table>
<thead>
<tr>
<th>Attribution Condition</th>
<th>Outcome Condition</th>
<th>Constant</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Information</td>
<td></td>
<td>M 1.53</td>
<td>4.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(SD) 1.71</td>
<td>(2.34)</td>
</tr>
<tr>
<td>Controllable Information</td>
<td></td>
<td>M 2.21</td>
<td>3.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(SD) 1.77</td>
<td>(2.66)</td>
</tr>
<tr>
<td>Uncontrollable Information</td>
<td></td>
<td>M 2.94</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(SD) 2.10</td>
<td></td>
</tr>
</tbody>
</table>

*Note: 11-point scale where higher values indicate listened a lot*
2 had a mean rating of 2.87 and a standard deviation of 1.02. The inter-rater reliability coefficient was $r = 0.54$. In order to give equal weighting to each raters' evaluations, each rater's rating was standardized across subjects and then the mean of the two standardized ratings for each subject was computed. The mean of the standardized rating then served as the covariate.

Stevens (1986, p. 298) points out three prerequisites to the appropriate use of an Analysis of Covariance (ANCOVA). First, the covariate itself must not be affected by the manipulation of the independent variables. In this particular experiment, the independent variables were never administered until after the subjects voiced their opinions. Because ratings of subject's voiced statements were used as the covariate, it was impossible for the covariate to be affected by experimental condition; thus, this assumption is satisfied.

Second, the covariate must be linearly related to the dependent variable. To ascertain whether this assumption is met requires regressing each dependent variable on the covariate while controlling for experimental condition. The within-cells regression equation is then tested for its significance indicating whether the covariate and the dependent variables are linearly related. If a linear relationship exists, the second assumption is satisfied.

Third, the regression of the dependent variables on the covariate must be the same for each treatment condition. In order
to ascertain whether this assumption is met, Stevens recommends
the independent variable-covariate interaction term be assessed
for its significance on the dependent variable. If the
interaction analysis turns out to be significant, this assumption
has not been met. Failure to attain significance results in
sufficiently satisfying this requirement.

The second and third assumption require testing for each of
the dependent variables analyzed. Only procedural and
distributive justice perceptions are theoretically linked to the
covariate. Thus, only these two variables can be analyzed with
the ANCOVA procedure, assuming the other requirements have been
met.

Distributive Justice

Testing the second assumption of ANCOVA, the multivariate
within-cells regression equation was significant ($F(2,93)=9.84,
p<.001$). In addition, the univariate regression equation was
significant for both the satisfaction ($F(2,93)=7.58, p<.01$) and
the perceived fairness question ($F(2,93)=19.75, p<.001$). Thus, a
linear relationship between the covariate and the dependent
variables has been established.

A multivariate assessment of the interaction of the
independent variable and the covariate on the dependent variables
failed to obtain significance ($F(8,178)<1$, n.s.). The univariate
analyses of the interaction terms were also non-significant for
both the satisfaction ($F(4,90)=1.02$, n.s.) and the fairness
question ($F(4,90)<1$, n.s.). Based on the criteria established by Stevens, the regression equations for each condition are similar.

The MANCOVA analysis testing the significance between the outcome improvement-no information condition and the outcome constant-no information condition still failed to attain statistical significance ($F(2,93)=1.45$, n.s.). This test of the first hypothesis resulted in no change with the use of the more powerful statistical approach.

A MANCOVA testing the difference between the outcome constant and outcome improvement conditions when controllable feedback information was given also failed to attain significance ($F(2,93)<1$, n.s.). Thus, the second hypothesis is not supported even when the more powerful MANCOVA procedure is used to analyze the data.

Finally, for subjects given constant outcomes, a MANCOVA between those given the controllable feedback and those given the uncontrollable feedback failed to attain statistical significance ($F(2,93)=2.39$, n.s.). The third hypothesis also fails to be supported with MANCOVA, however, it was supported with the straight ANOVA procedure. Given the different outcomes, a decision was made to stick with the MANCOVA results in that it adjusts for pre-treatment group differences which may have erroneously inflated the significance of the straight ANOVA. If pre-treatment differences existed between the two groups, it would be more appropriate to use the MANCOVA approach to assess the real
effects of the manipulations.

In conclusion, the assessment of each of the hypotheses is not supported using the MANCOVA procedure in the analysis of distributive justice.

**Procedural Justice**

Procedural justice was assessed with two separate questions. The test of the within-cells regression equation for the question of how biased the manager was in the way he or she distributed tickets failed to attain statistical significance ($F(1,94)=2.02$, n.s.). Thus, it would be inappropriate to use the ANCOVA procedure on the analysis of this question.

The regression of the dependent variable on the covariate for the question which asked how much the ticket distribution favored the manager was significant ($F(1,94)=9.98$, $p<.01$). As a result, the second assumption of ANCOVA was met for this covariate.

The interaction between treatment condition and covariate on the dependent variable was assessed to test the third prerequisite. This interaction failed to reach significance ($F(4.90)<1$, n.s.). Thus, both prerequisites were satisfied.

Again, a test was conducted of the mean differences between subjects in the outcome constant-no information condition and the outcome improvement-no information condition. This analysis failed to reach statistical significance ($F(1,94)<1$, n.s.), thus hypothesis one remains unsupported.

The second hypothesis was tested by contrasting the means
between those who received outcomes that improved and those that
had outcomes that remained the same when the controllable feedback
information was given. This analysis also failed to reach
significance ($F(1,94) < 1$, n.s.) which results in hypothesis two not
receiving any support.

An ANCOVA testing the effects of the controllable information
as opposed to the uncontrollable information when outcome are
constant also failed to attain significance ($F(1,94) = 2.60$, n.s.).
Again, the conclusions surrounding the third hypothesis do not
change as a result of the ANCOVA procedure.

In summary, the results of the procedural justice questions
using an ANCOVA procedure do not result in any substantive changes
regarding each of the hypotheses. All of the analyses failed to
statistically support the hypotheses.

Summary of Results

The manipulations were only partially effective at altering
attributions. Specifically, perceptions of locus of causality
were effectively manipulated while perceptions of managerial
control over the outcomes were not significantly altered.
However, the manager was perceived to have a great deal of control
over the outcomes and to consider only his or her own interest in
all conditions. Subjects perceived they had little control over
the outcome even though some increased personal control was noted
when the outcomes improved.

Unfortunately, perceptions of both procedural and
distributive justice were not systematically affected by the experimental manipulations. In all conditions subjects felt the outcomes were both procedurally and distributively unfair as evidenced by extremely low ratings on these dimensions.

In addition, the perceptions of managerial consideration and understanding were not affected by the experimental condition. The perceptions of how much the manager listened was affected by the improvement in outcomes with those receiving outcome improvements reporting the manager to have listened more than those whose outcomes did not change.
Discussion

The present study attempted to explain the frustration effect using an attribution model of achievement motivation and emotion (Weiner, 1985). The frustration effect is defined as a decrease in perceptions of fairness that accompany an increase in outcomes when the outcome increase is small.

As proposed by Lind and Tyler (1988), this study supported their statement that the frustration effect is indeed a fragile phenomenon. Subjects who received inequitable outcome distributions rated procedural and distributive fairness in a positive monotonic fashion with the objective outcome equity. Even though this rating pattern did not attain statistical significance, this pattern is inconsistent with previous studies of the frustration effect where subjects who received increased outcomes rated fairness lower than those whose outcomes were more objectively inequitable (e.g. Conlon et al., 1989; Folger, 1977; Folger et al., 1979). Unfortunately, these results also limit further understanding of the cognitive processes that lead to the frustration phenomenon.

Essential to the investigation of the frustration effect was lower ratings of fairness by subjects receiving outcome improvement compared to those receiving no outcome change after voice. Although this particular effect is merely a replication of previous research, the pattern of ratings in this study did not conform to earlier findings. In this study subjects initially
received 3 out of 12 tickets (the manager keeping 9) which changed to 4 out of 12 (the manager keeping 8) for those given a slight outcome improvement. Apparently, this was perceived by the subjects to be more than a token improvement as evidenced by the associated rise in fairness ratings.

Lind and Tyler (1988), while acknowledging the effect is uncommon, stated the frustration phenomenon is important because it is inconsistent with theoretical models of procedural justice. The fact that neither equity theory nor models of procedural justice are consistent with this phenomenon makes it a likely candidate for more detailed investigation in order to delineate the psychological mechanisms responsible for the unusual effect. Unfortunately, this study confirmed that the frustration effect may only occur under a unique set of circumstances.

One problem associated with this study may revolve around trying to ascertain the specific aspects of fairness that are of interest. Asking subjects about the fairness of the ticket distribution may result in the assessment of different aspects of fairness depending on how people interpret the question. It may not be enough, as was done in this study, to ask how fair were the ticket distributions. More specific questions would be needed to make sure all subjects were thinking about the same thing.

In light of the fact that the frustration effect did not occur, an analysis of the subjects' attributions takes on less significance. Nonetheless, attributional change as a function of
outcome change was analyzed. Unfortunately, attributions were not significantly affected by the subjects' outcomes in the absence of feedback. Subjects who received outcomes that changed perceived the manager as having more control over the outcomes, but this change was not statistically significant.

In examining the mean differences in the two no-feedback information cells on locus of control, the possibility of ceiling effects is evident. Given the fact that perceptions were so polarized on this dimension, it would be difficult to distinguish between perceptions of managerial control of the outcomes even if they did exist. An attempt was made to overcome this problem with the use of an 11-point as opposed to a 7-point Likert-type scale.

The polarization of scores is also a problem elsewhere in this experiment. Even though subjects were asked to answer questions on an 11-point scale, only one-half of this scale was essentially being used. All subjects were in situations where they had been dealt with unfairly, therefore, only the unfair portion of the scale was used making it difficult to examine differences if they did occur.

Another requirement of studying the frustration effect is the successful manipulation of attributions through feedback. It is questionable whether or not this was accomplished in this particular study. As evidenced in the manipulation checks, feedback statements were not as effective at manipulating the subjects' perceptions of locus of control as they were at
manipulating perceptions of locus of causality. It appears subjects' perceptions of what caused the manager to act the way he or she did was manipulated while perceptions of the manager's control over the outcome decision was not.

Because each subject was initially told the manager had total control over the worker's outcomes, it is possible these perceptions were not open to further manipulation. If this were the case, then measures of locus of control would not change while measures of locus of causality would still be open to vary as a function of the type of feedback subjects were given. This explanation is also consistent with the "ceiling effect" noted on the locus of control question that assessed manager control.

The validity of the above argument is somewhat weakened by the fact that the locus of control question was not written with as many anchors as was the locus of causality question. In other words, if there were no real differences between locus of causality and locus of control, it may have been difficult to get parallel results to these two dimensions given the varying number of anchors used on the two types of questions. One of the things that has become clear is that future studies of the frustration phenomenon, which by their very nature deal with only half of the attribution and fairness scale, must use many carefully devised anchors in order to make reliable psychological assessments of the constructs of interest.

On closer examination, the two questions that deal with
distributive justice ("How satisfied were you with the number of tickets you received?" and "How fair was the ticket distribution?") fail to reflect the same pattern of mean differences. Satisfaction improved with the provision of feedback which gave an external justification for the inequitable outcomes. However, perceptions of fairness were not affected by the type of feedback subjects were given. Previous studies (e.g. Folger, 1977) have found that satisfaction and fairness perceptions lead to similar results. In this study, however, it is possible subjects rated satisfaction based on their subjective experience of the outcomes and rated fairness more on the objective features of the outcomes independent of their subjective experience.

This explanation is consistent with the mean differences between treatment conditions in this study. Subjects rated the distributive fairness question in a manner which was parallel to the actual equity of the outcomes. In contrast, their satisfaction with the outcomes revealed a different pattern of ratings. Satisfaction, for those provided with feedback, was consistent with the types of attributions subjects made.

Another problem plaguing this experiment was the high degree of within subjects variability on many of the questions. While certainly some of the variability can be attributed to measurement weaknesses, some have recently suggested individual differences exist in perceptions of fairness (Huseman, Hatfield, & Miles, 1987). The argument is that people differ in their sensitivity to
fairness perceptions. Three types of people exist: Benevolents, who prefer their outcome/input ratio to be less than that of a comparison other; Equity Sensitives, who prefer their outcome/input ratio to be equal to a comparison other; and, Entitleds who prefer their outcome/input ratio to exceed that of a comparison other. Unfortunately, there is no systematic empirical research to back up this construct, and more research needs to address this issue if justice research is to be productive. If individual differences do exist, it will be necessary to methodologically or statistically control these differences in future research.

It should also be noted that studies of the frustration phenomenon have only been done in a lab setting. As of yet, it is not clear whether the frustration effect actually occurs in the real world. It may be the lab provides such tight control over extraneous variables that the frustration effect can be evoked. The lack of these artificial controls in natural settings may result in the absence of the frustration phenomenon. More research needs to address how prevalent the frustration effect is in real life.

Analysis of the frustration effect remains incomplete. This study was not decisive in developing an understanding of the variables that lead to this perplexing phenomenon. While it has been clearly established that the frustration effect occurs only under a unique set of circumstances, research needs to delineate
exactly what factors lead to a decrease in satisfaction when improvements in distributions and procedures are made.

Once this is accomplished, then a more thorough understanding of the generality of equity theory and models of procedural justice can be entertained. Until this is accomplished, the frustration effect will remain an anomaly that lies outside our present explanations of perceptions of fairness.
References


Appendix A
COGNITIVE PERFORMANCE IN A BUSINESS SIMULATION

Please answer the following questions based on the experiment in which you just participated. Be sure to follow the directions closely. Answer each question truthfully. (Please circle the number that best describes your perception.)

The following question address your reactions to the task.

1. How difficult was it for you to create schedules?

<table>
<thead>
<tr>
<th>Extremely Difficult</th>
<th>Very Difficult</th>
<th>Somewhat Difficult</th>
<th>Neither</th>
<th>Somewhat Easy</th>
<th>Very Easy</th>
<th>Extremely Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

2. To what extent did you have to concentrate to complete the task?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Somewhat</th>
<th>Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

3. How much did you rely on the scratch paper?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Somewhat</th>
<th>Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

4. How much did you rely on your memory?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Some</th>
<th>Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

5. How much effort did you put into being accurate?

<table>
<thead>
<tr>
<th>None at all</th>
<th>Some</th>
<th>Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
6. How much effort did you put into being fast?

None
at all

Some

A Lot

1 2 3 4 5 6 7 8 9 10 11

7. How drained (tired) did you feel as a result of making schedules?

Extremely Tired

Very Tired

Somewhat Tired

A Little Tired

Not at all Tired

1 2 3 4 5 6 7 8 9 10 11

STOP!

IF YOU WERE THE MANAGER, PLEASE SKIP QUESTIONS 8 THROUGH 19 AND ANSWER QUESTIONS 20 THROUGH 31.

IF YOU WERE THE WORKER, PLEASE ANSWER QUESTIONS 8 THROUGH 19 AND SKIP QUESTIONS 20 THROUGH 31.

8. How considerate was the manager?

Extremely Inconsiderate

Quite Inconsiderate

Neither

Quite Considerate

Extremely Considerate

1 2 3 4 5 6 7 8 9 10 11

9. How much influence did you feel you had over the number of tickets you received?

None
at all

Some

A Great Deal

1 2 3 4 5 6 7 8 9 10 11

10. How much did the manager listen to what you had to say?

None
at all

Some

A Great Deal

1 2 3 4 5 6 7 8 9 10 11
11. How satisfied were you with the number of tickets you received?

<table>
<thead>
<tr>
<th>Extremely Satisfied</th>
<th>Very Satisfied</th>
<th>Somewhat Satisfied</th>
<th>Neither</th>
<th>Somewhat Dissatisfied</th>
<th>Very Dissatisfied</th>
<th>Extremely Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

The following question deals with your perceptions of the manager.

12. How understanding was the manager?

<table>
<thead>
<tr>
<th>Not at all Understanding</th>
<th>Somewhat not Understanding</th>
<th>Neither</th>
<th>Somewhat Understanding</th>
<th>Very Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

13. How hard do you think the manager worked?

<table>
<thead>
<tr>
<th>Much less than you</th>
<th>A little less than you</th>
<th>As hard as you</th>
<th>A little more than you</th>
<th>Much more than you</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

14. How much influence did you feel that the manager had over the number of tickets you received?

<table>
<thead>
<tr>
<th>None at all</th>
<th>Some</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

15. How much did you feel the manager considered only his or her own interest?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very little</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Very much so</th>
<th>Extremely so</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

The following question deals with your perceptions of the manager.
The following questions deal with how fair you were treated in this experiment.

16. How fair was it to let the manager decide how many tickets you received?

<table>
<thead>
<tr>
<th>Extremely</th>
<th>Very</th>
<th>Somewhat</th>
<th>Neither</th>
<th>Somewhat</th>
<th>Very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfair</td>
<td>Unfair</td>
<td>Unfair</td>
<td>Neither</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

17. How biased was the manager in the way that he or she distributed the tickets?

<table>
<thead>
<tr>
<th>Extremely</th>
<th>Very</th>
<th>Somewhat</th>
<th>Neither</th>
<th>Somewhat</th>
<th>Very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>biased</td>
<td>biased</td>
<td>biased</td>
<td>Neither</td>
<td>unbiased</td>
<td>unbiased</td>
<td>unbiased</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

18. Indicate the extent to which you feel the ticket distribution procedures favored you, the manager, or neither of you?

<table>
<thead>
<tr>
<th>It favored</th>
<th>Somewhat</th>
<th>It favored</th>
<th>Somewhat</th>
<th>It favored</th>
</tr>
</thead>
<tbody>
<tr>
<td>the manager</td>
<td>the manager</td>
<td>neither</td>
<td>you</td>
<td>you</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

19. How fair was the ticket distribution?

<table>
<thead>
<tr>
<th>Extremely</th>
<th>Very</th>
<th>Somewhat</th>
<th>Neither</th>
<th>Somewhat</th>
<th>Very</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfair</td>
<td>Unfair</td>
<td>Unfair</td>
<td>Neither</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

20. How considerate was the worker?

<table>
<thead>
<tr>
<th>Extremely</th>
<th>Quite</th>
<th>Inconsiderate</th>
<th>Neither</th>
<th>Quite</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inconsiderate</td>
<td>Inconsiderate</td>
<td>Neither</td>
<td>Considerate</td>
<td>Considerate</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
21. How much influence did you feel you had over the number of tickets you received?

None at all | Some | A Great Deal
---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11

22. How much did the worker listen to what you had to say?

None at all | Some | A Great Deal
---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11

23. How satisfied were you with the number of tickets your received?

Extremely Satisfied | Very Satisfied | Somewhat Satisfied | Neither | Somewhat Dissatisfied | Very Dissatisfied | Extremely Dissatisfied
---|---|---|---|---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11

The following question deal with your perceptions of the worker.

24. How understanding was the worker?

Not at all | Somewhat not Understanding | Neither | Somewhat Understanding | Very Understanding
---|---|---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11

25. Do you feel the worker worked harder, as hard as, or more than you?

Much less than you | A little less than you | As hard as you | A little more than you | Much more than you
---|---|---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11

26. How much influence did you feel that the worker had over the number of tickets you received?

None at all | Some | A Great Deal
---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11
27. How much did you feel the worker considered only his or her own interest?

None at all  Some  A Great Deal
1  2  3  4  5  6  7  8  9  10  11

The following questions deal with how fair you were treated in this experiment.

28. How fair was it to let you decide how many tickets you received?

Extremely Unfair Very Unfair Somewhat Unfair Neither Fair Somewhat Fair Very Fair Extremely Fair
1  2  3  4  5  6  7  8  9  10  11

29. How impartial were you in the way that you distributed the tickets?

Extremely biased Very biased Somewhat biased Neither unbiased Somewhat unbiased Very unbiased Extremely unbiased
1  2  3  4  5  6  7  8  9  10  11

30. Indicate the extent to which you feel the ticket distribution procedures favored you, the worker, or neither of you?

It favored the worker Somewhat it favored the worker it favored neither Somewhat you it favored you
1  2  3  4  5  6  7  8  9  10  11

31. How fair was the ticket distribution?

Extremely Unfair Very Unfair Somewhat Unfair Neither Fair Somewhat Fair Very Fair Extremely Fair
1  2  3  4  5  6  7  8  9  10  11