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IMPACT OF ACCOUNTING INFORMATION ON ATTRIBUTIONAL CONFLICTS AND EMPLOYEE EFFORT IN A PERFORMANCE APPRAISAL SETTING

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ABSTRACT

THE IMPACT OF ACCOUNTING INFORMATION
ON ATTRIBUTIONAL CONFLICTS AND
EMPLOYEE EFFORT IN A
PERFORMANCE APPRAISAL SETTING

BY

Annemarie Katharina Keinath

This research examined a performance appraisal situation from a joint expectancy theory-attribution theory model. Four specific issues were addressed. First, two differing appraisal styles were compared with regard to their effect on employee effort: a style in which the appraisal was based upon meeting a budget, and a style in which the appraisal was based upon evaluator attributions regarding employee effort. Second, the study examined conflicts between employees and evaluators about employee outcomes. Third, the study investigated whether providing the evaluator with consistency, consensus and distinctiveness (CCD) information could reduce conflicts. Finally, the impact of conflicts and the reduction of those conflicts on employee effort was examined.

A laboratory study was performed. Student subjects were assigned to employee-evaluator pairs. Evaluators were assigned to one of three information levels: consistency, consistency plus consensus, and CCD. Consistency evaluators were informed about their paired employee's performance over time. Consistency plus consensus evaluators

were also informed about other employee subjects'performances. Finally, in addition to consistency and consensus information, CCD evaluators received information about how their employee had performed in an earlier phase of the experiment. Each employee performed several anagram sets. After each set information was provided to the evaluator, who then gave the employee a performance appraisal. Dependent variables were employee-evaluator conflicts regarding both the outcome cause and the evaluator appraisal style, evaluator performance appraisals, and employee effort.

The study supported an effort difference due to appraisal style. In unfavorable environmental conditions, where the expectancy of meeting the budget was low, employees who believed their appraisals were positively related to their effort demonstrated higher effort than employees who believed otherwise. In addition, conflicts were found when the evaluator's information set was restricted to consistency only. Increased information decreased conflicts particularly when both consensus and distinctiveness were available. Finally, this study supported a relationship between attributional conflicts and employee effort choice. In the consistency information case employees decreased effort over time. In the CCD case, conflicts were significantly lower, and employees increased effort over time.

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CHAPTER 1 - INTRODUCTION

Given the importance of employee effort to any organization, firms would like to base employee, rewards, at least to some degree, upon employee effort. Accounting control systems regularly produce variances from budgets or standards. Given the availability of these numbers, they are often used as a surrogate of employee effort, and hence, as a basis for employee rewards. If the variance is a poor surrogate of employee effort, employees may see little relationship between effort and rewards. Hence, future effort may decrease. A possible solution to the problem may exist via an increase in the information provided to the evaluator[1] by the accounting control system. This dissertation explicitly addresses the effect on effort of basing employee rewards solely upon whether or not a budget or standard is met. In addition, it examines the impact on effort of an increase in the evaluator's information set.

Hopwood (1972 and 1973) first questioned the amount of emphasis to be placed on meeting budgets in appraising employee performance. He termed an appraisal style

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[1]A performance appraisal in a work setting implicitly assumes the presence of a performer and an observer. In order to maintain consistent terminology, this research will use the terms employee and evaluator for the performer and the observer. However, in citing studies in which the employee-evaluator relationship was not present, the terms performer and observer will be used.

emphasizing continually meeting the budget on a short term basis a Budget-constrained (BC) style of appraisal. He argued that, due to the impact of factors outside of employee control, the variance would not be a good surrogate of employee performance or effort. Thus, a BC style would result in decreased performance, via increased job related tension and dysfunctional decision making.

Hopwood (1972 and 1973) suggested that, as an alternative to a BC style, evaluators use a Profit-conscious (PC) appraisal style, emphasizing reduction of long run costs and increased general effectiveness. In describing the PC evaluator's use of budgetary variances, Hopwood (1973) stated: "[The PC evaluator] realized that further investigation was required to assess whether they [the variances] really reflected managerial [employee] behaviors" (Hopwood, 1973, page 67-68). The PC evaluator thus is concerned that employees be evaluated solely upon their own inputs, rather than upon an output which may be influenced by uncontrollable environmental factors.

Since the PC style requires the evaluator to separate employee inputs from environmental causes, it is necessary for PC evaluators to make outcome attributions. Outcome attributions are defined as the evaluator's assignment of causality for the outcome (variance from budget) to the various potential inputs. Given limited information, however, it is questionable how accurate evaluator

attributions could be or to what extent they would coincide with employee attributions.

Birnberg et al. (1977) suggested that attributional conflicts (differences in attributions) between employees and evaluators may decrease the effectiveness of the accounting control system. Thus, benefits of the PC over the BC style may be contingent upon the extent to which PC evaluator attributions conflict with employee attributions. In addition, since the accuracy of PC evaluator attributions is dependent upon available information, the benefits of the two styles could also be contingent upon the information available within the accounting control system.

This study addressed four major issues. First, it compared the effectiveness of the PC versus the BC style with regard to motivating employee effort. Second, it assessed whether attributional conflicts between evaluators and employees occur and the form that these conflicts take. Third, it investigated whether increasing the evaluator's information set has the potential to reduce attributional conflicts. Finally, the impact of conflicting attributions and the reduction of these conflicts on employee effort was assessed. These issues were addressed from a combined expectancy theory-attribution theory framework.

According to expectancy theory (Vroom, 1964), an appraisal style which would motivate high effort levels would be one which matched low effort with a low expectancy of a

favorable appraisal and matched high effort with a high expectancy of a favorable appraisal. The PC style is implicitly designed to achieve such a matching in all types of environments. The BC style is not so designed. Under environments where external uncontrollable factors significantly effect the variance, the variance has been shown to be a poor measure of employee inputs (Hayes, 1977). This implies that an employee may be rewarded for low effort and not rewarded in cases of high effort. Consequently, when the primary goal is to motivate employee effort, and where external uncontrollable factors have potential to significantly affect the variance, the PC style is preferred over the BC style. An appraisal style may fail to have the desired effect, however, due to a difference in beliefs between the employee and evaluator as to actual employee behavior (Graen, 1976); hence, whether or not the PC style actually outperforms the BC style may be contingent upon the presence of attributional conflicts.

Attribution theory has been used to study how people assign causality for an outcome to the performer and the environment. A major finding from this research is that observers exhibit what is known as the fundamental attribution bias - the tendency to overattribute the outcome to the performer while underweighting external causes (Kelley and Michela, 1980). In addition, observers who are dependent upon the performer and anticipate future

interaction, exhibit a bias toward factors they feel they can control or influence (Kelley, 1972). Finally, performers have been found to exhibit a self-serving bias: taking credit for successes and denying blame for failures (Zuckerman, 1978).

Considering employee and evaluator biases simultaneously would lead to a prediction of attributional conflicts for unfavorable variances. The evaluator would attribute the unfavorable variance primarily to lack of effort; whereas, the employee would deny blame for the variance. Both participants would attribute favorable variances to the employee; hence, no conflicts would be predicted in the favorable variance case.

McElroy (1985) indicated that, in addition to making outcome attributions, employees also make appraisal attributions. Appraisal attributions are defined as employee beliefs about the importance of various determinant of their performance appraisals. By definition, the PC evaluator varies performance appraisals in accordance with outcome attributions to internal factors (particularly effort). If the PC evaluator is subject to the bias of blaming the employee for unfavorable variances and crediting the employee for favorable variances, the evaluator's appraisal would be favorable for favorable variances and unfavorable for unfavorable variances. Hence, the PC evaluator's responses would be identical to those of a BC

evaluator. Furthermore, since the employee is biased toward denying blame for unfavorable variances, the employee would attribute the unfavorable appraisal to not meeting the budget. This is in conflict with the evaluator's belief that the appraisal was based on low internal inputs.

Hence, conflicts with regard to outcome attributions would lead to conflicts with regard to appraisal attributions.[2] Specifically, PC evaluators would be perceived to be BC evaluators by their employees. Since employees respond in accordance with their perception of the evaluator's appraisal style, given such a conflict, higher effort levels predicted by the PC style would not be realized.

Biases may be reduced, however, by increasing the evaluator's information set. McArthur (1972) and Orvis et al. (1975), for instance, reported a significant decrease in the fundamental attribution bias when observers were given consistency, consensus, and distinctiveness (CCD) information. In the context of a budgetary setting, consistency information has been defined as the employee's variance from budget over time. Consistency information allows the evaluator to determine whether the cause of the

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[2]Since evaluators are the individuals making the performance appraisal, they are aware of which factors did and did not influence their appraisal. Thus, using the term appraisal attribution with regard to the evaluator may be questionable; however, in order to simplify the terminology, the term will be used for both employees and evaluators.

variance is stable or unstable over time. Consensus information has been defined as the variance from budget of other employees performing the same or similar task as the employee under evaluation. Consensus allows the evaluator to factor out the impact of a shared environment. Finally, distinctiveness information has been defined as any other performance information available on the employee (education, prior experience, performance in a firm training program, etc.). Distinctiveness is useful, under certain circumstances, in making ability assessments.

Birnberg et al. (1977), in discussing expectancy and attribution theories, indicated that combining the two theories provides a better model for studying the accounting control process stating: "Since control is a multi-period process, the interaction between the cognitive processes in feedback and future levels of effort is important." (Birnberg et al., 1977, page 196) Hence, combining attribution theory with expectancy theory provides a useful framework within which both the effect (on employee effort) of conflicting attributions and the effect of CCD information in removing disparities in those attributions can be addressed.

Hypotheses were investigated via a laboratory study, involving both employee and evaluator subjects. The amount of CCD information provided to the evaluators was manipulated across subjects. Four dependent variables were

assessed: employee-evaluator conflicts regarding outcome attributions, employee-evaluator conflicts regarding appraisal attributions, the performance appraisal given to the employee by the evaluator, and employee effort.

The employee and evaluator subjects were allowed to respond to each other over the course of the experiment, allowing for a direct test of the effect of conflicting attributions on the employee's effort decision. Although it has been previously suggested that conflicting attributions would decrease the effectiveness of the accounting control system (Birnberg et al., 1977), no direct evidence exists for such a contention. This lack of evidence exists because prior attribution studies have not allowed for interaction between participants.

Mawhinney (1985) argued that the impact of conflicting attributions "cannot be achieved with dummied behavior on either side of the experimental paradigm. It must involve real exchanges through time." (Mawhinney, 1985, page 137) This is because the employee-evaluator relationship is a form of social interaction, in which "each participant is both a causal agent and an attributor. His own behavior may be a cause of the behavior he is trying to understand and explain." (Kelley, 1972, page 1)

The major contribution of this current study, therefore, is that it provides a direct test of the effect of conflicting employee-evaluator attributions on employee

effort. In addition, this study provides evidence regarding the benefit (in terms of reducing attributional conflicts) of providing CCD information within their accounting control system. Finally, this study suggests that the preferability of the PC over the BC style is contingent upon the amount of information available to the evaluator.

The rest of this study is organized as follows. Chapter 2 reviews the pertinent literature along with developing the underlying theories. Hypotheses are presented in Chapter 3. Chapter 4 describes the research methodology. Results are presented in Chapter 5, and a discussion of these results follows in Chapter 6. Chapter 7 discusses limitations of the study, along with providing directions for future research, and summarizing the major contributions of the study.

CHAPTER 2 - LITERATURE REVIEW AND THEORETICAL DEVELOPMENT

This chapter reviews four areas of literature relevant to the questions addressed in the current study. First, research which pertains to the PC versus the BC style of appraisal is reviewed. Second, expectancy theory literature is discussed. These two sections are followed by a review of applicable research in the attribution theory literature which examines attributional biases and conflicts. In addition, the role of information in reducing these biases, and hence in reducing the conflict, is investigated. The last section derives the link between expectancy theory and attribution theory as it pertains to the impact of attributional conflicts on employee effort.

2.1 THE RELIANCE ON BUDGETS IN PERFORMANCE APPRAISALS

Hopwood (1972 and 1973), in a field study, compared a Budget Constrained (BC) style of appraisal with a Profit Conscious (PC) style of appraisal. Hopwood characterized a BC evaluator as emphasizing continually meeting the budget on a short term basis. In contrast, a PC evaluator was characterized as emphasizing reduction of long run costs and increased general effectiveness. In addition, the PC evaluator was concerned with separating the impact of the employee from the impact of the environment in causing the variance.

Hopwood (1972 and 1973) argued that the budgetary variances were imperfect measures of employee effectiveness. He argued that employee efforts to meet the budget may easily be "overshadowed" by factors outside of the employee's control which would result in job related tension. To cope with the tension, employees would be motivated to make decisions dysfunctional to the effective running of the firm, such as deferring necessary costs or manipulating the accounting numbers in order to attain a favorable variance. In support of his hypotheses, Hopwood (1973) found evidence of both increased job related tension and dysfunctional decision making under the BC style, as compared to the PC style. Otley (1978), in a separate field study, found no difference between the two styles with regard to tension; in addition he found evidence of higher employee performance in the BC style of appraisal.

These inconsistent findings sparked research pertaining to a contingent relationship between the style of appraisal and employee performance. Two separate contingent variables have been investigated.

First, Hirst (1981 and 1983) and Govindarajan (1984) suggested environmental or task uncertainty as a contingent variable. The moderating variable in Govindarajan's (1984) study was environmental uncertainty which was defined to be the unpredictability in actions of any group in the external environment of the firm, such as customers or

suppliers. Hirst's (1981 and 1983) contingent variable was task uncertainty defined to be high (low) when certainty regarding the effect of any employee action on the outcome was low (high). Hirst argued that task uncertainty would be high in cases where the potential impact of external factors on the outcome was high or interdependencies with other subunits was high. Both researchers argued that the higher the uncertainty, the less informative the variance from budget regarding employee behavior and effort levels.

This argument can be further explained by examining Heider's (1958) model of an action outcome. Action outcome is defined to be a function of two inputs: personal - employee ability (aptitude) and effort; and environmental - factors external to an thus primarily uncontrollable by the employee. Heider noted that the environment may be favorable or unfavorable toward the attainment of outcome goals. An unstable environment can thus influence the difficulty of the task and, subsequently influence the amount of effort needed for goal attainment. Since the same outcome can be representative of different combinations of employee and environmental inputs, the outcome becomes an ambiguous signal of causal inputs, and consequently an imperfect surrogate of employee inputs.

Hayes (1977) supported an inverse relationship between the importance of external factors and the informativeness of budgetary variances, His findings indicated that in

subunits of firms where external factors were an important causal input, traditional performance indicators, such as variance from budget were "poor explanators of [employee] effectiveness" (Hayes, 1977, page 36). Hirst (1983) and Govindarajan (1984) argued that as uncertainty increases the variance from budget becomes less informative of employee inputs. Because of this the BC appraisal style would lead to increased employee job related tension resulting in lower performance. Consequently, the PC style would be more effective under conditions of high environmental uncertainty. Both Hirst's (1983) and Govindarajan's (1984) results supported the PC over the BC style as uncertainty increased.

The second contingent variable examined was budgetary participation, the amount of internal influence the employee has in setting the budget (Brownell, 1982). Brownell argued that higher participation in setting the budget leads to greater employee control over the variance from that budget. Thus, he claimed that a BC style is only appropriate where the employee can participate in setting the budget. His results supported his hypotheses.

The above studies indicate that as external uncontrollable factors grow in influence (either through an increase in environmental uncertainty or through a decrease in employee participation in setting the budget), basing employee appraisals on variance from budget alone has a

detrimental effect on both employee tension and inputs. Hence, there is support for the PC over the BC style of appraisal under conditions of high environmental impact on the variance, which is the specific focus of this research.

However, Hayes (1977) also indicated that the variance from budget is a poor surrogate of employee behavior in highly uncertain environments. Consequently, additional information may be necessary in order to effectively apply the PC style. Indeed, Hopwood (1972) argued that in order for the PC evaluator to factor out the impact of the employee from the impact of external factors, additional information would be needed. However, Hopwood did not suggest what this additional information would be or how it would be used.

2.2 EXPECTANCY THEORY

In order to predict how employees will respond to various appraisals styles, a theory of employee motivation is necessary. Expectancy theory (Vroom, 1964) was explicitly designed as a theory of employee motivation. The employee may respond to the appraisal style via changes in both the action decision (e.g. manipulation of the accounting numbers) or the effort decision, both aspects of employee motivation. Since the particular focus of this study is on the impact of the appraisal style on employee effort, the

discussion in this section is restricted to the effort decision.

In deciding among various effort levels, Vroom (1964) theorized that the employee would consider the expectancy that each effort level would result in various intermediate outcomes (a performance appraisal), the instrumentality (correlation) between the intermediate outcomes and final outcomes (rewards and penalties) and the valences (anticipated satisfaction) associated with those final outcomes. The force to perform at each effort level is then defined as the product of expectancies, instrumentalities and valences, with the employee choosing the effort level with the highest force.

An evaluator with sufficient power over establishing intermediate outcomes and/or reward contingencies, would be able to influence employee effort. Sims et al. (1976) reported a significant correlation between evaluators' use of rewards and penalties and both expectancy and instrumentality. Ilgen et al. (1979) indicated that performance appraisals may influence employee effort, since they provide information regarding future rewards.

Comparing the BC and PC styles of appraisal from an expectancy theory framework, one can see that the BC and PC evaluators each establish differing appraisal criterion (intermediate outcomes). The BC evaluator's criterion is meeting the budget, a function of both employee and

environmental inputs; whereas the PC evaluator's criterion is employee effectiveness, which is solely a function of employee inputs. Thus, BC style appraisals would be similar to PC appraisals only where environmental inputs are minimal. Ronen and Livingstone (1975), who implicitly assumed a BC style of appraisal, argued that under such a style employees should only be evaluated on controllable aspects of their job. They noted, however, that some activities may be only partially controllable and excluding those activities may motivate employees to exert no effort on those activities. Such a problem would not occur under a PC style, since the employees are evaluated on their inputs, not their outcome.

Graen (1976) noted that within the expectancy theory framework, in addition to the criterion established by the evaluator, the number of classifications is also important. He noted that at least two classifications must be made by the evaluator: desirable versus undesirable (based upon the established criterion). The number of classifications is important because there will be no extrinsic motivation for an employee to increase effort if that increase in effort does not move the employee from a lower to a higher classification.

Unfortunately, the fineness of the classification system was not discussed by any of the researchers in the PC versus BC literature. However, Hopwood's (1973) field

study tends to support the view of a BC evaluator as using only two categories: meeting or not meeting the budget. The PC evaluators appeared to be evaluating employee effectiveness on a more continuous scale.[3]

In order to maximize employee effort, the evaluator should set up the reward system so that the force to perform increases as the effort level increases (Vroom, 1964). A BC style may fail to do this in cases where environmental uncontrollable factors have a significant influence on whether or not the budget is met. Since the employee would have no extrinsic motivation to do more than exactly meet the budget, an employee in a favorable environment could exert little effort and still meet the budget. Conversely, an unfavorable environment could make it impossible for even the most competent employee to meet the budget. Hence, the evaluator would classify the outcome as unfavorable. If the evaluator does not distinguish among different levels of unfavorability, the employee have little extrinsic motivation to exert any effort.

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[3]This support comes from Hopwood's findings that BC evaluators were perceived by their employees to have little motivation to do more than meet the budget since this was their primary objective. Presumably, therefore, the evaluator would do little to motivate the employees to outperform the budget. Hopwood also noted that PC evaluators were constantly encouraging their employees to increase their job effectiveness, indicating that PC evaluators rated employee effectiveness on a more continuous scale.

A PC style, on the other hand, matches increased effort with increased extrinsic reward, irrespective of environmental conditions; thus force to perform would increase as effort increases.

Consequently, expectancy theory would appear to favor a PC style of appraisal over a BC style, in the case where environmental factors have a large influence on the outcome. Furthermore, the favorability of the PC style would increase as the environmental impact on the outcome increases. However, the above conclusion assumes that the PC evaluator can accurately separate employee inputs from environmental inputs. Subsequently, the accuracy of the appraisal may be contingent upon the information the evaluator has. As noted previously, Hayes' (1977) results indicated that budget variances are a poor surrogate of employee inputs when the impact of the environment is high. Thus, in cases where environmental uncertainty is present and the sole piece of information the PC evaluator has is the budget variance, the preferability of the PC over the BC style is questionable. Consequently, the PC style should be studied under various levels of information in order to assess the effect of the information both on the evaluator's attributions and on subsequent employee effort.

2.3 ATTRIBUTION THEORY

Attribution theory has studied how people assign causality for an outcome to the performer and the environment. Thus, attribution theory will be the theoretical basis for explaining how PC evaluators make causal attributions for budgetary variances*. Attribution theory has also examined the effect of motivations and beliefs which may bias causal attributions. Hence the theory is useful in predicting attributional conflicts between employees and evaluators resulting from these individual biases. Finally, attribution theory has studied the use of consistency, consensus, and distinctiveness (CCD) information in making causal attributions. Thus, attribution theory can be used to study the effect of this information in terms of reducing attributional conflicts.

This section will first discuss the causal inputs in the work setting and how they are classified. Second, the influence of cognitive and motivational biases on employee and evaluator attributions will be identified. Third, the role of information in leading toward less biased attributions will be examined.

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*BC evaluators need not assign causality for an outcome separately to the employee and the environment since they hold employees responsible for the entire variance regardless of the environmental impact. Therefore, the evaluator in this section is implicitly assumed to be PC and the impact of the environment on the outcome is assumed to be high.

2.3.1 Classification of the Causal Inputs

The seminal work in attribution theory was that of Heider (1958) who suggested that an action outcome is primarily a function of two inputs: the performer and the environment. He further subdivided the performer inputs into ability and effort. In applying Heider's work to a performance situation, Weiner (1986) subdivided environmental factors into the two factors of task difficulty and luck. Hence, the four causal factors generally assumed in a performance situation are ability, effort, task difficulty and luck. Shields et al.'s (1981) results indicated that these categories extend to people who work in managerial settings.

Weiner (1986) also suggested that people classify causal inputs on three dimensions: locus of causality (internal to the employee versus external), stability (stable over time versus unstable), and controllability (controllable versus uncontrollable by the performer). Ability is generally classified as internal, stable, and uncontrollable (assuming all learning has occurred). Effort is classified as internal and controllable. Since it is controllable by the employee, and thus can be varied, it is generally classified as unstable.

Task difficulty and luck are generally classified as external and uncontrollable. Traditionally, task difficulty is classified as stable and luck as unstable.

However, as Weiner (1983) noted, task difficulty should not be classified as stable if the perceived ease or difficulty of performing the task changes or fluctuates. If the task is meeting a budget, the task difficulty in a favorable environment clearly would be less than the difficulty of meeting the same budget in an unfavorable environment. Thus, both luck and task difficulty would be classified as unstable in such a situation. Table 1 summarizes the classification appropriate to the current research.

2.3.2 Evaluator and Employee Biases

Support has been found for both cognitive and motivational biases in the attribution process. Ilgen and Favero (1985) noted, however, that care should be taken in using findings from the majority of attribution research to hypothesize as to attributions and subsequent behavior in an appraisal setting due to two important factors in the employee-evaluator relationship. First, they noted that the employee-evaluator relationship is an interdependent one. Second, the evaluator and employee interact with each other over time. These factors then need to be given special consideration in discussing employee and evaluator biases.

Considering cognitive biases first, the most notable bias exhibited by subjects who have served as observers is the fundamental attribution bias (Kelley and Michela, 1980).

TABLE 1

CLASSIFICATION OF THE CAUSAL INPUTS

Locus of Causality	Stability: stable	Stability: unstable
internal	ability (uncontrollable)	effort (controllable)
external		task difficulty luck (uncontrollable)

Causal inputs - ability, effort, task difficulty and luck
Causal dimensions - locus of causality, stability, controllability

The normal classification of task difficulty as stable is not appropriate given the external environment of interest to this study. Hence, the external/stable cell, which would normally contain task difficulty is empty.

This bias is defined as the tendency of observers to overattribute the outcome to the performer while underweighing external causes. The fundamental attribution bias is generally explained by noting that the performer is much more salient to the observer than the environment. Per Heider (1958), the performer "engulfs the field."

Since the performer is focusing upon the task, the task environment may be more salient to the performer. Hence, the performer may have the tendency to overweight environmental factors and underweight internal factors. Jones and Nisbett (1972) termed the two conflicting cognitive biases the actor-observer bias. The presence of such a bias in an employee-evaluator situation would lead to a prediction of disagreements between employees and evaluators for both favorable and unfavorable variances. In both cases, the evaluator would make more internal attributions. (Relative to the employee, the evaluator would give the employee more credit for successes and more blame for failures.) Much support exists for the actor-observer bias in nonperformance situations (Watson, 1982). Jones (1979), however, indicated that this bias is generally not applicable in performance situations, since performer motivational biases would tend to outweigh cognitive biases.

With regard to motivational biases, the most notable bias exhibited by subjects who have served as performers is the motivational self-serving bias: attributing successes to

internal factors and failures to external factors in order to enhance self-esteem (Zuckerman, 1978). In addition, putting the performer in an employee-evaluator situation has been found to motivate the employee toward positive self-presentation (Kelley and Michela, 1980). A motivation to gain public approval may again lead the employee to take credit for successes and deny blame for failure (Bradley, 1978).

With regard to the evaluator, putting observers in an evaluator role would enhance their motivation to control the situation. Although no research regarding the desire to control has been performed in an employee-evaluator situation, the control motivation appears to be very applicable to this situation. Berscheid et al.'s (1976) results, for instance, indicated that a control motivation is enhanced when an observer is dependent upon and anticipates future interaction with another person. This is clearly the case in most employee-evaluator situations. Kelley (1972) indicated that, in a social interaction where a person desires to influence another's behavior, controllable factors will be more salient; and thus, in cases of uncertainty as to what caused the outcome, there will be a bias toward controllable factors. Lanzetta and Hannah's (1969) results indicated that evaluators perceive ability to be uncontrollable by the employee. Thus, in addition to underemphasizing the role of the environment, the

evaluator, who desires a high level of control, should also underemphasize the role of ability.

Given the lack of research in this area, it is not clear whether the bias would hold for both favorable or unfavorable variances. Horngren (1982), however, noted that accounting control systems (of which variances from budgets are an integral part) are often based upon the principle of management by exception - "concentrating on areas that deserve attention and ignoring areas that are running smoothly." (Horngren, 1982, page 5) Based upon this definition, failure to meet the budget would be seen as a control problem, and, hence, the control motivation would more likely arise in the unfavorable variance case. This implies that given an unfavorable variance, the evaluator would be motivated to attribute the variance primarily to lack of effort. Lack of ability would be underweighted due to the control bias. Similarly, unfavorable environmental conditions would be underweighted due to both the control bias and the fundamental attribution bias. Since the control motivation would be less likely to arise in favorable variance situations, favorable variances would be attributed to a combination of high effort and ability. Favorable environmental conditions would be underweighted due to the fundamental attribution bias.

Two important issues regarding the control bias need to be addressed. First, ability is not always considered to

be uncontrollable (Weiner, 1983). If the evaluator believes not all learning has occurred and that the employee can improve ability, for instance via acquisition of certain job related skills, ability may be viewed as controllable by the evaluator. Also, there may be cases where certain factors in the environment would be seen as controllable. Evaluators, in these cases, would be biased towards factors they feel they could most easily control or change (Mitchell, et al., 1981).

Second, if the true cause of changes in variances is an unstable environment, despite all employee efforts, employee performance would significantly fluctuate over time. Evaluators would maintain that improvements in employee performance, such as an unfavorable variance followed by a favorable variance, were due their control techniques. Thus, they would attribute the outcome to an increase in effort, which the evaluator's control policy served to bring about. However, decreases in performance, such as a favorable variance followed by an unfavorable variance, may lead the evaluator to question his/her ability to control the situation. Wortman (1976), however, indicated that observers often persist in maintaining their "illusion of control" even in the face of disconfirming evidence. Wortman claimed that people develop a rule that a certain action on their part will lead to a certain outcome, and that occurrence of the

action-outcome sequence serves to strengthen the belief in the rule; whereas, nonoccurrence has little impact on disconfirming the rule. Hence, the evaluator may focus upon improvements in performance and disregard decreases in order to maintain their control beliefs.

Considering the employee and evaluator biases together, the actor-observer bias would predict conflicts between employees and evaluators for both favorable and unfavorable variances. As motivational biases increase, however, one would predict conflicts solely for unfavorable variances, with the evaluator making stronger internal attributions (primarily to lack of effort) and the employee stronger external attributions. Both employees and evaluators would be biased toward internal attributions (ability and effort) for favorable variances.

Bar-Tal and Frieze (1976), who examined performer and observer attributions for successes and failures, found that observer attributions for failures to lack of effort were significantly higher than performer attributions to that variable. Similarly, performer attributions to task difficulty were higher than observer attributions. There were no differences with regard to ability or luck.

In the success condition, Bar-Tal and Frieze (1976) found that both employees and evaluators rated ability and effort highly and that there were no significant differences between the ratings of the two participants. However,

their results indicated that employees perceived the task to be significantly easier than the evaluators believed. Thus, there is some support for an actor-observer bias for successes.

Research specifically placing the performer and observer into an employee or evaluator role are of particular interest to this study. Unfortunately, with one exception these studies focused solely upon unfavorable performances. This may be due to the underlying assumption, previously discussed, that only unfavorable performances indicate a control problem. Also, these studies were what Harrison, et al. (1988) termed "minimally involving". Subjects read a scenario describing a performance outcome. They were then asked to imagine themselves as either employee or evaluator and make attributions for successes or failures. Due to this minimal involvement, motivational biases would not be expected to be high, and the actor-observer bias may outweigh motivational biases. The one study which included both favorable and unfavorable variances (Shields et al., 1981) did not specifically analyze differences between the favorable and unfavorable variances. Overall, however, the results supported an actor-observer bias.

Despite the limitations in the above studies, researchers have found strong support for both the evaluator fundamental attribution bias (Harrison et al. 1988; Kaplan and Reckers, 1985; Mitchell and Wood, 1980; Shields et al.,

1981) and for employee-evaluator attributional conflicts (Harrison et al., 1988; Shields et al., 1981).

2.3.3 CCD Information in Performance Appraisals

Introduction of information which reduces biased evaluator or employee attributions has the potential to reduce attributional conflicts. CCD information, has been shown to affect attributions, and thus may be useful in reducing conflicts in attributions. The use of this information by the evaluator will be discussed first.

Kelley (1967 and 1973) first suggested the use of CCD information in making causal attributions within a model similar to an analysis of variance model. He demonstrated how the three pieces of information may be combined in order to make causal attributions. Both McArthur (1972) and Orvis et al. (1975) found that people do make attributions consistent with the model. Also, importantly they found a decrease in the fundamental attribution bias upon introduction of CCD information. Although Kelley did not specifically apply his model to achievement situations, with some modifications the model may be extended to this setting.

Without any information, the fundamental attribution bias together with the control bias would suggest that the evaluator would overattribute unfavorable variances to the employee's lack of effort, underweighting lack of ability

and the environment. For favorable variances, high ability and high effort would be overweighted and the environment underweighted, due to the fundamental attribution bias. The evaluator would maintain these biased attributions, unless information is presented which directly contradicts these attributions.

Consistency information is defined as outcome information (the employee's variance) over time. If the cause of the outcome is stable over time, a consistent pattern would result and the outcome would be attributed to a stable cause. On the other hand, an inconsistent pattern would indicate a change in one of the unstable causes.[5] Under conditions of high impact by an unstable environment, one would expect inconsistency over time. However, as noted by Stevens and Jones (1976) and Pruitt and Insko (1980), an inconsistent pattern could also be due to changes in unstable performer characteristics. Since ability is stable, the inconsistent pattern indicates either a change

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[5]Thus what is judged to be consistent or inconsistent is the entire pattern of outcomes. This differs from Kelley's original model in which the outcome itself was judged to be consistent or inconsistent with past outcomes. For example, if an employee who always attained unfavorable variances attains a favorable variance, that favorable variance would be judged to be inconsistent with past outcomes. However, in a highly unstable environment, it would be difficult to judge the consistency of the current outcome with past outcomes, since the past outcomes themselves would most likely be highly inconsistent with each other. The pattern itself, therefore, becomes informative regarding the stability or instability of the inputs over time.

in effort or a change in the environment. Since effort is both an internal and controllable cause and the environment external and uncontrollable, both the fundamental attribution bias and the control bias would predict overemphasis on changes in employee effort as the cause of the variance change. Consistency information is thus incapable of altering evaluator biases since an inconsistent pattern, actually brought about by changes in the environment, could also be explained by changes in effort. Hence, since consistency information does not directly contradict the biased attributions predicted without this information, it does not appear adequate in reducing evaluator biases.

Consensus information (information regarding how other employees perform on the same task) may make the impact of the environment more salient to the evaluator, and hence contradict the fundamental attribution bias of underweighting environmental factors. Kelley and Michela (1980) noted that, in comparison to consistency and distinctiveness information, consensus is often the least utilized and may in many cases be totally ignored. However, Ajzen (1977) argued that in a performance situation consensus provides information regarding the difficulty of the task which has a causal influence on whether a success or failure will occur. Ajzen (1977) claimed, and his results confirmed, that consensus information would be utilized in performance situations, due to the causal nature of the information.

Brown and Mitchell's (1986) results indicated that whereas evaluators were first inclined to make internal attributions for employee failures, they switched to external attributions upon being informed that the majority of other employees working on the same task also failed.

Thus, there is evidence that consensus information counteracts the fundamental attribution bias of attributing all outcomes to internal factors. Unfortunately, this evidence only exists in failure situations because of researchers' emphasis on failure situations. Since successes were not investigated no evidence exists that the bias would be reduced in success situations also.

Since the environment would be given more weight with consensus information, internal factors may be given less weight. However, internal factors would still remain salient to the evaluator, because differences in performances between employees (assuming they are working in the same environment) would be attributed to differences in employee inputs (Weiner, 1974). Hence evaluators would focus upon the internal inputs of their employee in relation to the other employees. This suggests that for unfavorable variances, only in the case of the very best performer will unfavorable environmental factors be seen as a sufficient cause of the unfavorable outcome. As performance relative to this performer decreases, internal factors would also be seen as a necessary cause of the

unfavorable variance. Hence, with minimal exceptions internal factors would be considered important causal inputs by the evaluator. Furthermore, due to the control bias, lack of effort would be given more weight than lack of ability.

Similarly, for favorable variances, only in the case of the lowest performing employee in the group, would favorable environmental factors be seen as a sufficient cause of the favorable outcome. As performance relative to this lowest performer increases, internal factors would also be seen as necessary to achieve the outcome. Since favorable variances would be less likely to be viewed as a control problem, both ability and effort would be seen as important internal causes of the favorable variance.

Hence, consensus provides information contrary to the fundamental attribution bias and should lead to a reduction in this bias. However, since it does not provide information regarding the relative importance of ability and effort, the control bias of overemphasizing effort and underemphasizing ability would not be reduced via introduction of consensus information. In order to make the impact of ability more salient to the evaluator, additional information is needed.

Distinctiveness information was defined by Kelley (1972) as the actor's (employee's) response to other stimuli (tasks). Shields et al.'s (1981) results indicated that

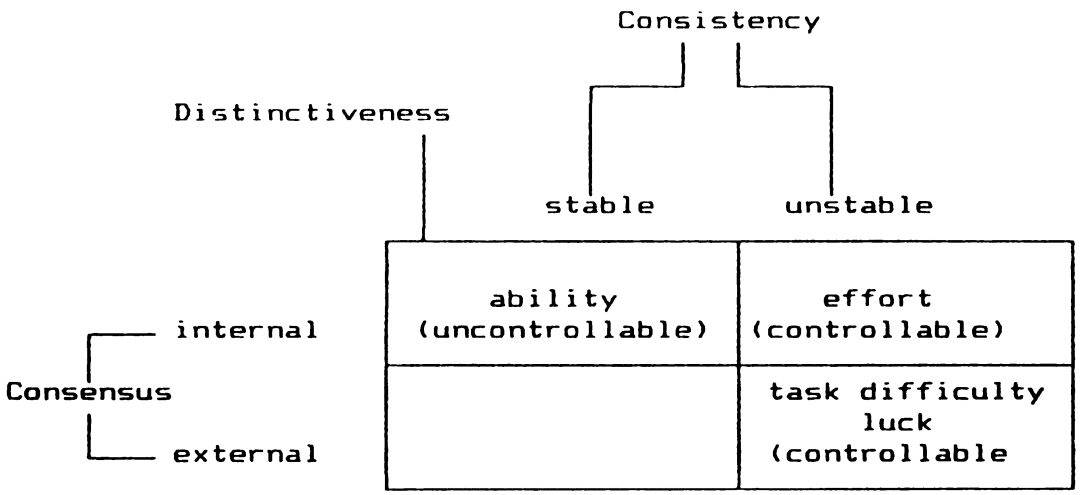
evaluators specifically request distinctiveness information (education, training, and experience) when making causal attributions. The outcome on distinctiveness tasks would be informative of employee inputs (ability and effort) under conditions where the impact of the environment is either known or considered insignificant. In addition, if the conditions are considered to have a high motivational impact on the employee (leading toward high effort), the outcome would be informative of employee ability. Thus, distinctiveness information may improve the evaluator's assessment of employee ability. Once the evaluator has knowledge regarding the employee's ability, later performances can be judged in relation to this knowledge in making an effort assessment. Hence the control bias resulting in overattribution to effort and underattribution to ability would be counteracted by the introduction of distinctiveness information.

Table 2 demonstrates the potential use of CCD information by the evaluator in making causal attributions. To summarize, consistency has the potential to separate stable from unstable factors, consensus to separate internal from external factors, and distinctiveness to assess employee ability.

With regard to the employee, a desire to avoid embarrassing invalidation may motivate less biased attributions. In Mehlman and Snyder's (1985) study, performers were given

TABLE 2

CCD INFORMATION USE IN MAKING CAUSAL ATTRIBUTIONS



Causal inputs - ability, effort, task difficulty and luck

Information:
Consistency - outcome of the employee over time
Consensus - outcome of other employees on same task
Distictiveness - outcome of the employee on other tasks

an "intelligence test," and feedback indicating they either performed well or poorly. The authors hypothesized that the failing subjects would use CCD information to make excuses of the form: "I could do better on the same test at another time." (consistency), "I could do better on another intelligence test." (distinctiveness), "Nobody else could do well on this intelligence test." (consensus). Results found strong support for the first two types of excuses, but not the consensus excuse. The authors argued that the subjects knew the first two excuses could not be invalidated. But since the subjects knew the experimenters had given the test to other subjects, they knew that the third excuse could potentially be invalidated, and thus, did not use it.

Zuckerman (1978) and Bradley (1980) claim that a change in attributions may occur, even when messages to the evaluator (excuses) are not involved, since appraisals worse than anticipated would result in loss of self-esteem. Thus, self-serving biases may be counteracted by putting the performer in an employee-evaluator relationship. Mehlman and Snyder's (1985) findings indicated that this result may be strengthened the more CCD information the employee perceives the evaluator has.

2.4 THE LINK BETWEEN ATTRIBUTION AND RESPONSE

This section formally links expectancy and attribution theories together in a performance appraisal setting. The joint attribution theory-expectancy theory model can then be used to hypothesize the effects of attributional conflicts on employee effort.

Figure 1 links attribution and expectancy theories together via an ordering of the actions taken by the employee and evaluator within one work period. Initially, the employee decides how much effort to exert in the first work period. Not having received previous appraisals from the evaluator, Mayes (1976) argued that employee behavior may be "rather aimless" in such a situation. However, as interactions occur, the employee acquires knowledge regarding the evaluator's appraisal style, and will respond in future work periods in accordance with these beliefs.

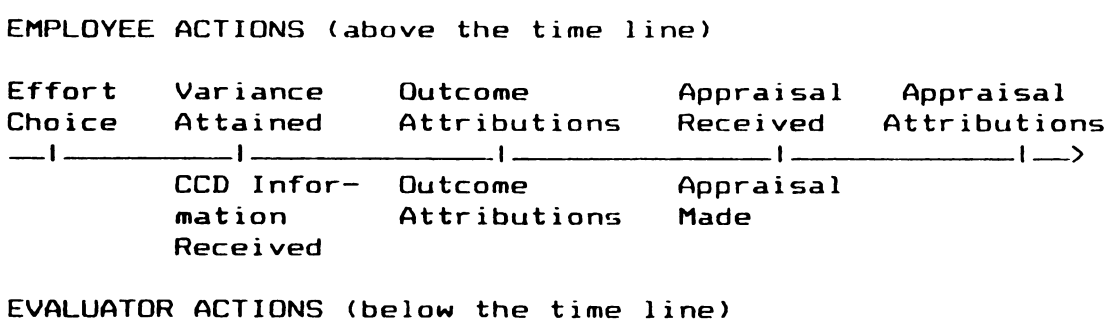
Upon receipt of the variance from budget, both employees and evaluators make outcome attributions. These attributions would be a function of the information available and both cognitive and motivational biases. Differences in attributions between the two participants which occur are termed attributional conflicts.

The evaluator then makes the performance appraisal, which is a function of the evaluator's outcome attributions (primarily attributions to internal factors if the evaluator is a PC evaluator). Both Mitchell and Wood

FIGURE 1

EXPECTANCY-ATTRIBUTION THEORY MODEL

ONE WORK PERIOD TIME LINE



(1985) and Kaplan and Reckers (1980) demonstrated a high correlation between evaluator attributions to internal factors and evaluator response. In addition, Knowlton and Mitchell (1980) indicated that the response may vary according to whether the attribution is primarily to effort or ability. They found that higher appraisals were given when the attribution for a failure was to lack of ability as opposed to lack of effort. Finally, Mitchell and Wood's (1980) study indicated that the evaluator's certainty regarding causal attributions may influence the response made. In particular, the less certain the evaluator was, the less severe the response and the more likely the evaluator was to follow organizational policies.

Upon receipt of the appraisal, the employee makes appraisal attributions (McElroy, 1985), or an assessment as to what style of appraisal they believe their evaluator is following. As in the case of the outcome attributions, conflicts may arise; the employee's beliefs regarding the evaluator's style may differ from the style of appraisal the evaluator claims to be using.

The employee's appraisal attributions will then influence the employee's expectancy regarding future appraisals. Hence, the employee's effort decision may be affected by attributional conflicts which occurred in prior periods.

Otley's (1978) results indicated that employees evaluated by PC evaluators perceived that evaluators placed

significantly more emphasis on meeting the budget than evaluators claimed to put on meeting the budget. Otley's (1978) result is consistent with the existence of attributional conflicts. Biases would predict that the evaluator would claim internal factors were responsible for both favorable and unfavorable variances. Hence, the evaluator would give high appraisals for favorable variances and unfavorable appraisals for unfavorable variances, claiming the appraisals were based upon employee inputs. Employee biases, however, are toward taking credit for successes and denying blame for failures. Hence, employees are more inclined to see appraisals as a function of meeting the budget. Therefore, conflicts regarding outcome attributions would lead to conflicts regarding appraisal attributions. Since employees respond according to their perception of the evaluator's appraisal style, the desirable effects of a PC style would not be realized if the employees perceive the style to be BC.

As the information set expands, outcome attributional conflicts are predicted to decrease. If both employee and evaluator agree as to the cause of the variance, and the evaluator bases the appraisal upon attributions regarding employee inputs, the employee would also see the appraisal as a function of employee inputs. Hence, appraisal attribution conflicts would decrease, and employee effort would increase.

CHAPTER 3 - HYPOTHESES

Hypotheses will be advanced regarding the effect of the CCD information on the following four dependent variables: employee-evaluator conflicts regarding outcome attributions, evaluator performance appraisals, employee-evaluator conflicts regarding appraisal attributions, and employee effort.

3.1 OUTCOME ATTRIBUTION HYPOTHESES

With only outcome information (one instance of the variance from budget), outcome attributions between the employee and the evaluator would be predicted to differ under unfavorable variances but not favorable variances. Self-serving biases on the part of the employee would lead the employee to take credit for successes and deny blame for failure. Although the actor-observer bias would predict that the employee would attribute successes to external factors, motivational biases are predicted to outweigh cognitive employee biases (Jones, 1979). The fundamental attribution bias would lead the evaluator to underweight environmental factors for all outcomes, favorable and unfavorable. The control bias would lead the evaluator to underweight ability, particularly for unfavorable variances. Based upon these individual biases, both employee and evaluator would be predicted to make internal

attributions (to effort and ability) for favorable variances. Employees would be predicted to make external attributions for unfavorable variances; whereas the evaluator is predicted to attribute unfavorable variances primarily to lack of effort. Hence, conflicts would be expected to arise for unfavorable variances only.

Once the employee works under the evaluator for more than one work period, the evaluator starts building a data base of consistency information. As discussed in the literature review, consistency separates stable from unstable causes. Since ability is generally considered a stable attribute of the employee, fluctuations in performance would be attributable to either a changing environment, changing effort or a combination of the two. Evaluator biases predict that effort would be the more salient cause. The evaluator would, therefore, overattribute favorable variances to high ability and effort and overattribute unfavorable variances to lack of effort. Hence, evaluator biases would not be reduced via the introduction of consistency information, and attributional conflicts would still exist.

Consensus information makes the impact of the environment on the outcome salient to the evaluator and thus serves to reduce the fundamental attribution bias (Brown and Mitchell, 1986). Therefore, the evaluator would more appropriately weigh external factors, weighing internal factors

as less important. However, internal factors would still be considered important to some extent for most employees, since evaluators would compare their employees' performances with that of the most extreme performer, maintaining that the differences were due to internal factors. Hence, since external factors would be viewed as an insufficient cause of the variance, internal factors would still be considered important causes.

However, consensus is uninformative regarding whether the differences are due to ability or effort. The control bias, arising in unfavorable variance cases would predict that the evaluator would view the difference as due to differences in effort. Hence, lack of effort would be emphasized over lack of ability for unfavorable variances. Therefore, unfavorable variances would be attributed to the presence of both unfavorable external factors and lack effort. Since favorable variances would not be considered a control problem, favorable variances would be attributed to the presence of favorable external factors, ability and effort. To summarize, although conflicts would be reduced with the introduction of consensus information, conflicts would still exist. Evaluators would still blame the employee's lack of effort, although potentially to a lesser extent, for unfavorable variances. Employees would be biased toward denying blame, and, therefore, conflicts would still exist with regard to unfavorable variances.

With the addition of distinctiveness information, which makes ability salient, the evaluator would be less biased toward attributing differences in employee performances solely to differences in effort. Hence, the introduction of distinctiveness information would reduce the control bias. The reduction of the control bias would result in the evaluator placing more emphasis on lack of ability for unfavorable variances and less on lack of effort. Conflicts may still exist if the employee denies any blame for unfavorable variances. However, the employee would be aware that the evaluator with distinctiveness information could contradict biased attributions. This knowledge would be predicted to motivate the employee to make less biased attributions.

Hence, increasing the information set of the evaluator would lead to a decrease in attributional conflicts. Reduction in conflicts would be brought about by the reduction in both employee and evaluator biases. The above discussion is summarized in the following hypotheses:

H1: When unfavorable variances occur and consistency information is available to the evaluator, attributional conflicts between the employee and the evaluator will be significant. The employee's attributions to external factors would be significantly greater than the evaluator's attributions to external factors. Similarly, the evaluator's attributions to internal factors will be significantly greater than the employee's attributions to internal factors.

H2: Conflicts regarding outcome attributions between the employee and the evaluator will significantly decrease as the information set is expanded from consistency only to consistency plus consensus (CC).

H3: Conflicts regarding outcome attributions between the employee and the evaluator will significantly decrease as the information set is expanded from CC to CCD.

3.2 PERFORMANCE APPRAISAL HYPOTHESES

The evaluator's performance appraisal is influenced by outcome attributions to internal factors (Kaplan and Reckers, 1985; Mitchell and Wood, 1980). If the evaluator given only consistency information attributes all outcomes, favorable and unfavorable, to the employee, a high correlation between the outcome and the appraisal would be predicted. Specifically, favorable variances would be matched with favorable appraisals and unfavorable variances matched with unfavorable appraisals.

The addition of consensus information would reduce the evaluator's bias toward blaming the employee for all unfavorable variances. Thus, appraisals for unfavorable variances would be higher once consensus information is available.

Whether differences in appraisals would occur upon introduction of distinctiveness information is difficult to hypothesize, since the primary evaluator bias without this information (the control bias) relates to underemphasizing ability and overemphasizing effort which are both internal causes. As discussed in the prior section, the control bias is hypothesized to decrease where distinctiveness information is available. Thus, for unfavorable variances,

the evaluator would decrease the emphasis on lack of effort and increase the emphasis on lack of ability. Studies have found that evaluators give higher appraisals when they believe an employee failed due to lack of ability as opposed to lack of effort (Knowlton and Mitchell, 1980). Thus, the introduction of distinctiveness information may also result in an increase in performance appraisals for unfavorable variances.

These hypotheses are summarized as follows:

H4: When provided with only consistency information, evaluators will give significantly more favorable performance appraisals for favorable variances and significantly more unfavorable performance appraisals for unfavorable variances.

H5: With the introduction of consensus information, appraisals for unfavorable variances will significantly increase over the consistency only case.

H6: With the introduction of distinctiveness information, appraisals for unfavorable variances will significantly increase over the CC case.

3.3 APPRAISAL ATTRIBUTION HYPOTHESES

The PC evaluator, by definition, maintains that employee factors (particularly effort) are the most important determinants of performance appraisal. The employee, however, judges the appraisal in relation to employee causal attributions which may be in conflict with those of the evaluator.

Specifically, in the consistency information case, the evaluator would give the employee low appraisals for

unfavorable variances and high appraisals for favorable variances, maintaining that the appraisals varied with employee effort. The employee, however, who would take credit for favorable variances but not unfavorable variances, would maintain that the appraisals were based upon whether or not the budget was met. Hence conflicts would arise between the employees and the evaluators as to appraisal attributions.

The evaluator is hypothesized to blame the employee less for unfavorable variances given consensus information. This would lead toward higher appraisals, and subsequently, less conflict regarding appraisal attributions. However, the evaluators would still blame internal factors, particularly effort, to some extent. Hence, appraisals may not be as high as the employees consider justified. Thus, although the employees may believe their effort is becoming a more important factor in the performance appraisal, they would still believe it is less important than the evaluators claim.

Finally, appraisals for unfavorable variances were predicted to increase with distinctiveness information, due to the evaluators emphasis on lack of ability as opposed to lack of effort. Consequently, there would be a further increase in the employee's belief as to the importance of effort in the formation of the their appraisal. Hence,

conflicts with regard to appraisal attributions would be further reduced.

The following summarizes the above discussion into formal hypotheses:

H7: Where only consistency information is available to the evaluator, conflicts regarding appraisal attributions will be significant between the employee and the evaluator. The evaluator will rate internal factors (effort and ability) as significantly more important in forming the appraisal than the employee. The employee will rate meeting the budget as significantly more important in forming the appraisal than the evaluator.

H8: Conflicts between the employee and evaluator regarding appraisal attributions will significantly decrease as the information set is expanded from consistency to CC.

H9: Conflicts between the employee and evaluator regarding appraisal attributions will significantly decrease as the information set is expanded from CC to CCD.

3.4 EMPLOYEE EFFORT HYPOTHESES

Given that the employee's appraisal attributions influence employee effort, if those attributions vary with the amount of information available to the evaluator, employee effort would also vary with the amount of available information. In the consistency only case, employees would perceive meeting the budget as the primary factor influencing appraisals. Thus, employees would perceive the appraisal style to be BC, contrary to the evaluator's perception. As the evaluator receives more information, the appraisals given would be more closely aligned with employee beliefs regarding effort. Hence, the style would be judged to be more PC by the employee.

Under a PC style, high effort is extrinsically motivated since it is matched with a favorable appraisal. This may not be the case under a BC style, since the appraisal is based upon whether or not the budget is met, irrespective of employee effort. Therefore, under an unfavorable environment high effort is not extrinsically motivated since the expectancy of obtaining a favorable variance, and hence a favorable appraisal, is low. Furthermore, in a favorable environment, the employee could attain a favorable variance, and hence, a favorable appraisal with little effort. Therefore, high effort may not be extrinsically motivated in favorable environments, either.

Thus, effort is predicted to be higher under a PC style of appraisal. Since the appraisal style would be perceived by the employee to be more PC as the information set expands, effort would also increase with the increase in information. To summarize:

H10: Employee effort will be significantly higher when employees perceive themselves as being appraised by a PC evaluator as compared to a BC evaluator.

H11: Employee effort will not be significantly different when the employee is appraised under a pure BC style of appraisal as compared to being appraised by an evaluator with consistency information.

H12: Employee effort will be significantly higher when the employee is appraised by an evaluator with CC information as compared to an employee appraised by an evaluator with consistency information.

H13: Employee effort will be significantly higher when the employee is appraised by an evaluator with CCD information as compared to an employee appraised by an evaluator with CC information.

CHAPTER 4 - RESEARCH METHODOLOGY

Hypotheses were tested via a laboratory experiment. Subjects were assigned to employee-evaluator pairs. The task of the employee was to work on six separate sets of anagrams (a group of scrambled letters which if properly unscrambled can form a word, for example ruift unscrambles into the word fruit) over six two-minute work periods. A standard was established (which remained constant across all work periods) and a variance calculated based upon the number of anagrams solved relative to that standard. The variance was labelled favorable if the employee met or exceeded the standard, and unfavorable otherwise.

The task of the evaluator was to give the employee performance appraisals for each of the anagram sets. The employee's monetary reward was based upon the performance appraisals received; whereas, the evaluator's monetary reward was based upon the number of anagrams solved by their paired employee. Hence, the pairs interacted with each other over time and were dependent upon each other for rewards.

4.1 MANIPULATED VARIABLES

Two between subjects independent variables were manipulated in the experiment: the role played by the subject (employee or evaluator), and the information given to the

evaluator (consistency, CC and CCD). The information variable will be discussed in more detail in the procedure section. The amount of information given the employee was not manipulated. By virtue of performing the task, the employee subject automatically obtained consistency and distinctiveness information. However, this is not the case with consensus. Since it is a realistic assumption that employees often attain information regarding the performance of other employees, employee subjects in this experiment were provided with consensus information.

Finally, to test hypothesis H11, a pure BC style was manipulated by the experimenter (since, as noted in the literature review, the BC style requires no attributions, being a purely formula-based appraisal style). The employees in this group were informed that their appraisal (and reward) would be favorable for favorable variances and unfavorable for unfavorable variances. Table 3 presents the design structure for the two independent variables.

In addition to the two independent variables, in order to measure attributions for both favorable and unfavorable variances, environmental conditions were manipulated within subjects. The environmental manipulation was done by varying the difficulty of the anagram sets. Easy anagram sets (of common four letter words) were presented in the favorable environmental condition and difficult anagram sets (of common five letter words) in the unfavorable

TABLE 3

EXPERIMENTAL DESIGN

Job Position	Information provided to evaluators: control	consistency	CC	CCD
Employee	1	2	3	4
Evaluator	5*	6	7	8

control - Pure BC style of appraisal

CC - consistency plus consensus

CCD - consistency plus consensus plus distinctiveness

* This is an empty cell since BC evaluators do not make causal attributions, basing their appraisals solely upon whether or not the budget is met. Hence, the style of appraisal was manipulated by the experimenter.

environmental condition. Each environmental condition was repeated three times. All subjects had the same six anagram sets to work on. However, the order in which the anagram sets were presented was manipulated between subjects. Approximately half of the subjects had the first easy set the first work period and the remaining subjects had the first difficult set. Thus, the order in which the first two sets were completed was reversed between the two groups. Table 4 specifies the difficulty of each anagram set by order and by work set.

4.2 DEPENDENT VARIABLES

Four dependent variables were measured: employee-evaluator outcome attribution conflicts, evaluator performance appraisal, employee-evaluator appraisal attribution conflicts, and employee effort. Each is discussed in turn.

4.2.1 Employee-Evaluator Outcome Attribution Conflicts

According to Elig and Frieze (1976), the most reliable method for eliciting causal attributions involves the use of independent rating scales.[4] These scales have the subject rate each causal factor according to the extent to which it caused the specific outcome (success or failure).

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[4]Intertest reliability of these scales were tested by Elig and Frieze using discriminant validities. Validities for the independent rating scales ranged from .74 to .89.

TABLE 4

DIFFICULTY OF ANAGRAMS BY WORK SETS BY ORDER

	Order 1	Order 2
work set 1	difficult	easy
work set 2	easy	difficult
work set 3	easy	easy
work set 4	difficult	difficult
work set 5	difficult	difficult
work set 6	easy	easy

difficult anagram sets - five letter anagrams
easy anagram sets - four letter anagrams

These scales are anchored with "to no extent" and with "to an extremely high extent".

Four separate forms were used in the experiment: employee-favorable variance (shown in Appendix A), employee-unfavorable variance (Appendix B), evaluator-favorable variance (Appendix C), evaluator-unfavorable variance (Appendix D). The sole difference between the evaluator and employee instruments were with the replacement of the words "your employee" for the words "you" and "your". For successes (favorable variances) the causal factors rated by the subjects were high ability, high effort, task ease and good luck. For failures (unfavorable variances) the causal factors rated were low ability, low effort, task difficulty, and bad luck. In addition, subjects were asked to indicate how certain they were with regard to their attributions. This was particularly important for the evaluator subjects, since, as discussed in the literature review, their appraisals may be affected by certainty of their causal attributions.

In addition to the individual attributions, three summary scores were computed for each subject. In order to assess the subjects beliefs regarding the joint importance of the two internal factors, an internal summary score was computed by adding the ability and the effort attributions. An external summary score, to measure the joint importance of the two external factors, was computed by adding the

task difficulty to the luck attribution. Finally, a locus summary score was computed by subtracting the external summary from the internal summary score. The locus summary score provides a measure of the relative importance of internal versus external factors, and hence, can be used to determine whether employee and evaluator biases were as predicted. Based upon the bias of the employee to take credit for successes and deny blame for failures, the employee's locus summary score would be expected to be positive for favorable variances and negative for unfavorable variances. Based upon evaluator biases, the evaluator's locus summary score would be predicted to be positive for both favorable and unfavorable variances.

Two separate measures were used to assess employee-evaluator conflicts. Each measure was calculated for each of the four individual causes (ability, effort, task, and luck) and the three summary scores. The first, termed the difference score, was computed by subtracting the evaluator's attribution from the employee's attribution. Hence, a positive difference score indicated that, relative to the evaluator, the employee thought the factor in question was a more important cause of the variance. The second conflict score, defined the disagreement score, was calculated by taking the absolute value of the difference score. Hence, it assessed the disagreement between the two

participants irrespective of the direction of the disagreement.

The disagreement score is a better score for measuring conflict between the two participants within the three information groups, since large negative differences could offset large positive differences resulting in a small mean difference score. Therefore, the disagreement score was used as the primary measure of conflict in H1 through H3, the three causal attribution hypotheses. However, since H1 predicts the direction of the disagreement, the difference score must be examined also in order to assess whether the conflict was in the direction predicted.

4.2.2 Evaluator Performance Appraisal

Ratings on the appraisal form were used to test H4 through H6, the performance appraisal hypotheses. The evaluators were asked to assess the employee's performance on a nine-point appraisal form anchored with "unsatisfactory" on one end and "outstanding" on the other end. Appendix E contains an example of the appraisal form used. Employees in the control group were informed that their appraisal was "unsatisfactory" if they did not meet the budget and "outstanding" if they did. It was repeatedly stressed to these employees that their appraisal was based solely upon meeting the budget.

4.2.3 Employee-Evaluator Appraisal Attribution Conflicts

The instrument measuring employee performance attributions, labelled the Criterion Form, (Appendix F) had the employees rate how important they perceived meeting the budget, their ability level, and their effort level were in influencing the evaluator's appraisal of their performance. As with the outcome attribution scale, it was filled out after each working period and asked subjects to indicate their certainty with regard to their attributions. Employees in the control (BC) condition did not fill out this form. Instead, after each work period, they were reinformed that their appraisal was based solely upon meeting the budget.

The evaluators also filled out an instrument similar to the employee criterion form (Appendix G), indicating how important the factors were in influencing the appraisal they gave their employee. Certainty was not measured, since by making the appraisal, they were presumably aware of how much each factor influenced their appraisal.

As with the outcome attributions, two separate measures of appraisal attribution conflicts were assessed for each of the three factors. The difference score was calculated by subtracting the evaluator's appraisal attribution from the employees, and the disagreement score by computing the absolute value of the difference. The disagreement score was used in testing H7 through H9, the appraisal

attribution hypotheses. In addition, the difference score was used in H7 in order to determine whether the conflict was in the predicted direction.

4.2.4 Employee Effort

Outcome, in terms of number of anagrams solved, surrogated for employee effort, and, hence was used to test H10 through H13, the effort hypotheses. Since performance also depends upon ability and external factors, precautions were taken to equalize these factors across cells. Employee ability was assessed in a preliminary phase of the experiment in order to attain the same mean level of ability in each of the four employee groups. Also, since each employee worked on the same exact sets of anagrams, task difficulty was the same for all subjects.

4.3 SUBJECTS

College students from a sophomore level personnel/management class were used as employee and evaluator subjects in the experiment. They were each paid one dollar for participating plus a bonus. Employee bonus was a function of the appraisals received. The BC employees received a bonus of $.90 for "outstanding" appraisals (which they received for favorable variances) and $.10 for "unsatisfactory" appraisals (unfavorable variances). The employees paired with evaluators received a bonus calculated by

multiplying their appraisal rating times ten cents (eg. a rating of 3 on the appraisal form would earn them a bonus of $.30). The evaluator received a bonus of $.06 for every anagram their employee solved over the entire course of the experiment. In addition, subjects received class credit for participating. One hundred seventy five subjects were recruited for the experiment. 100 were assigned as employees and 75 as evaluators.

4.4 PROCEDURE

The experiment proceeded in two phases. In addition to the actual experiment, two pilot studies were run. A discussion of the first pilot will be followed by a description of the two phases of the experiment. The second pilot was a modified version of Phase II of the experiment. Therefore, although the second pilot was performed prior to the actual experiment, the discussion of the second pilot will be postponed until after Phase II of the experiment has been described.

4.4.1 Pilot 1

As stated previously, attributions for both favorable and unfavorable variances were of interest. Hence, it was necessary to manipulate the environment so that under a favorable (unfavorable) environment the majority of subjects would have been able (unable) to meet the

standard. It was decided to do this via a manipulation of the task difficulty. The first pilot tested whether the classification of four letter anagrams as easy and five letter anagrams as difficult would meet the above condition.

Subjects who had completed an experiment for another researcher, but not yet left the experimental lab, were asked to volunteer to work on two sets of anagrams (one four letter set and one five letter). They were given two minutes to work on each, and they were not paid for participating. Over several such sessions, forty-six people participated. Mean number of anagrams solved in the two minute period were 15.3 for the four letter anagrams and 4.1 for the five letter anagrams. Since there were only four cases in which a subject's five letter score exceeded another subject's four letter score, it was determined that it would be possible to set a standard which would allow the majority of subjects to succeed given the easy four letter anagrams and fail given the difficult five letter anagrams.

4.4.2 Phase I

Phase I of the actual experiment involved only employee subjects. Phase I began by allowing the subjects to familiarize themselves with the task and complete sets of anagrams until they felt comfortable with the task. Upon

completion of this step, each subject worked on one set of anagrams of each difficulty level. They were paid $0.10 for each anagram solved in two two-minute periods. The purpose of Phase I was twofold. First, as a surrogate of employee ability, Phase I performance was used to ensure that the mean ability level was equal across employee cells in Phase II. Second, performance on these anagrams was used as the distinctiveness information in Phase II. Subjects were not given any information regarding Phase II so as not to influence their performance in Phase I.

4.4.3 Phase II

Phase II was run over a three week period which began approximately two weeks after Phase I. Each information case was run four times with five to six employee-evaluator pairs assigned during each session. The employees were assigned to a room separate from the evaluators and were unaware as to who their evaluator was. Similarly, the evaluators were unaware as to who had been assigned as their employee. The BC employees were also run four times with six subjects assigned to each session.

Table 5 lists the steps performed in the experiment and the forms filled out at each step. As indicated on the table, prior to the actual work periods, employees were informed about their Phase I performance. Employees were given their score on the four letter anagram set, their

TABLE 5

SUMMARY OF STEPS PERFORMED IN THE EXPERIMENT

PRIOR TO WORK SESSIONS

position	cell	step
employees	1-4	informed of phase I performance
evaluators	8	informed of phase I performance

EACH WORK PERIOD

position	cell	step
employees	1-4	complete anagram set
employee	1-4	receive variance on anagram set
employee	1-4	fill out outcome attribution scale
evaluators	6	receive variance of their employee
evaluators	7-8	receive variance of all employees
evaluators	6-8	fill out outcome attribution scale
evaluators	6-8	fill out appraisal form
evaluators	6-8	fill out appraisal attribution scale
employees	1	informed of appraisal by experimenter
employees	2-4	receive appraisal form
employees	2-4	fill out appraisal attribution scale

AFTER WORK SESSIONS

- all subjects fill out final questionnaires and receive pay

score on the five letter anagram set, and a combined score which was computed by summing the four and five letter scores together. In addition, employees were informed of the mean performance of all employees who participated in Phase I.

Evaluators in the CCD case were also informed of their paired employee's combined score and the mean performance. They were not given the individual scores for the easy and difficult sets. Consequently, CCD evaluators were provided with ability information on their employees, without giving them any information as to the difficulty of the anagram sets.

After initial distribution of this information, subjects were informed as to the procedures of the experiment. Appendices H and I give the text of the information given to the employee subjects and evaluator subjects, respectively.

Six work periods were run. The employees were not informed of this in advance although they were told that the maximum number would be eight and that the experiment would not last more than two hours. The subjects were also not informed as to the difficulty level of the anagrams in each work period, only that the difficulty would vary from work period to work period. They were also informed that a standard, which had been judged reasonable for anagrams of intermediate difficulty had been set, and that this

standard would not change over the work periods. The calculation of the variance was explained and examples provided.

Each work period began by having the employee subjects complete an anagram set, which was immediately scored, and a variance computed. With regard to employee subjects, the variances were written on a black board by subject number, so that each subject would know his/her own variance, along with the variances of all other subjects. Evaluator subjects in the consistency information case were informed of their own employee's variance, via a slip of paper which they were told not to share with other employees. Evaluators in the CC and CCD information case had the variances of all employees by subject number written on the black board. Table 6 indicates, by information case, what information was provided to the evaluator subjects, along with providing an example for each case.

After information was distributed, both subjects filled out the appropriate outcome attribution form. Evaluators then filled out an appraisal form on their employee, and an appraisal attribution form, indicating how important the three factors were in the formation of their appraisals. In order to motivate the evaluators to take what they perceived to be a PC style of appraisal, evaluators were told to weigh their beliefs regarding employee effort heavily in the formation of the performance appraisal.

TABLE 6

INFORMATION RECEIVED BY EVALUATOR BY CELL

All evaluators (all cells) informed that the standard is 11 anagrams for each work period

Cell 6 - Consistency

Evaluator receives each work period the variance of their employee.

Example:
Work Period # 1
Subject number 215
Variance 2 U

Cell 7 - CC

Evaluator receives in each work period the variances of all employees for the current and prior work periods.

Example:	Work periods					
Subject	1	2	3	4	5	6
215	2U	9U	1F	7U	6U	6F
216	3F	1U	7F	7U	5U	12F
217	1F	7U	5F	10U	9U	5F
218	2U	10U	2U	10U	10U	2F
219	1U	8U	6F	8U	6U	9F
220	2F	6U	4F	8U	6U	6F

Cell 8 - CCD

Evaluator receives in each work period the variances of all employees (same as Cell 7).
Plus prior to first work period, evaluator receives employee's Phase I combined performance along with mean performance of all employees in Phase I.

Example:
Subject number 215 phase I combined score = 16
mean performance of all employees = 22.8

U - unfavorable
F - favorable

The appraisals were taken back to the employee upon completion by the evaluator. BC employees were informed that their appraisal was favorable if they met the standard and unfavorable otherwise. Employees were cautioned not to discuss their appraisals with the other employee subjects. The purpose of this was to prevent the subjects from being motivated by possible perceived inequity which may result when they compare their appraisals to those of other employees (Mayes, 1976). Upon receipt of their appraisal, the employees filled out the appraisal attribution form. BC employees did not fill out this form; instead, after they were informed of their appraisal it was stressed to them the appraisal was based solely upon whether or not they met the standard.

The procedure was completed for six work periods, after which the subjects filled out final questionnaires which are presented in Appendices J (BC employees), K (employees other than BC), and L (evaluators). While they filled out the final questionnaire, their pay was computed, which they received when they handed in the final questionnaire.

Each final questionnaire included a causal dimension scale (Russell, 1982).[7] This instrument had the subjects rate ability, effort and task difficulty on the three causal dimensions: locus, stability, and controllability.

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[7]Reliability of the causal dimension scale was measured by Russell via the alpha coefficient. The coefficient ranged from .73 to .867.

The purpose of this was to determine whether the causes were classified on each dimension as specified in Table 1. In addition, demographic information was gathered, and subjects were asked to describe their behavior over the experiment. Specifically, the employees were asked to indicate how much effort they expended on the anagram sets and how they made this decision. The evaluators were asked to indicate how they determined the appraisals they gave. The purpose of this was two-fold. First, responses were examined in order to determine how seriously the subjects attended to the experiment in general. Second, responses were examined in order to determine if evaluator subjects attended to CCD information, and whether the employees' effort decisions were influenced by the evaluator appraisals.

4.4.4 Pilot II

Sixteen subjects from an introductory accounting class were recruited to participate in the second pilot study. They were paid for participating and were given class credit. Six of these employees were assigned to the BC employee condition. The other ten were paired and assigned to the CC information case.

The pilot study was performed in the exact manner as Phase II of the experiment. The same forms were also filled out with one modification. On the outcome

attribution and appraisal attribution forms, space was provided on the bottom of the form for the subjects to write in additional factors they believed were important. Elig and Frieze (1976) recommended such a procedure in order to ascertain that important causal factors have not been excluded. Examination of the responses indicated that no important variable had been excluded.

Also, of importance were employee responses regarding their certainty as to the appraisal style used by the evaluator, which was assessed on a nine-point scale. Examination of responses indicated that, with the exception of the first work period, all subjects rated their certainty at a level of 7 or above, with the majority rating their certainty at an 8 or a 9. Hence, six periods were considered sufficient for obtaining equilibrium behavior.

CHAPTER 5 -- RESULTS

This chapter is divided into four sections. First, Phase I results are discussed. This is followed by an analysis of the manipulation checks. Hypotheses results are examined in the third section, and additional results in the final section.

5.1 PHASE I RESULTS

One hundred employee subjects participated in Phase I. Due to the failure of either the employee subject or the subject's paired evaluator to attend their assigned session, six employee subjects who participated in Phase I did not participate in Phase II. Hence, Phase I statistics given in this section only include the 94 subjects who actually participated in Phase II. Mean performance on the Phase I four letter anagrams was 16.4 with a variance of 24.8 and a range of 6 to 25. Mean performance on the Phase I five letter anagrams was 6.4 with a variance of 12.5 and a range of 1 to 20. The combined performance of the four and five letter anagrams was 22.8 with a variance of 60.7 and a range of 7 to 42.

The standard for Phase II was set at eleven anagrams. Fourteen (15%) of the subjects who participated in Phase II scored below eleven on the four letter anagrams in Phase I, and thirteen (14%) scored at or above eleven on the five

letter anagrams. Thus, the majority of the employees were capable of meeting the standard under the favorable environment and not capable of meeting the standard under the unfavorable environment.

Employee subjects were assigned to the four information cases with the condition that mean performance in Phase I be equal across cases. Table 7 presents for each case the mean and statistical variance of the Phase I performances for the 94 subjects who participated in Phase II. A single factor analysis of variance indicated no significant difference in the Phase I performance by information case for the four letter anagrams ($F = .44$, $p = .72$), the five letter ($F = .31$, $p = .82$), and the combined performance ($F = .32$, $p = .81$).

5.2 MANIPULATION CHECKS

Two specific manipulation checks were made. The first ascertained whether manipulation of the task difficulty allowed the majority of the employees to meet the standard on the easy sets, but not on the difficult sets. Second, final questionnaire responses were examined to ascertain whether the subjects attended to the experiment, the manipulated information, and to each other's responses. In addition, the subjects' rating on the causal attribution scale were examined in order to ensure that classification

TABLE 7

PHASE I SCORES BY INFORMATION CASE

	easy anagrams		difficult anagrams		combined score	
Information	mean	var	mean	var	mean	var
control-BC	15.9	22.5	6.5	14.5	22.4	51.7
consistency	16.8	28.8	6.0	9.2	22.8	62.3
CC	15.6	26.3	6.2	16.5	21.8	76.4
CCD	17.0	23.6	6.9	10.7	23.9	58.5

easy anagrams:
mean - mean number of four letter anagrams solved
var - variance of the mean

difficult anagrams:
mean - mean number of five letter anagrams solved
var - variance of the mean

of the factors on the three causal dimensions was consistent with the classification made in Table 1.

Table 8 indicates for each information case, the number of employees attaining favorable and unfavorable variances for each anagram set. As can be seen, the manipulation worked quite well with the possible exception of the first easy set where twenty three employees failed to meet the budget. Since Phase II was run two to five weeks after Phase I, this result may indicate that the employee subjects needed to refamiliarize themselves with the anagram task and that a practice set prior to beginning the experiment in Phase II may have been desirable.

Second, both employee evaluator subjects responses to the final questionnaire were analyzed. Evaluators were asked as to how they decided upon the appraisals they made. Responses indicated that they did attend to the manipulated information, and that this information influenced their appraisals. Employees, in response to the question regarding their effort decision, indicated that they were influenced by the appraisals.

With regard to the causal dimension responses, subjects were asked to rate ability, effort, and task difficulty on the three causal dimensions: locus of causality, controllability, and stability. Each scale ranged from one to nine. The extreme points on the locus scale were internal (one) and external (nine). Hence, a score of greater than

TABLE 8

PHASE II VARIANCE RESULTS

Information

	Control		Consistency		CC		CCD		Total	
	F	U	F	U	F	U	F	U	F	U
D1	0	24	3	20	1	22	0	24	4	90
D2	0	24	0	23	3	20	1	23	4	90
D3	0	24	0	23	1	22	3	21	4	90
E1	20	4	17	6	15	8	19	5	71	23
E2	23	1	21	2	20	3	23	1	87	7
E3	23	1	22	1	22	1	23	1	90	4

F - favorable variance
U - unfavorable variance

D - difficult sets in order completed by subjects
E - easy sets in order completed by subjects

numbers in each cell represent the number of employees for the information set identified achieving the type of variance (F or U) on the particular anagram set in question. For example, the third number in the first row indicates that 3 consistency employees achieved favorable (F) variances on the first difficult anagram set (D1)

five would indicate an external rating, and a score of less than 5 would indicate an internal rating. The mean score for ability was 4.42 (internal), for effort 3.08 (internal), and 5.54 (external) for task difficulty. The extreme points on the controllability scale were controllable (one) and uncontrollable (nine). The mean score for ability was 5.21 (uncontrollable), for effort 2.62 (controllable), and for task difficulty 7.75 (uncontrollable). Finally, the extreme points on the stability scale were unstable (one) and stable (nine). The mean score for ability was 5.48 (stable), for effort 5.57 (stable), and 3.17 (unstable) for task difficulty. Hence, with the exception of effort being classified as stable, subjects did classify the factors in accordance with Table 1 classifications.

5.3 HYPOTHESES RESULTS

Hypotheses results have been categorized according to dependent variable: outcome attributions (H1 through H3), performance appraisals (H4 through H6), appraisal attributions (H7 through H9), and effort (H10 through H13).

5.3.1 Outcome Attribution Results

H1 hypothesized the presence of conflicts regarding outcome attributions which both consensus (H2) and distinctiveness (H3) were predicted to reduce. Table 9 lists disagreements scores for the outcome attributions for all

three information cases for all three difficult sets. Scores for both the three summary scores and the individual factors are presented. In addition, the mean difference scores are also presented in order to assess whether the direction of the conflicts was as predicted. Table 10 lists similar information for the favorable variance case. In order to perform repeated measures analyses, only those employees attaining unfavorable variances on all three difficult sets are included in the statistics in Table 9, and only those employees attaining favorable variances on all three easy sets are included in Table 10 statistics. It is interesting to note that in both tables the disagreement scores are greater than the magnitude of the difference scores. This indicates that the direction of the employee-evaluator differences varied within the information cases.

5.3.1.1 Hypothesis 1 Results

It was hypothesized that, given only consistency information, conflicts regarding outcome attributions would occur between employees and evaluators for unfavorable variances. The direction of the conflict was also predicted. Specifically, it was predicted that the employee attributions to external factors would exceed evaluator attributions to external factors, and that evaluator attributions to

TABLE 9

UNFAVORABLE VARIANCE CONFLICT SCORES

	consistency n = 20		CC n = 20		CCD n = 21	
D1	dis	dif	dis	dif	dis	dif
summary locus	5.7	-2.6	3.6	1.4	4.2	.6
internal summary	4.2	-1.8	2.7	.6	3.0	.1
external summary	4.3	.8	3.1	- .8	3.3	-.5
lack of ability	2.5	- .6	2.1	.6	2.0	.6
lack of effort	3.0	-1.2	1.6	0	2.1	-.5
task difficulty	2.2	.8	1.4	.9	1.5	-.4
bad luck	2.9	0	2.5	-.1	3.1	-.1
D2	dis	dif	dis	dif	dis	dif
summary locus	5.3	-1.7	3.5	.9	4.3	-1.4
internal summary	4.2	-2.3	4.0	.2	2.5	- .6
external summary	2.9	- .6	2.0	- .7	3.3	.8
lack of ability	2.1	- .9	2.1	1.0	1.7	.4
lack of effort	2.7	-1.4	2.5	- .8	2.4	-1.0
task difficulty	1.6	- .3	1.3	0	1.1	0
bad luck	2.1	- .3	2.3	- .7	2.5	.8
D3	dis	dif	dis	dif	dis	dif
summary locus	4.7	-2.5	3.9	- .1	4.8	-1.9
internal summary	3.7	-1.8	4.0	- .3	3.6	- .6
external summary	2.9	.7	2.4	- .2	3.5	1.3
lack of ability	2.5	- .4	2.2	.6	1.8	.5
lack of effort	2.5	-1.4	2.7	- .9	2.6	-1.1
task difficulty	1.9	.3	1.2	.4	1.5	.5
bad luck	2.1	.4	2.8	- .6	2.3	.8

dif: difference score = employee attribution - evaluator attribution
dis: disagreement score = absolute value of difference score
D: difficult anagram sets in order completed by subjects

TABLE 10

FAVORABLE VARIANCE CONFLICT SCORES

	consistency n = 16		CC n = 15		CCD n = 19	
E1	dis	dif	dis	dif	dis	dif
summary locus	5.2	-1.4	6.0	-1.8	4.3	-1.5
internal summary	2.9	.4	3.0	- .8	2.6	- .4
external summary	3.3	1.8	3.3	1.0	3.4	1.1
high ability	1.9	.4	1.9	- .7	1.6	- .6
high effort	2.0	0	1.8	- .1	1.5	.2
task ease	2.2	1.8	1.8	.9	2.1	.6
good luck	2.2	0	2.8	.1	2.6	.5
E2	dis	dif	dis	dif	dis	dif
summary locus	4.6	- .7	6.3	-3.6	4.5	-1.3
internal summary	3.9	- .8	3.6	- .3	2.4	.7
external summary	1.8	- .1	4.3	3.3	3.4	.6
high ability	1.9	-1.1	2.0	- .9	1.6	- .8
high effort	2.6	.3	1.9	.6	1.0	.1
task ease	1.8	.9	2.5	2.2	1.4	.2
good luck	1.8	-1.0	3.1	.9	2.7	.4
E3	dis	dif	dis	dif	dis	dif
summary locus	5.5	1.5	5.2	-1.6	4.4	-1.7
internal summary	4.6	.7	2.4	- .3	2.0	- .8
external summary	3.1	.8	3.7	1.3	3.4	.9
high ability	2.5	.6	1.4	- .8	1.4	- .7
high effort	2.3	.9	1.6	.5	1.0	- .1
task ease	2.1	1.0	2.2	1.3	1.4	.2
good luck	2.1	- .3	3.5	0	2.7	.7

dif: difference score = employee attribution - evaluator attribution
dis: disagreement score = absolute value of difference score
E: easy anagram sets in order completed by subjects

internal factors would exceed employee attributions to internal factors.

In order to examine whether conflicts occurred, t-tests were performed testing whether the mean disagreement scores in the consistency - unfavorable variance case were significantly different from zero. Without exception, these tests indicated that, on both the summary scores and the individual causes for all three difficult sets, the disagreement scores were significantly greater than zero. Hence, there was strong evidence of employee-evaluator conflict.

Paired t-tests were performed to test whether, as a group, the employee attributions differed from the evaluator attributions in the direction predicted. These tests, thus, determined whether the mean difference score differed significantly from zero. A significant difference was found for the locus summary score and the internal summary score for all three sets. Separate tests on ability, effort, task difficulty, and luck indicated that in all three sets evaluators as a group believed lack of effort was a significantly ($p < .05$) more important cause for the failure than the employees believed, as evidenced by the negative difference score on this variable. None of the other factors produced significant differences for any of the anagram sets.

Hence, the direction of the conflict with regard to internal factors was as predicted on all three sets: as a group consistency evaluators believed lack of effort was a more important cause of the failure than the employees as a group believed. With regard to external factors, the fact that the disagreement score was significantly greater than zero in all three sets indicates lack of agreement. Since the employees were predicted to put more weight on external factors, the sign of the summary external difference score was predicted to be positive. Results indicate that it was positive on the first and third set, but negative on the second. In addition, the mean difference score on the external summary score did not significantly differ from zero on any of the three sets. Hence, although there is evidence of conflict regarding external factors, there is no evidence that the direction of the conflict was as predicted.

Since H1 hypothesized that the difference would occur primarily for unfavorable variances, a similar analysis was run for the three easy anagram sets. T-tests indicated that all disagreement scores were significantly greater than zero, but that the difference scores did not significantly differ from zero. This implies that conflicts regarding the cause of favorable variances did occur in the consistency information case; however, the conflict was not in the same direction for all pairs or work periods.

Overall, these tests provide strong support for H1. With only consistency information there is evidence of conflict between employees and evaluators as to the cause of both favorable and unfavorable variances. The strongest result occurred with regard to unfavorable variances. The evaluators as a group, relative to the employees, attributed more blame for unfavorable variances to the employee's lack of effort on all three difficult sets. Other conflicts were also observed, however, the direction of the these conflicts was not consistent across all pairs.

5.3.1.2 Hypotheses 2 and 3 Results

It was hypothesized that outcome attributional conflicts between employees and evaluators would decrease from the consistency to the CC information case (H2) and further decrease upon introduction of distinctiveness information (H3). These reductions in conflicts were based upon the underlying hypotheses of reductions in both evaluator and employee biases.

H2 was tested via fourteen separate 2 (information condition: consistency versus CC) by 3 (anagram set) repeated measures analyses of variances, seven for the favorable variance case and seven for the unfavorable variance case. The dependent variables were the disagreement scores for the three summary scores and the four individual causes. In order to be included in the first

analysis, the employee must have attained unfavorable variances on all three difficult sets. The second analysis was performed on the favorable variances, and in order to be included in this analysis the employee must have attained favorable variances on all three easy sets. Table 11 lists the F scores and their significance levels for the main information effect, the main anagram set effect, and the interaction. As can be seen, unfavorable variance results are significant with regard to information for the combined locus score only. In addition there is a main anagram set effect on the external summary score.

Examination of the individual scores in Table 9 indicates that both the difference and the disagreement scores on the summary locus attribution decreased from the consistency to the CC case, hence, providing evidence of a decrease in the conflict regarding the relative importance of internal versus external factors. Also, with regard to the external summary score, Table 9 indicates in both information cases the disagreement decreased from the first to the second difficult set. This is an interesting finding for the consistency case, since, as discussed in the hypotheses section, consistency information was not hypothesized to reduce conflicts. However, this particular result indicates that the conflict regarding external factors decreased as evaluators received more consistency information.

TABLE 11

HYPOTHESIS 2 RESULTS

UNFAVORABLE VARIANCE

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	4.71	.04	.12	.89	.44	.65
internal summary	.58	.45	.54	.58	1.05	.36
external summary	1.90	.18	3.28	.05	.28	.76
lack of ability	.28	.60	.19	.83	.15	.86
lack of effort	1.12	.30	.39	.68	2.35	.11
task difficulty	2.37	.13	.59	.56	.57	.57
bad luck	.16	.70	.92	.41	.85	.44

FAVORABLE VARIANCE

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.47	.50	.03	.97	.69	.51
internal summary	.87	.40	1.35	.28	2.70	.09
external summary	1.90	.17	.18	.83	3.03	.06
high ability	.43	.52	.03	.97	2.10	.14
high effort	.96	.33	.94	.40	.33	.72
task ease	.04	.84	.11	.89	1.04	.37
good luck	6.11	.02	.49	.61	.59	.56

Results based on 2 (Information: consistency versus CC)
by 3 (Anagram Set) Manova

Sample size unfavorable = 40
Sample size favorable = 31

With regard to favorable variances, there was a main information effect on the luck variable. Examination of the luck scores in Table 10 indicates that disagreements with regard to luck actually increased upon introduction of consensus information. There were no main effects for the anagram sets, however, there were two interactions (at .10) between the information and the anagram sets. The interactions occured on the internal and external summary scores. Examination of these variables on Table 10 indicates that the disagreement on the internal variable increased over anagram sets in the consistency information case, but remained relatively constant in the CC case. Hence, there is evidence that an increase in consistency information led to an increase in conflict regarding favorable variances. With regard to the external summary score, results indicate greater conflict in the CC case; however, the difference appeared to be restricted to the second easy set only.

Hence, evidence of decreased conflict in the CC over the consistency case exists for both the favorable and unfavorable variance case. However, there was also some evidence of increased conflict in the CC case. Overall, therefore, although some support for H2 occurs, the support is not strong.

H3 hypothesized that introduction of distinctiveness information would reduce attributional conflicts over the

CC case. Analyses similar to that performed for H2 were performed for H3, with the CC information case compared to the CCD. Results from both the unfavorable and favorable variance analysis are presented in Table 12. The only significant main effect of the information occurred in the unfavorable variance case with regard to the external summary score. Examination of the disagreement scores on table 9, indicates introduction of distinctiveness information actually caused more disagreement between the two participants. Also, there was a main effect of the anagram sets with regard to lack of effort. The scores on Table 9 indicate that in both information conditions, the disagreement increased as more anagram sets were completed. With regard to favorable variances, the only significant result was an interaction between the information and anagram sets on the task ease variable. Examination of the scores on Table 10 indicate that the disagreement increased over anagram sets in the CC case and decreased over anagram sets in the CCD case. Hence, this finding provides the only support for H3. Overall, however, support for H3 is weak.

5.3.1.3 Consistency Compared to CCD Results

Had both H2 (reduction of conflicts from consistency to CC) and H3 (reduction of conflicts from CC to CCD) been strongly supported this would have implied a decrease in conflict from the consistency to the CCD case. Given the

TABLE 12

HYPOTHESIS 3 RESULTS

UNFAVORABLE VARIANCE

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	1.40	.24	.26	.77	.03	.97
internal summary	1.20	.29	1.60	.22	1.76	.20
external summary	2.90	.09	.89	.42	.63	.54
lack of ability	1.10	.30	.13	.88	.13	.88
lack of effort	.10	.76	3.03	.06	.72	.49
task difficulty	.10	.75	.48	.62	1.13	.33
bad luck	.07	.79	.75	.48	1.18	.32

FAVORABLE VARIANCE

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	1.50	.23	.50	.61	.36	.70
internal summary	1.20	.29	1.54	.23	.73	.49
external summary	.18	.67	.66	.52	.84	.44
high ability	.26	.62	1.49	.24	.47	.63
high effort	2.50	.12	.63	.54	.83	.45
task ease	1.08	.31	.12	.89	2.84	.07
good luck	.96	.33	.52	.60	.29	.75

Results based on a 2 (Information: CC versus CCD)
by 3 (Anagram Set) Manova

Sample size unfavorable = 41
Sample size favorable = 34

weak results in H2 and H3, it is still possible that conflicts may be reduced when both consensus and distinctiveness information is provided. In order to test for this possibility, the MANOVAS performed for H2 and H3 were performed comparing the consistency with the CCD group. Results are presented in Table 13.

Considering the unfavorable variance results first, there was one significant main effect of the information on the internal summary score. Figure 2 graphically presents the scores on this variable for all three sets for all three information cases. As can be seen by the graph, the CCD disagreement is less than the disagreement in the other two information cases on all three sets. However, the difference is clearly the weakest on the last set.

There are four signficant main effects of the information in the favorable variance case. The internal summary, along with effort, ability, and good luck are all significant. In addition, both the internal score and effort show an interaction with the anagram sets. The disagreement scores for the internal scores are diagrammed in Figure 3, and effort disagreement scores are presented in Figure 4. These graphs indicate that the conflicts decrease from the consistency to the CC to the CCD case. In addition, explaining the interaction over anagram sets, results indicate that the conflicts are reduced over anagram sets in the CCD case and increase over anagram sets in the

TABLE 13

INFORMATION EFFECT ON CONFLICTS - CONSISTENCY VERSUS CCD

UNFAVORABLE VARIANCE

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.98	.33	.03	.97	.60	.56
internal summary	3.70	.06	.30	.74	1.40	.26
external summary	.06	.81	1.04	.36	1.21	.31
lack of ability	2.00	.16	.63	.54	.08	.92
lack of effort	.55	.46	.01	.99	.83	.44
task difficulty	2.10	.16	2.19	.13	.15	.86
bad luck	.57	.45	2.19	.13	.08	.92

FAVORABLE VARIANCE

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.42	.52	.16	.86	.29	.75
internal summary	5.90	.02	.68	.52	3.32	.05
external summary	1.40	.24	1.30	.29	1.11	.34
high ability	2.70	.10	.24	.79	.91	.41
high effort	7.75	.01	.22	.80	3.92	.03
task ease	.93	.34	1.13	.34	.25	.78
good luck	3.02	.09	.10	.90	.35	.71

Results based on a 2 (Information: consistency versus CCD) by 3 (Anagram Set) Manova

Sample size unfavorable = 41
Sample size favorable = 35

Figure 2

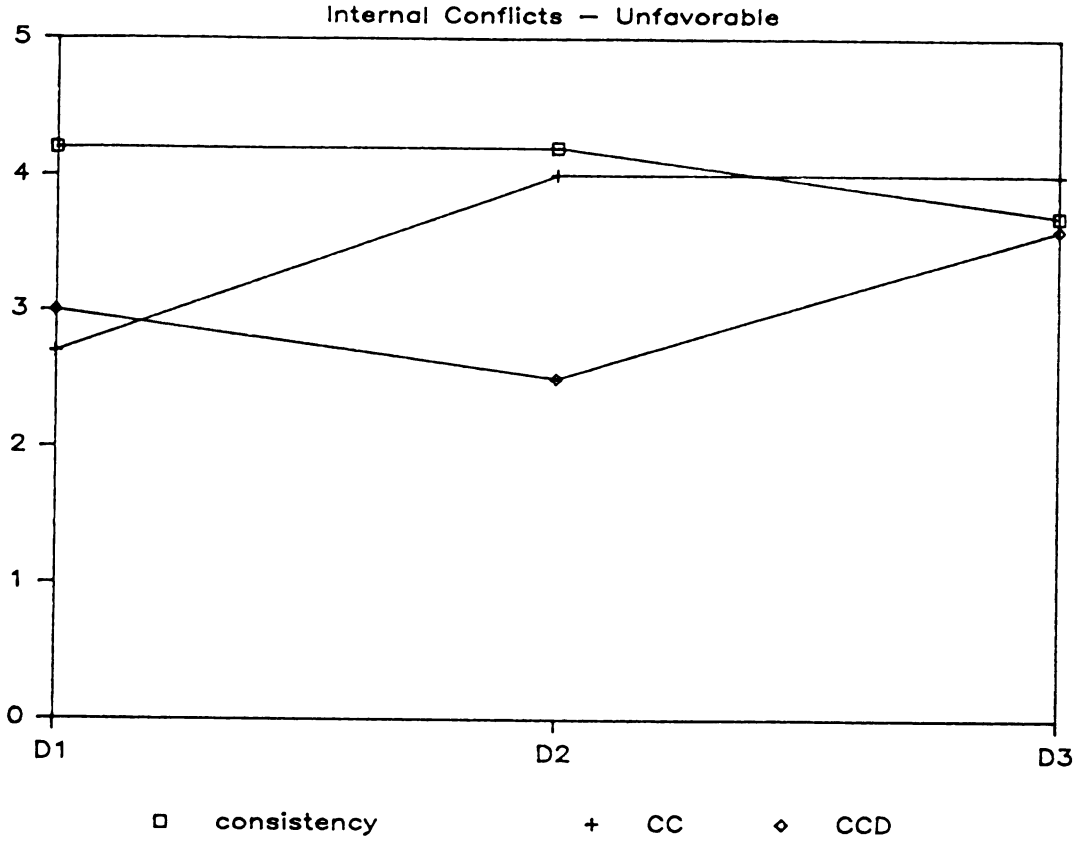

Internal Conflicts – Unfavorable
5
4
3
2
1
0
D1
D2
D3
consistency
CC
CCD

Figure 3

Internal Conflicts – Favorable

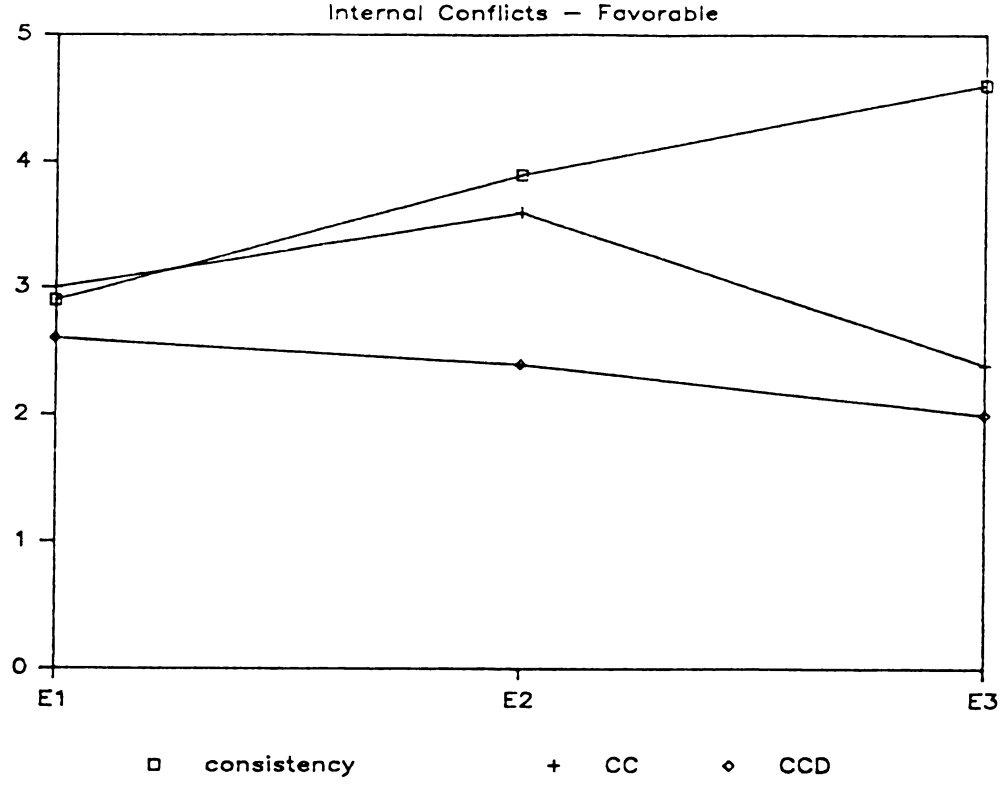
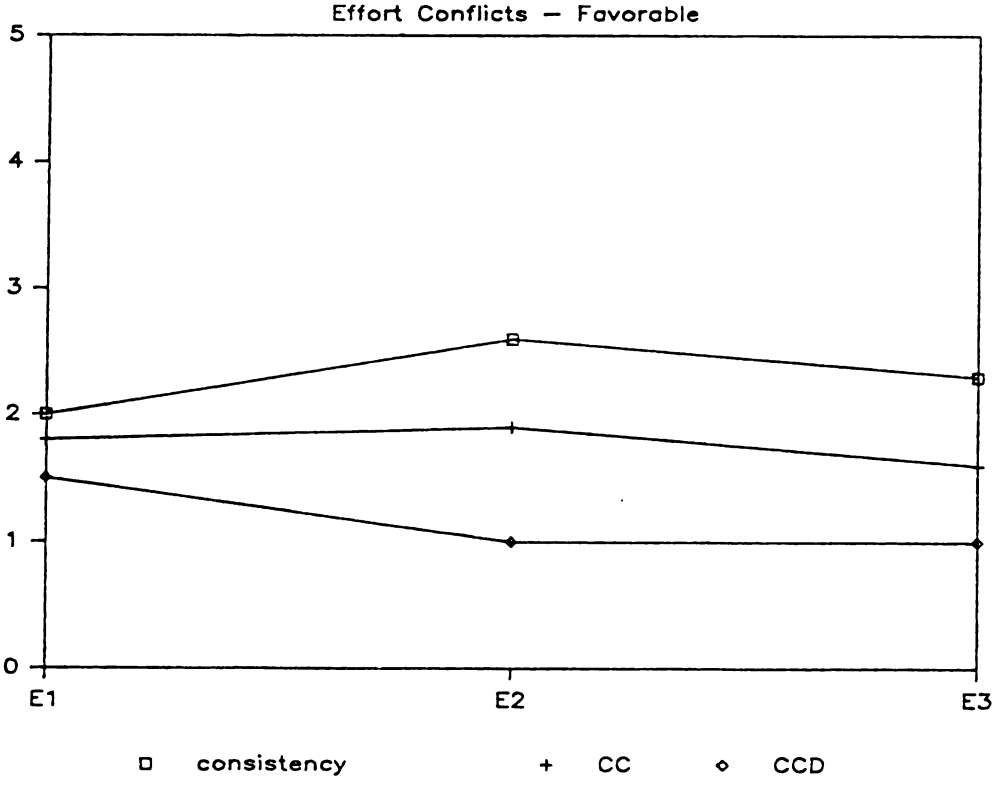


Figure 4

Effort Conflicts – Favorable



consistency information case. The ability disagreement scores are diagrammed in Figure 5, and also indicate a reduction in the conflict from consistency to CC to CCD. In all three of these cases the reduction of the conflicts was consistent with H2 and H3 predictions; conflicts decreased from consistency to CC (H2) and similarly from CC to CCD (H3). However, the reduction was only significant in comparison of the consistency and CCD cases.

Finally, good luck disagreements are diagrammed in Figure 6, and show an increase in the conflict from the consistency to the CC case. Although the conflict slightly decreased from the CC to CCD case, the MANOVA results indicated that the conflict in the CCD case was significantly greater than the consistency case.

The results of this analysis indicate stronger support for a reduction of attributional conflicts as compared to the H2 and H3 findings, particularly for the favorable variance case. In both favorable and unfavorable variance situations, employee-evaluator pairs were more likely to agree as to the importance of internal factors in causing variances. In addition, in the favorable variance case, there was also more agreement about the individual effects of ability and effort. The sole discrepant result was the increase in conflict regarding good luck in causing favorable variances. These findings thus indicate that

Figure 5

Ability Conflicts – Favorable

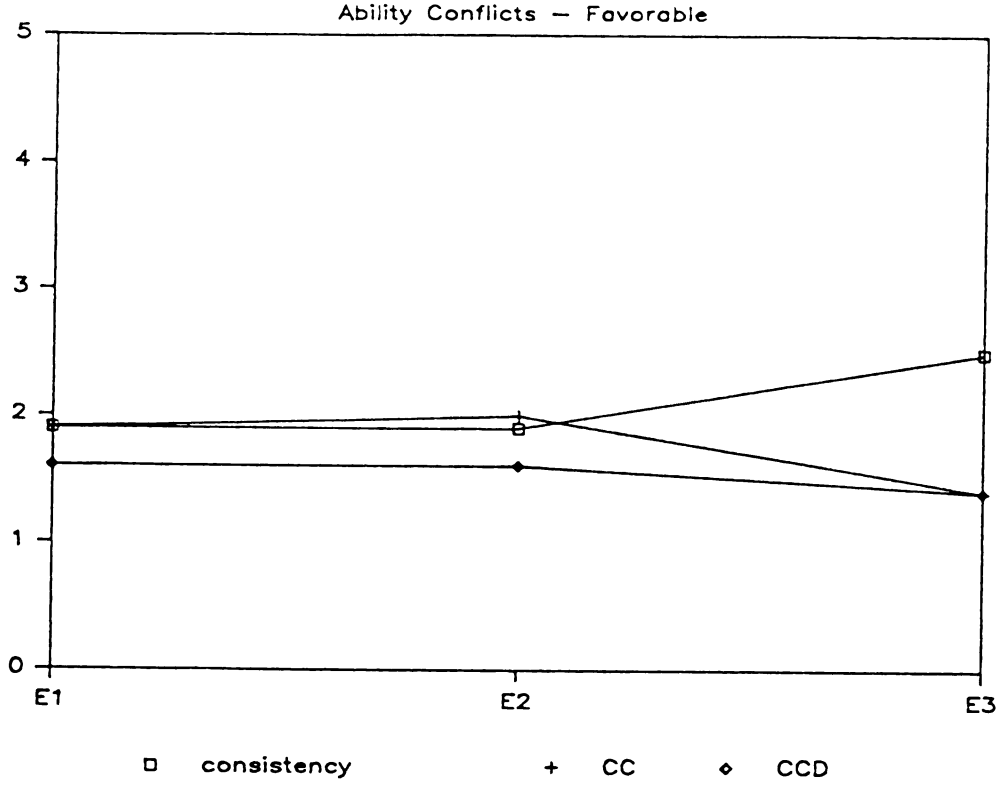
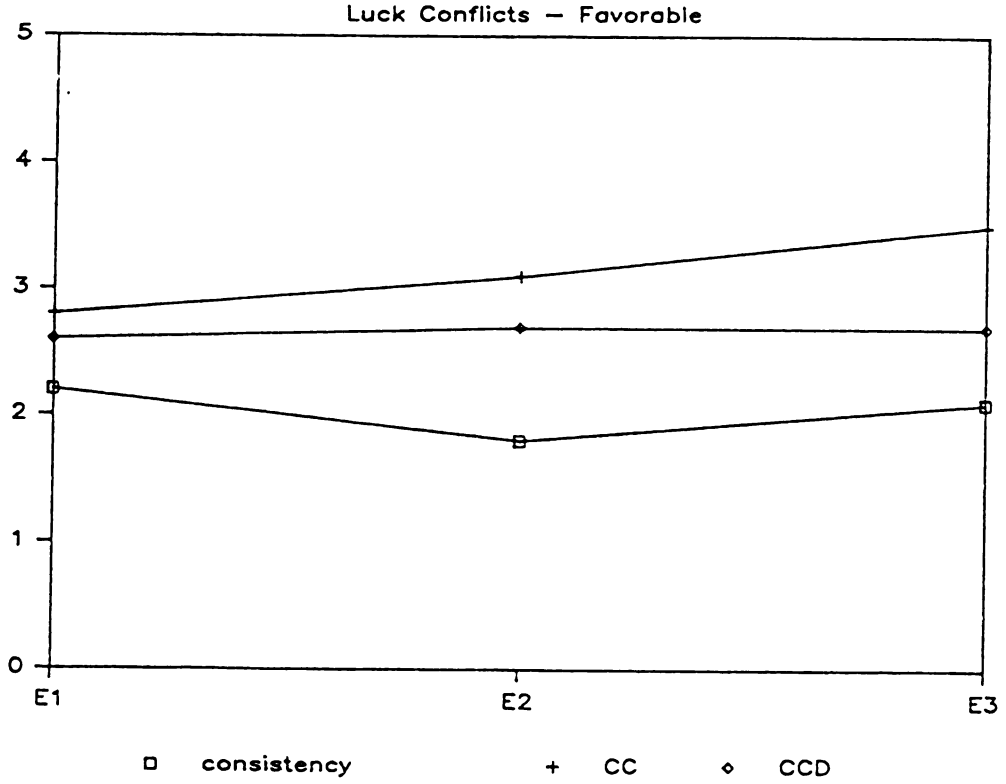


Figure 6

Luck Conflicts – Favorable



both consensus and distinctiveness were necessary to reduce the conflicts found in the consistency case.

5.3.1.4 Employee and Evaluator Outcome Attributions

Outcome attribution hypotheses were implicitly based upon individual employee and evaluator biases, along with the reduction of these biases. In order to examine the underlying evaluator and employee attributions and the effect of the information on these attributions, employee and evaluator attributions were examined separately. Table 14 presents employee and evaluator attributions for the unfavorable variance case and Table 15 present similar statistics for the favorable variance case.

With regard to the unfavorable variance statistics, the employees' summary locus scores were negative in all information cases and on all three anagram sets. This indicates that the employee assigned more blame to external factors relative to internal factors, and hence is consistent with an employee self-serving bias. Evaluator results, however, are not in general consistent with predicted biases. The fundamental attribution bias would lead to a prediction of a positive summary locus score, which only occured on the last difficult set in the consistency and CCD information case.

TABLE 14

EMPLOYEE AND EVALUATOR ATTRIBUTIONS: UNFAVORABLE VARIANCES

Information

	consistency (n = 20)		CC (n = 20)		CCD (n = 21)	
	emp	eval	emp	eval	emp	eval
D1						
summary locus	-3.7	-1.1	-4.0	-3.8	-1.7	-2.0
internal	7.9	9.7	7.8	7.2	8.6	8.5
external	11.6	10.8	11.8	11.0	10.3	10.5
lack of ability	4.4	5.0	4.4	3.8	5.3	4.7
lack of effort	3.5	4.7	3.4	3.4	3.3	3.8
task difficulty	7.2	6.4	7.6	6.5	6.9	7.3
bad luck	4.4	4.4	4.2	4.3	3.4	3.5
D2						
summary locus	-2.0	-1.3	-2.4	-3.3	-2.7	-1.6
internal	8.5	10.8	8.7	8.5	8.9	9.6
external	10.5	11.1	11.1	11.8	11.6	10.8
lack of ability	4.8	5.7	5.3	4.3	5.6	5.2
lack of effort	3.7	5.1	3.4	4.2	3.3	4.4
task difficulty	7.1	7.4	7.7	7.7	7.9	7.9
bad luck	3.4	3.7	3.4	4.1	3.7	2.9
D3						
summary locus	-1.7	1.2	-2.3	-2.0	-1.4	.5
internal	9.1	10.9	8.8	9.3	9.8	10.4
external	10.4	9.7	11.1	11.3	11.2	9.9
lack of ability	5.5	5.9	5.2	4.6	5.9	5.4
lack of effort	3.6	5.0	3.6	4.7	3.9	5.0
task difficulty	7.1	6.8	7.4	7.0	7.6	7.1
bad luck	3.3	2.9	3.7	4.3	3.6	2.8

emp: employee attributions
eval: evaluator attributions

internal summary = lack of ability + lack of effort
external summary = task difficulty + bad luck
summary locus = internal - external

D - difficult sets in order completed by subjects
n = number of employees attaining unfavorable variances on all three difficult sets

TABLE 15

EMPLOYEE AND EVALUATOR ATTRIBUTIONS: FAVORABLE VARIANCES

	Information					
	consistency (n = 16)		CC (n = 15)		CCD (n = 19)	
	emp	eval	emp	eval	emp	eval
E1						
summary locus	3.0	4.4	1.8	3.6	2.9	4.4
internal summary	13.4	13.0	12.1	12.9	13.3	13.7
external summary	10.4	8.6	10.3	9.3	10.4	9.3
high ability	6.7	6.3	5.6	6.3	6.2	6.8
high effort	6.7	6.7	6.5	6.6	7.1	6.9
task ease	7.1	5.3	6.2	5.3	6.8	6.2
good luck	3.3	3.3	4.1	4.0	3.6	3.1
E2						
summary locus	2.6	3.3	1.5	4.9	3.0	4.3
internal summary	12.9	13.7	12.7	13.0	13.4	14.1
external summary	10.3	10.4	11.2	8.1	10.4	9.8
high ability	6.0	7.1	5.7	6.6	6.2	7.0
high effort	6.9	6.6	7.0	6.4	7.2	7.1
task ease	6.9	6.0	6.9	4.7	6.8	6.6
good luck	3.4	4.4	4.3	3.4	3.6	3.2
E3						
summary locus	2.7	1.9	1.9	3.5	2.9	4.8
internal summary	13.8	12.3	13.6	13.9	13.9	14.7
external summary	11.1	10.4	11.7	10.4	10.8	9.9
high ability	6.4	5.8	6.4	7.2	6.6	7.3
high effort	7.4	6.5	7.2	6.7	7.3	7.4
task ease	7.5	6.5	7.6	6.3	7.2	7.0
good luck	3.6	3.9	4.1	4.1	3.6	2.9

internal summary = high ability + high effort
external summary = task ease + good luck
summary locus = internal - external

emp: employee attributions
eval: evaluator attributions

E - easy sets in order completed by subjects
n = number of employees achieving favorable variances on all three easy sets

The bias is generally explained by noting that the performer would be more salient to the observer. In this particular experiment, however, the employee and evaluator were not in the same room, which may have reduced the employee's salience to the evaluator. Also, the evaluator subjects were informed that the anagram set difficulty would vary from work period to work period. This may have made the external factors more salient to the evaluator.

Also, the control bias would have motivated the evaluator to weigh effort as more important than ability for unfavorable variances. Again, evaluator attributions are not consistent with this prediction. In all unfavorable variance cases, lack of ability was weighted as slightly more important by evaluators. However, in the favorable variance case, effort was in general given slightly more weight than ability.

Finally, for favorable variances, the summary locus score was positive for both employees and evaluators in all information cases and on all three easy sets. This is consistent with the predicted employee and evaluator biases.

In order to test for individual effects of the information, 2 (information) by 3 (anagram sets) repeated measure MANOVAS were performed with the employee and evaluator attributions serving as the dependent variables. Table 16 presents the consistency-CC comparison, Table 17 the CC-CCD

comparison and Table 18 the consistency-CCD comparison. Four separate analyses were performed in each comparison: employee-favorable variance case, employee-unfavorable variance case, evaluator-favorable variance case and evaluator unfavorable variance case.

Of particular interest in these analyses are main effects of the CCD information of which there are several. Also, there are an extensive amount of main effects with the regard to the anagram set repeated measure. This indicates that increased information which would result over subsequent anagram sets also led to changes in attributions. Finally, several interactions occured. These interactions will be discussed where a distinguishable pattern can be discerned.

Examining the consistency-CC case (Table 16) first, results indicate that the consensus information had a significant impact on evaluator attributions in the unfavorable variance case. Three variables were affected: the summary locus, the internal summary score and lack of ability. Examining the evaluator attributions on these variables in Table 14 indicates that, as a group, the evaluators reduced their attributions to these variables upon introduction of consensus information.

This change in evaluator attributions may partially explain why the conflict with regard to the summary locus score was reduced upon introduction of consensus

TABLE 16

EMPLOYEE AND EVALUATOR RESULTS: CONSISTENCY VERSUS CC

EVALUATOR - UNFAVORABLE VARIANCE (sample size = 40)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	6.63	.01	4.08	.02	.05	.96
internal summary	4.07	.05	4.73	.01	.38	.69
external summary	1.48	.23	5.19	.01	1.46	.24
lack of ability	4.17	.05	4.75	.02	.08	.92
lack of effort	2.14	.15	2.56	.09	1.08	.35
task difficulty	.49	.49	6.43	.01	.02	.98
bad luck	1.02	.32	2.24	.12	2.71	.08

EVALUATOR - FAVORABLE VARIANCE (sample size = 31)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.29	.59	1.56	.23	1.62	.21
internal summary	.09	.77	.35	.71	1.66	.21
external summary	.29	.59	2.95	.07	3.93	.03
high ability	.35	.56	2.36	.11	4.69	.02
high effort	.00	.96	.13	.88	.18	.83
task ease	.72	.40	5.33	.01	1.88	.17
good luck	.00	.99	.51	.61	4.35	.02

EMPLOYEE - UNFAVORABLE VARIANCE (sample size = 40)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.29	.59	5.20	.01	.10	.91
internal summary	.02	.89	3.10	.06	.07	.93
external summary	.40	.53	2.80	.08	.21	.81
lack of ability	.00	.96	3.52	.04	.68	.51
lack of effort	.08	.77	.09	.91	.24	.79
task difficulty	.80	.38	.37	.69	.48	.62
bad luck	.01	.91	4.06	.03	.48	.62

EMPLOYEE - FAVORABLE VARIANCE (sample size = 31)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.58	.45	.22	.80	.02	.98
internal summary	.28	.60	6.22	.01	1.04	.36
external summary	.26	.61	2.88	.07	.76	.47
high ability	.55	.46	3.96	.03	2.18	.13
high effort	.03	.85	6.00	.01	.22	.81
task ease	.37	.55	4.11	.03	1.34	.28
good luck	.95	.34	.27	.77	.33	.72

TABLE 17

EMPLOYEE AND EVALUATOR RESULTS: CC VERSUS CCD

EVALUATOR - UNFAVORABLE VARIANCE (sample size = 41)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	3.01	.09	4.08	.03	.10	.90
internal summary	1.19	.28	5.35	.01	.01	.99
external summary	1.47	.23	2.58	.09	.46	.63
low ability	1.94	.17	2.12	.13	.03	.97
low effort	.28	.60	6.86	.00	.04	.96
task difficulty	1.10	.30	7.42	.00	.25	.78
bad luck	4.47	.04	.64	.53	.36	.70

EVALUATOR - FAVORABLE VARIANCE (sample size = 34)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.12	.73	.74	.49	1.19	.32
internal summary	.82	.37	1.84	.18	.09	.91
external summary	.21	.65	3.96	.03	2.58	.09
high ability	.37	.55	3.60	.04	.30	.74
high effort	1.34	.25	.49	.62	.33	.72
task ease	5.22	.03	8.64	.00	2.21	.13
good luck	1.58	.22	.69	.52	1.53	.23

EMPLOYEE - UNFAVORABLE VARIANCE (sample size = 41)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	1.03	.32	2.50	.10	2.78	.08
internal summary	.98	.33	8.50	.00	.45	.64
external summary	.13	.72	.74	.49	4.32	.02
low ability	1.57	.22	3.03	.06	.39	.68
low effort	.03	.86	1.58	.22	.30	.74
task difficulty	.07	.80	3.84	.03	3.05	.06
bad luck	.09	.77	.40	.68	1.97	.15

EMPLOYEE - FAVORABLE VARIANCE (sample size = 34)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.83	.37	.40	.67	.19	.83
internal summary	.69	.41	7.66	.00	1.05	.36
external summary	.32	.58	2.50	.10	1.03	.37
high ability	.65	.43	5.85	.01	.72	.49
high effort	.27	.61	2.75	.08	.50	.61
task ease	.01	.93	5.70	.01	1.69	.20
good luck	.53	.47	.21	.81	.15	.86

TABLE 18

EMPLOYEE AND EVALUATOR RESULTS: CONSISTENCY VERSUS CCD

EVALUATOR - UNFAVORABLE VARIANCE (sample size = 41)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.96	.33	6.62	.00	.06	.95
internal summary	1.10	.30	3.70	.03	.38	.69
external summary	.01	.92	6.03	.01	.45	.64
low ability	.59	.45	2.87	.07	.04	.96
low effort	1.18	.28	2.04	.15	1.04	.36
task difficulty	3.97	.05	7.40	.00	.32	.73
bad luck	1.43	.24	5.07	.01	1.34	.27

EVALUATOR FAVORABLE VARIANCE (sample size = 35)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	1.15	.22	1.10	.34	2.05	.15
internal summary	1.86	.18	1.29	.29	4.42	.02
external summary	.03	.87	2.05	.15	.73	.49
high ability	2.31	.14	3.07	.06	5.72	.01
high effort	1.06	.31	.16	.85	.94	.40
task ease	2.22	.15	3.04	.07	.12	.89
good luck	2.02	.16	3.09	.06	1.91	.16

EMPLOYEE - UNFAVORABLE VARIANCE (sample size = 41)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.17	.68	3.26	.05	1.96	.06
internal summary	.66	.42	3.78	.03	.18	.83
external summary	.05	.83	.52	.60	3.39	.04
low ability	1.28	.26	3.82	.03	.32	.73
low effort	.01	.91	.73	.49	1.36	.27
task difficulty	.54	.47	1.39	.26	2.60	.09
bad luck	.03	.85	.79	.46	1.84	.17

EMPLOYEE - FAVORABLE VARIANCE (sample size = 35)

	Information		Sets		Interaction	
	F	sig	F	sig	F	sig
summary locus	.01	.90	.08	.92	.11	.89
internal summary	.02	.90	4.76	.02	.27	.77
external summary	.00	.97	1.79	.18	.20	.82
high ability	.01	.94	2.37	.11	.92	.41
high effort	.09	.76	4.32	.02	1.05	.36
task ease	.31	.58	1.95	.16	.05	.96
good luck	.06	.81	.19	.83	.48	.62

information. However, despite the information affecting the evaluator's internal summary attribution and ability attribution, H2 results did not support a reduction in the conflict with regard to these two variables. Hence, a change in evaluator attributions does not necessarily guarantee a reduction in conflicts.

With regard to the effect of the anagram sets, from Table 16, one can see that over time, evaluator attributions changed in both the consistency and CC case. As noted before, evaluators given only consistency information were predicted not to alter their attributions over time. However, an examination of consistency evaluator attributions in Table 14 reveals that these evaluators placed more blame for the unfavorable variance on the employee for each subsequent anagram set. Internal attributions increased particularly from the first to the second difficult set; external attributions, while increasing from the first to the second difficult set, decreased from the second to the third.

Examining the CC-CCD (Table 17) comparison next, the unfavorable variance case indicates that the distinctiveness information affected both the evaluator's attribution to bad luck and the summary locus score. Examining Table 14 scores indicates that the distinctiveness evaluators, as a group, decreased attributions to bad luck. This resulted

in a more negative summary locus score compared to the CC group.

In the favorable variance case, the sole significant result was the evaluator's attribution to task ease. Scores in Table 15 indicate that upon introduction of distinctiveness information, evaluators increased task ease attributions.

In comparing the consistency and CCD cases (Table 18), only one main effect for the information was significant: the evaluator's task difficulty attribution for unfavorable variances. Table 14 scores indicate that evaluators' attribution to task difficulty increased from the consistency to the CCD case.

Also, for favorable variances, there was a significant interaction between the information and the anagram sets for both high ability and the internal summary score. Examination of these scores in Table 15 reveal that in the CCD case, evaluators gave an increased amount of credit to the employee for the favorable variance. In the consistency case, the evaluators decreased the internal attribution from the second to the third easy set.

With regard to employee attributions, there were no main information effects in any of the three analyses. The sole interaction effects occurred for task difficulty, which then affected the external summary and summary locus score in the unfavorable variance case. The interaction occurred

in both the consistency-CCD comparison (Table 18) and the CC-CCD comparison (Table 17). These scores suggest, however, that the effect is restricted to the first difficult set only. Hence, there is very little evidence that the CCD information had any differential effect on employee attributions. Due to the presence of several main effects for the anagram sets variable, however, there is evidence that employee attributions changed over time in all three information conditions. It is particularly interesting to note that the employees attributed more blame for unfavorable variances to their lack of ability as they worked on more anagram sets. By the last difficult anagram set employees in all three information cases rated lack of ability greater than 5, the midpoint. This contradicts an employee self-serving bias, since a rating of greater than five would indicate some acceptance of blame for the failure.

Finally, these findings as a whole suggest two important points. First, although evaluator attributions were not in accordance with predicted biases, particularly for unfavorable variances, CCD information did significantly affect their attributions. In the consistency information case, evaluators gave employees less credit for favorable variances and more blame for unfavorable variances over time. Consensus information led to a decrease in ability

attributions for unfavorable variances. Finally, distinctiveness information primarily affected external attributions. Distinctiveness evaluators increased their attributions to task difficulty for unfavorable variances and increased attributions to task ease for favorable variances. Since consensus, and not distinctiveness, was designed to provide the evaluator with task difficulty information, this is an unexpected result. In addition, attributions to luck were decreased in both favorable and unfavorable situations upon receipt of distinctiveness information.

The second point is that the changes in evaluator attributions noted in this section did not closely parallel reductions in conflicts. Reductions in conflicts occurred without an accompanying change in either employee or evaluator attributions. For example, the conflict with regard to the role of effort on favorable variances was reduced from the consistency to the CCD case, without a significant change to either the employee or evaluator attributions to this variable. Also, changes in evaluator attributions occurred for which no reduction in conflict was noted. This was particularly true in the CC information case.

A reduction in conflict implies that individual changes in attributions by either the evaluator, the employee, or both occured. However, if all individuals in the group

were not similarly affected by the information, a main effect of the information on that group's attributions would not occur.

Considering the nature of the favorable variance conflict, the lack of a parallel between changes in the employee-evaluator conflict and changes in evaluator attributions is not surprising. Recall that although there were significant conflicts in the consistency information case with regard to favorable variances, the direction of the conflict varied among the pairs. Hence, a change in attributions which affected all evaluators similarly as a group would not be expected to bring about a reduction in the conflict. Instead, differential changes in attributions must have occured by the evaluators, employees, or both. Additional analyses at the end of this chapter will examine this possibility in more detail.

5.3.2 Performance Appraisal Hypotheses

Table 19 lists the mean performance appraisals given for all employees receiving favorable variances on all three easy sets and the mean appraisals given to all employees receiving unfavorable variances on all three difficult sets. The variances of the mean appraisals are also included. In addition, the mean appraisals are presented graphically in Figure 7. As can be seen, in all information cases, appraisals were higher for favorable variances;

TABLE 19

PERFORMANCE APPRAISALS BY CELL BY ANAGRAM SET

Information

	consistency n = 20		CC n = 20		CCD n = 21	
	mean	var	mean	var	mean	var
D1	4.2	3.6	4.0	3.2	4.6	3.7
D2	3.2	3.3	5.3	4.2	4.8	4.0
D3	3.2	2.4	5.4	4.9	4.9	5.4

Information

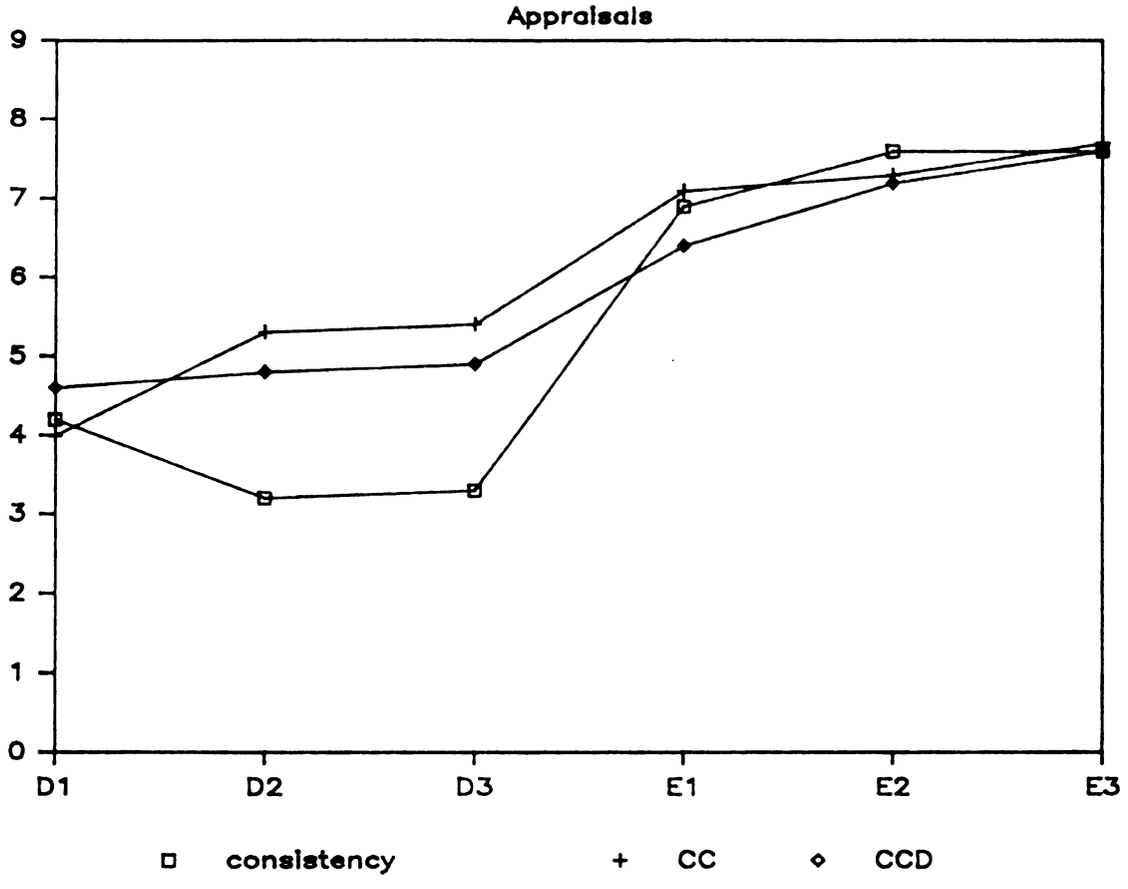
	consistency n = 16		CC n = 15		CCD n = 19	
	mean	var	mean	var	mean	var
E1	6.9	2.3	7.1	1.8	6.4	3.6
E2	7.6	1.3	7.3	2.8	7.2	2.6
E3	7.6	1.2	7.7	2.2	7.6	1.6

mean: mean performance appraisal rating
var: variance from the mean

D - difficult sets in order completed by subjects
n = number of employees attaining unfavorable variances on all three difficult sets

E - easy sets in order completed by subjects
n = number of employees attaining favorable variances on all three easy sets

Figure 7



however, as predicted, appraisals for unfavorable variances do appear to be higher upon introduction of consensus information.

5.3.2.1 Hypothesis 4 Results

H4 hypothesized that, in the consistency information case, evaluators would match favorable appraisals with favorable variances and unfavorable appraisals with unfavorable variances. Since the scale the evaluators rated the employees on ranged from 1 to 9, a favorable appraisal was defined as a rating over 5 and an unfavorable one less than 5. T-tests were performed testing if, in the unfavorable variance case, mean appraisals were less than 5 and, in the favorable variance case appraisals were greater than 5. Results confirmed that this did occur for all six anagram sets ($p < .05$, for the first difficult set and $p < .001$ for the other five sets). Thus, H4 is strongly supported.

5.3.2.2 Hypothesis 5 Results

It was hypothesized that with the addition of consensus information, appraisals for unfavorable variances would be higher than without this information. Table 9 and Figure 7 show that the mean appraisal for the CC cell was lower than the consistency cell for the first difficult set but higher

for the second and the third difficult sets. A 2 (information) by 3 (anagram set) repeated measures analysis of variance indicated that the difference between the two cells was significant ($F = 6.88$, $p = .012$). Individual t-tests indicate that the difference for the first difficult cell was not significant, however, the differences for the second and the third were significant ($p < .01$ for both sets). Thus, H5 is strongly supported for the second and third difficult anagram sets.

5.3.2.3 Hypothesis 6 Results

It was hypothesized that with the introduction of distinctiveness information, mean appraisals for unfavorable variances would significantly increase over the CC cell. In comparing the appraisals in the CC cell to the CCD cell in Table 12 and Figure 7, one can see that in only the first difficult set were the CCD appraisals higher. In the other two difficult sets they were lower. In order to compare the differences statistically, a repeated measures analysis of variance was run for the three appraisals comparing the two cells. The test revealed no significant difference between the two cells ($F = .44$, $p = .51$). Thus, H6 is not supported.

Recall, however, that H6 was based upon the underlying hypothesis of a decrease in evaluator outcome attributions to lack of effort and a corresponding increase to lack of

ability for unfavorable variances. Analyses of changes in evaluator attributions from CC to CCD (Table 17), however, did not reveal a significant change to either of these variables. Hence, it is not surprising that H6 was not supported.

5.3.3 Appraisal Attribution Hypotheses

H7 hypothesized the presence of conflicts regarding appraisal attributions which both consensus (H8) and distinctiveness (H9) were predicted to reduce. Table 20 lists disagreement scores for the appraisal attributions to ability, effort, and meeting the budget for all six anagram sets and all three information cases. In addition, the mean difference score is also presented in order to assess whether the direction of the conflicts were as predicted.

5.3.3.1 Hypothesis 7 Results

It was hypothesized that in the consistency case, the employee would perceive meeting the budget as more important in influencing the appraisal than the evaluator; whereas, the evaluator would perceive effort and ability as more important. Hence, conflicts about all three factors were predicted. T-tests were perfomed on the disagreement scores were significantly greater than zero, indicating lack of agreement. Results indicated that in all six

TABLE 20

APPRAISAL ATTRIBUTION CONFLICTS

ABILITY

	consistency n = 23		CC n = 23		CCD n = 24	
	dis	dif	dis	dif	dis	dif
E1	2.0	-.6	1.7	- .3	2.0	-.8
E2	1.4	-.6	2.1	-1.0	2.2	-.5
E3	1.9	.2	2.1	-1.4	1.5	-.4
D1	2.0	.5	2.4	- .4	2.0	-.2
D2	2.6	.3	1.8	.4	2.0	-.8
D3	2.3	-.9	1.8	- .5	2.0	-.2

EFFORT

	dis	dif	dis	dif	dis	dif
E1	2.0	- .4	1.7	- .8	2.2	- .2
E2	2.0	- .3	2.4	-1.6	1.5	- .1
E3	2.0	0	1.6	- .8	1.6	- .1
D1	2.3	- .2	1.6	1.0	2.1	- .1
D2	2.7	- .4	1.6	.4	2.3	- .5
D3	3.0	-1.1	2.0	-1.5	2.1	-1.2

MEETING THE BUDGET

	dis	dif	dis	dif	dis	dif
E1	1.3	.1	2.0	.6	2.2	-1.3
E2	2.3	-.4	1.5	0	1.6	.3
E3	1.8	.2	2.4	- .5	1.4	.4
D1	3.3	.3	2.9	.7	1.8	.2
D2	2.9	.1	2.9	.5	1.5	.3
D3	2.3	.2	3.0	- .7	1.5	.2

dif: difference score = employee attribution - evaluator attribution
dis: disagreement score = absolute value of difference score

anagram sets all three disagreement scores were significantly greater than zero ($p < .001$). Hence, conflicts did occur. In order to examine whether the direction of the conflict was as predicted, paired t-tests were performed testing whether, as a group the employees' attributions differed from the evaluators'. The only significant difference occured in the third difficult set for the effort variable ($p < .05$). The mean difference score on this variable was negative, indicating that the evaluator claimed effort was more important to the appraisal than the employee believed.

Hence, H7 is supported because conflict regarding appraisal attributions did occur. However, contrary to prediction, the direction of the conflict was not the same for all employee-evaluator pairs.

5.3.3.2 Hypotheses 8 and 9 Results

It was hypothesized that appraisal attribution conflicts would decrease upon introduction of consensus information (H8) and further decrease upon introduction of distinctiveness (H9). H8 and H9 were based upon the underlying hypothesis that the evaluator's appraisal attributions would not differ as the information set expanded, but that the employee would believe that internal factors, particularly effort were becoming more important to the appraisal.

H8 was tested via three separate 2 (information: consistency and CC) by 6 (anagram sets) repeated measures analyses of variance, in which the dependent variables were the disagreement scores on ability, effort, and meeting the budget, respectively. Similar analyses were performed testing H9 in which the CC versus the CCD case were compared. Finally, in order to determine the effect of both information pieces on the conflict, a final set of analyses were performed comparing the consistency and CCD cases. Results of these three analyses are presented in Table 21, and indicate that both appraisal conflicts to effort and meeting the budget were affected by the information. Neither consensus nor distinctiveness had any effect on the conflict regarding ability. Figure 8 graphically presents the effort disagreement scores for the three information cases; Figure 9 presents the disagreement scores with regard to meeting the budget.

These results show a significant reduction in conflict regarding effort upon introduction of consensus over consistency information. Also, there was a main effect of the anagram sets and an interaction effect for meeting the budget. In both the consistency and the CC groups, the disagreement was lower for the easy sets. However, the group with the lower disagreement varied among the sets, and there does not appear to be any distinguishable pattern.

TABLE 21

HYPOTHESES 8 AND 9 RESULTS

consistency versus CC (sample size = 46)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	.08	.77	.52	.75	1.50	.21
Effort	3.46	.09	1.44	.23	.92	.48
Meeting the budget	.77	.38	4.69	.01	2.31	.06

CC versus CCD (sample size = 47)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	.01	.99	.99	.43	.46	.80
Effort	.41	.53	.70	.62	2.52	.04
Meeting the budget	7.47	.05	2.71	.03	1.93	.11

consistency versus CCD (sample size = 47)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	.07	.79	.90	.49	.99	.43
Effort	1.01	.32	1.59	.19	.93	.47
Meeting the budget	4.04	.05	4.58	.01	4.43	.06

Figure 8

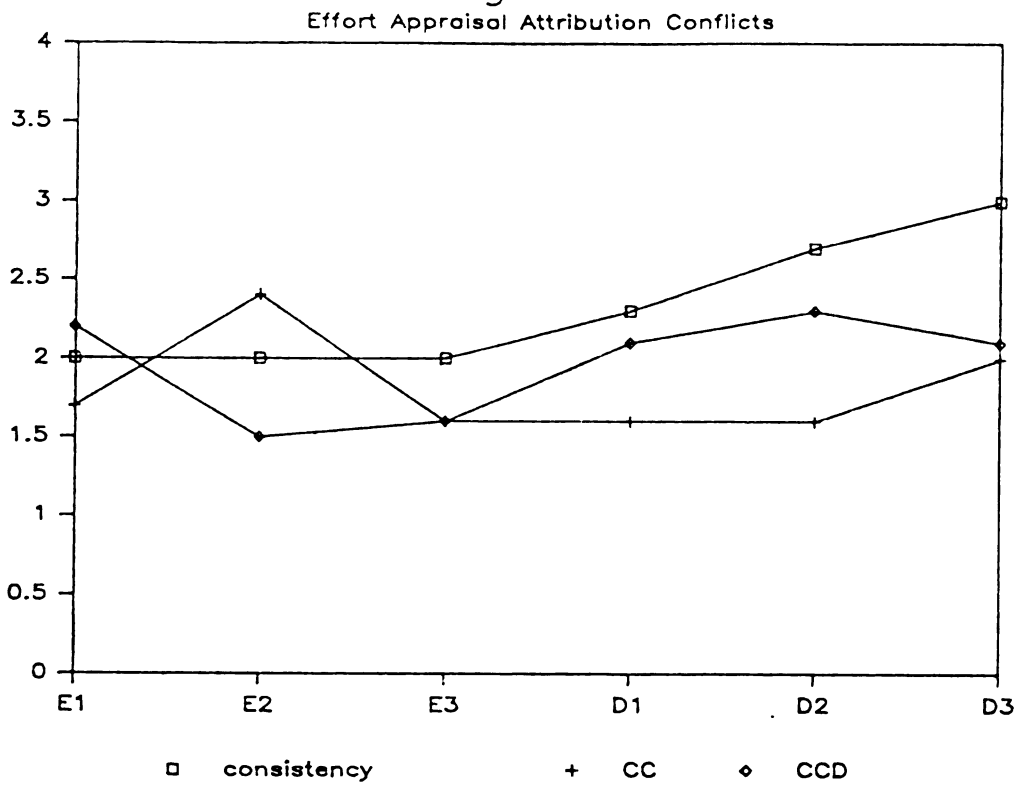
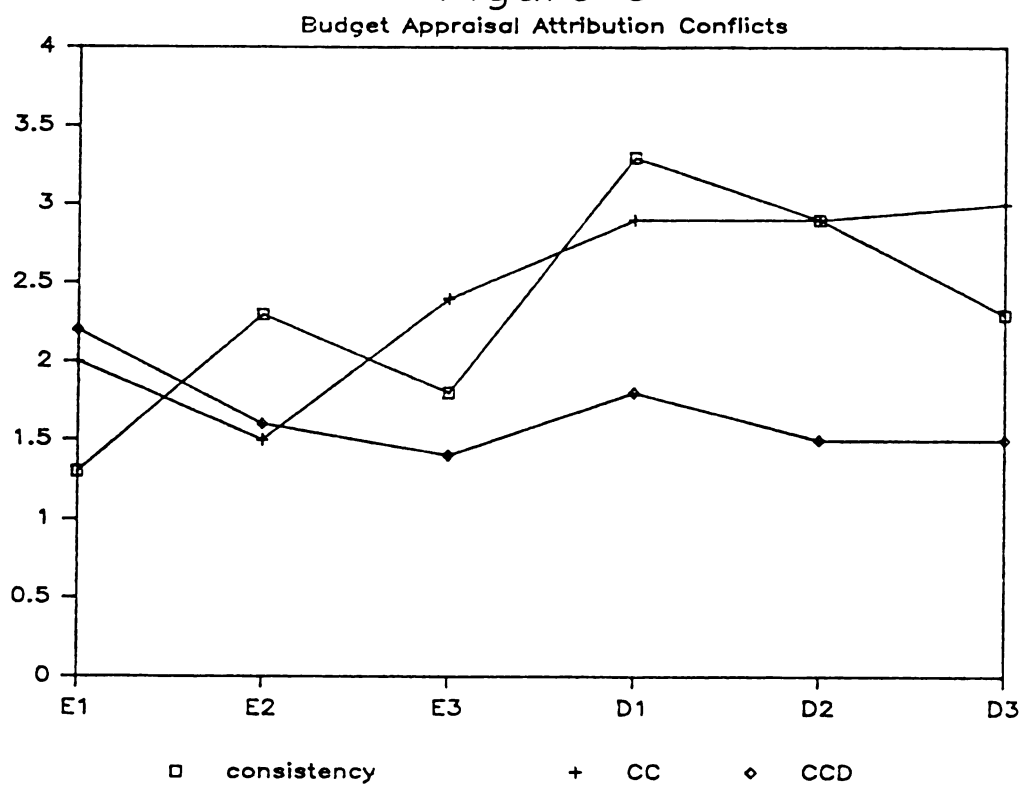


Figure 9



Upon introduction of distinctiveness over consensus information, the conflict regarding meeting the budget was reduced. In addition, the conflict was lower for the easy sets. There is an interaction between the information and the anagram sets on the effort variable, and, as in the consistency-CC comparison, there does not appear to be a distinguishable pattern.

Finally, in comparing the consistency with the CCD group, only the conflict regarding meeting the budget was significantly lower. The main effect over anagram sets also occurs along with an interaction. In this case the interaction can be interpreted by noting that the effect of the information on the disagreement was greater in the difficult anagram sets. Hence, there is some support for both H8 and H9.

5.3.3.3 Employee-Evaluator Appraisal Attributions

H8 and H9 were based upon the underlying hypothesis that evaluator appraisal attributions would not change upon the expansion of the information set, but employee attributions would significantly change. Specifically, employee attributions to internal factors, particularly effort were hypothesized to increase, and attributions to meeting the budget were hypothesized to decrease. Table 22 lists employee and evaluator appraisal attributions separately for each anagram set.

TABLE 22

EMPLOYEE AND EVALUATOR APPRAISAL ATTRIBUTIONS

ABILITY

	consistency n = 23		CC n = 23		CCD n = 24	
	employee	evaluator	employee	evaluator	employee	evaluator
E1	5.9	6.5	5.3	5.6	5.8	6.6
E2	6.0	6.6	5.3	6.3	6.3	6.8
E3	6.2	6.0	5.6	7.0	6.6	7.0
D1	5.7	5.2	5.3	4.9	5.5	5.7
D2	5.8	5.5	5.3	5.7	5.5	6.7
D3	5.2	6.1	5.0	5.5	5.9	7.1

EFFORT

	consistency n = 23		CC n = 23		CCD n = 24	
	employee	evaluator	employee	evaluator	employee	evaluator
E1	5.6	6.0	4.9	5.7	6.0	6.2
E2	5.8	6.1	5.3	6.9	6.8	6.9
E3	6.1	6.1	6.0	6.8	6.5	6.6
D1	5.1	5.3	5.2	4.2	5.8	5.9
D2	4.9	5.3	5.4	5.8	5.7	6.2
D3	4.2	5.3	4.8	6.3	5.4	6.6

MEETING THE BUDGET

	consistency n = 23		CC n = 23		CCD n = 24	
	employee	evaluator	employee	evaluator	employee	evaluator
E1	7.4	7.3	7.4	6.8	6.1	7.4
E2	6.6	7.0	6.8	6.8	7.1	6.8
E3	7.4	7.2	6.7	7.2	7.5	7.1
D1	6.4	6.1	6.7	6.0	6.7	6.5
D2	6.6	6.5	6.6	6.1	7.0	6.7
D3	7.0	6.8	5.7	6.4	7.0	6.8

E - easy sets in order completed by subjects
D - difficult sets in order completed by subject
n = number of subjects in each cell

In order to test the underlying hypotheses, differences in employee appraisal attributions and differences in evaluator appraisal attributions were tested, via separate repeated measures manovas. Three separate information comparisons were made: consistency versus CC, CC versus CCD, and consistency versus CCD. Results of these MANOVAS are presented in Tables 23 (employee) and 24 (evaluator).

As can be seen the introduction of consensus information had no effect upon employee appraisal attributions. Introduction of distinctiveness changed the employee's appraisal attribution to effort. This difference also occurred upon comparison of the consistency and the CCD case. The employee's appraisal attributions to effort are diagramed in Figure 10, and indicate, as hypothesized, employees believed effort was becoming more important to their appraisal as the information set expanded.

Main effects of the anagram sets to all three variables occurred which indicate that attributions differed across anagram sets in both the consistency and CC case. Examination of the scores in Table 22 reveal that employees' attributions to these factors differed across anagram sets. For the most part the factors were given more weight on the easy sets. Analyses of the performance appraisals indicated that appraisals were higher for favorable variances in all three information cases. Given the employees' bias toward taking credit for successes, they would be inclined

TABLE 23

MANOVA RESULTS ON EMPLOYEE APPRAISAL ATTRIBUTIONS

consistency versus CC (sample size = 46)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	1.76	.19	1.87	.12	.37	.87
Effort	.02	.89	6.32	.01	1.54	.20
Meeting the budget	1.10	.30	2.38	.06	1.73	.15

CC versus CCD (sample size = 47)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	2.33	.13	2.72	.03	1.44	.23
Effort	2.99	.09	4.20	.01	1.95	.11
Meeting the budget	.38	.54	1.43	.23	3.70	.01

consistency versus CCD (sample size = 47)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	.06	.81	3.90	.01	1.14	.36
Effort	2.69	.10	10.95	.00	.83	.53
Meeting the budget	.15	.70	3.31	.01	1.58	.19

TABLE 24

MANOVA RESULTS ON EVALUATOR APPRAISAL ATTRIBUTIONS

consistency versus CC (sample size = 46)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	.02	.89	4.69	.01	1.95	.11
Effort	.38	.54	6.85	.01	1.91	.12
Meeting the budget	.75	.39	3.38	.01	.19	.96

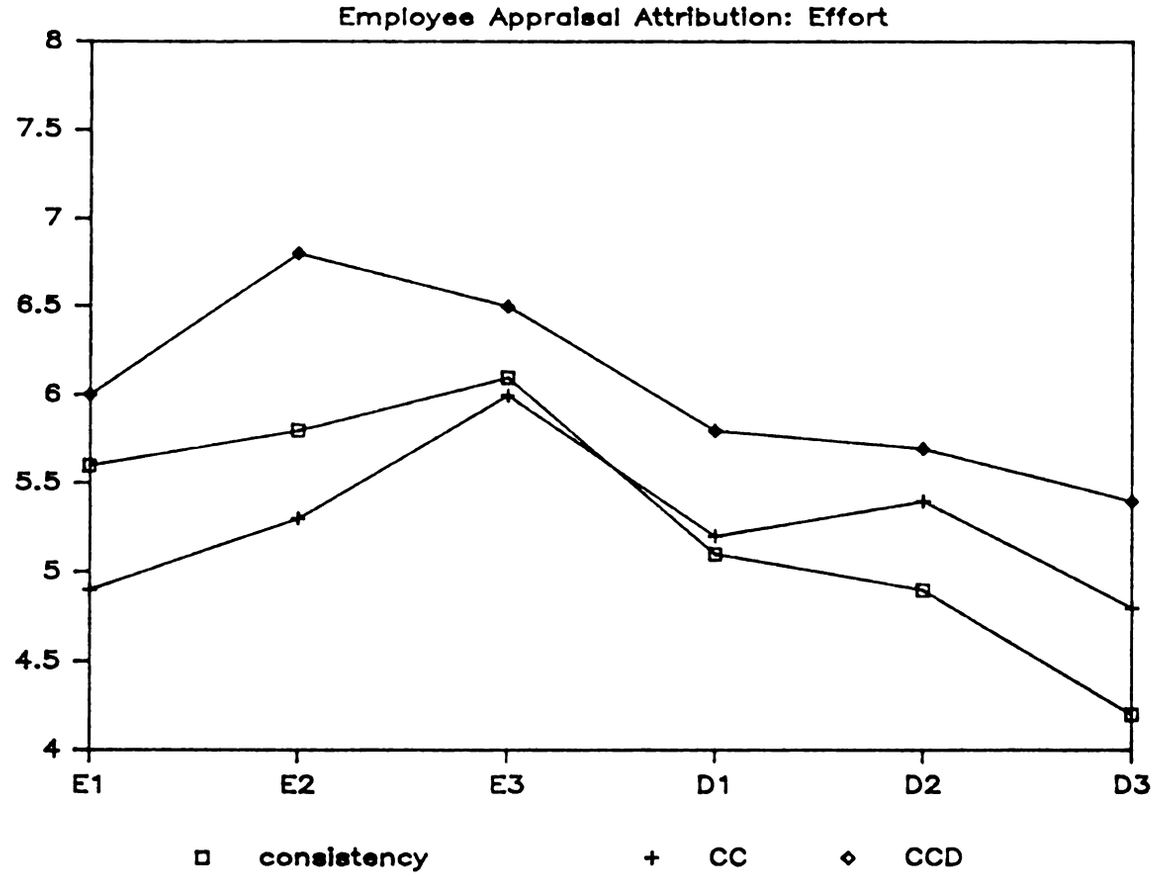
CC versus CCD (sample size = 47)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	3.09	.09	6.94	.01	.89	.50
Effort	1.79	.19	5.91	.01	1.58	.19
Meeting the budget	.99	.32	3.13	.02	.45	.81

consistency versus CCD (sample size = 47)

	Information		Sets		Interaction	
	F	sig	S	sig	F	sig
Ability	3.38	.07	4.71	.01	.89	.49
Effort	2.78	.10	3.18	.02	.73	.60
Meeting the budget	.02	.88	3.13	.02	.39	.86

Figure 10


Employee Appraisal Attribution: Effort
8
7.5
7
6.5
6
5.5
5
4.5
4
E1
E2
E3
D1
D2
D3
consistency
CC
CCD

to see a strong relationship between their internal inputs (ability and effort) and the performance appraisal. In denying blame for failure and receiving a lower appraisal relative to that received for favorable variances, they would see a lower relationship between internal inputs and the appraisal.

Contrary to prediction, the increase in information also appeared to effect the evaluator's appraisal attributions. Ability was significant in both the CC and CCD comparison and the consistency and CCD comparison; effort was significant in the consistency and CCD comparison. The evaluator's appraisal attributions to both effort and ability are diagramed in Figures 11 and 12. They indicate that upon expansion of the information set, evaluators claimed to place more emphasis on both ability and effort in formation of their appraisal.

In addition there were main effects with regard to the anagram sets on all three variables and in all three comparisons. As in the employee case, all variables seemed to be emphasized more on the easy sets.

Employee results were as predicted. The employees as a group believed effort was more important to their appraisal as the information increased. However, both consensus and distinctiveness was necessary for the increase. This is consistent with the outcome attribution results in which

Figure 11

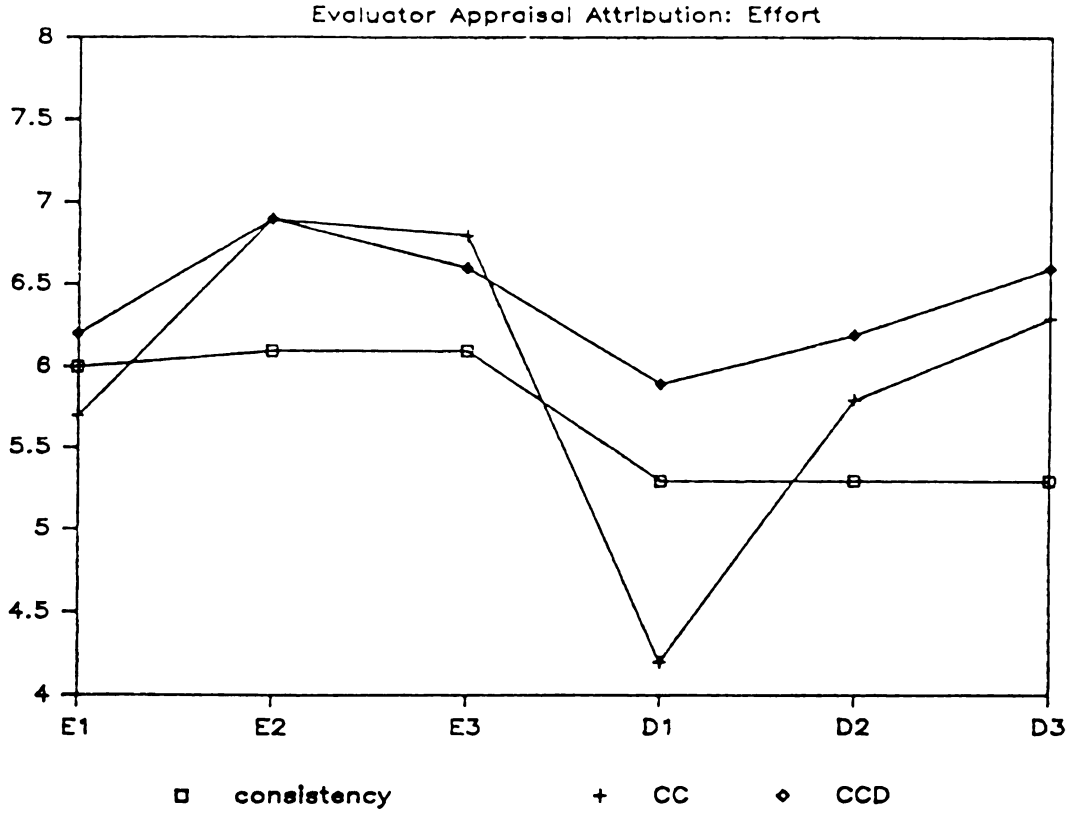
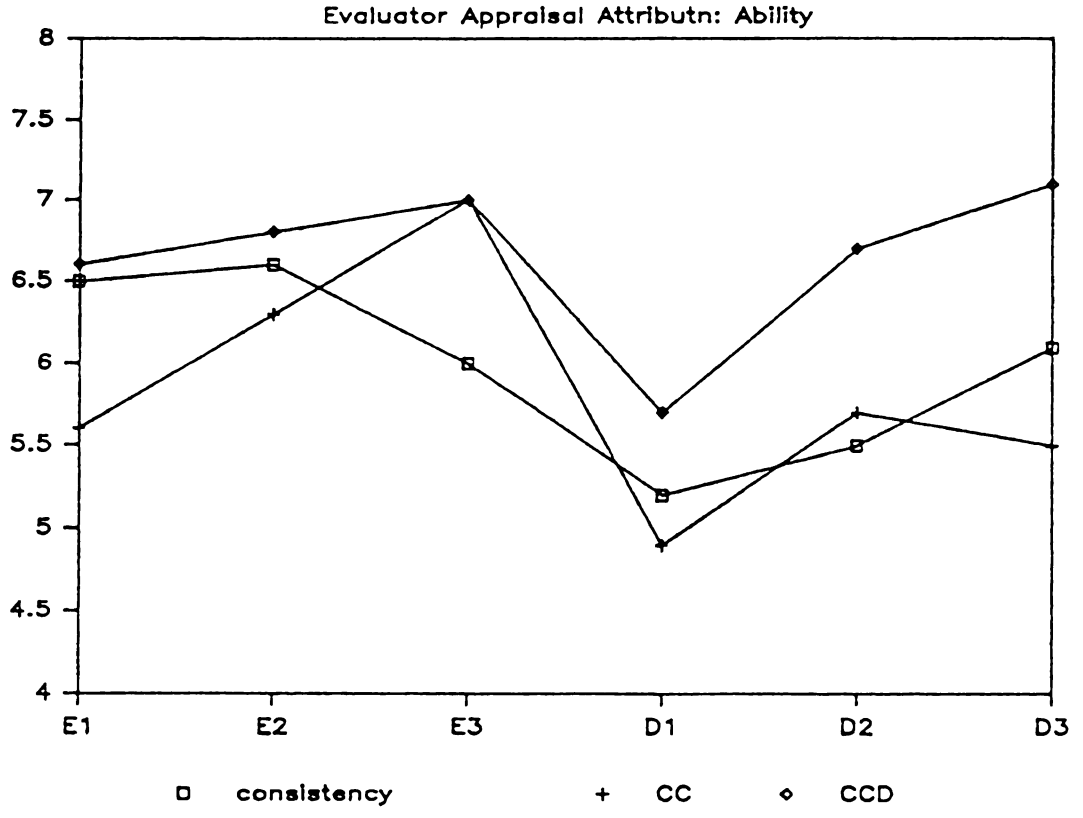


Figure 12



both consensus and distinctiveness were necessary to reduce the attributional conflicts.

Evaluator results were not predicted, however, and indicate that something about the increase in information led the evaluators to weigh internal factors more in their appraisal formation. One possible explanation for this finding relates to how confident the evaluators were about causal attributions. Evaluators may be reluctant to base their appraisals upon employee effort and ability, when they are not confident as to the actual effect these factors played in causing the variance. As the information set expands and confidence in the role of these factors increases, the evaluator may weigh these factors more highly in the formation of the appraisal.

Table 25 lists evaluator confidences in outcome attributions for each information condition and for each work set in the order of completion. Figure 13 graphically presents these confidences. As the graph clearly shows, evaluators were more confident in their outcome attributions as the information set expanded. In order to ascertain whether the increase was significant, the information cases were compared via three separated 2 (information) by six (anagram sets) repeated measures analyses of variance. Although neither the increase from the consistency to the CC case, nor the increase from the

TABLE 25

EVALUATOR CONFIDENCES IN OUTCOME ATTRIBUTIONS

BY DIFFICULTY OF ANAGRMAM SET

	Information					
	consistency n = 23		CC n = 23		CCD n = 24	
	mean	var	mean	var	mean	var
D1	5.4	3.6	6.3	3.8	5.7	4.3
D2 (WP4)	6.2	3.8	6.9	1.8	6.9	.9
D3 (WP5)	6.1	3.5	6.6	2.0	7.1	.9
E1	5.1	4.4	6.2	2.3	6.4	3.2
E2 (WP3)	6.4	3.1	6.7	1.8	6.9	.9
E3 (WP6)	6.6	2.5	7.2	1.1	7.3	.9

IN ORDER OF COMPLETION

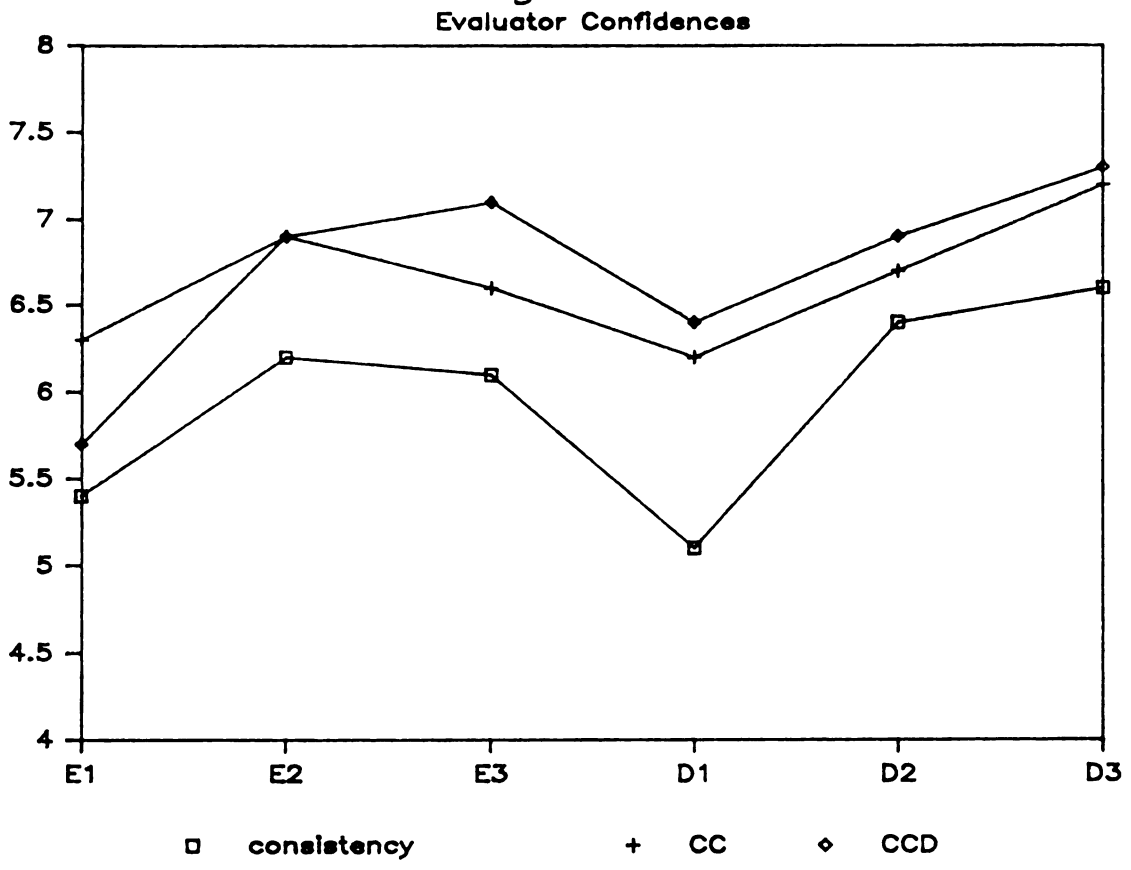
	Information					
	consistency n = 23		CC n = 23		CCD n = 24	
	mean	var	mean	var	mean	var
WP1	4.6	3.6	5.9	3.2	5.4	5.3
WP2	5.9	3.4	6.6	2.4	6.6	1.7
WP3 (E2)	6.4	3.1	6.7	1.8	6.9	.9
WP4 (D2)	6.2	3.8	6.9	1.8	6.9	.9
WP5 (D3)	6.1	3.5	6.6	2.0	7.1	.9
WP6 (E3)	6.6	2.5	7.2	1.1	7.3	.9

mean: mean evaluator confidence in outcome attribution
var: variance of the mean confidence
n = number of subjects in each cell

D - difficult anagram sets in order completed by subjects
E - easy anagram sets in order completed by subjects

WP - work periods in order completed by subjects

Figure 13


Evaluator Confidences
8
7.5
7
6.5
6
5.5
5
4.5
4
E1
E2
E3
D1
D2
D3
consistency
CC
CCD

CC to the CCD case were significant (F = .74, p = .39, F = .62, p = .44, respectively), the increase from the consistency to the CCD case was significant (F = 3.27, p = .078). Also, although no interaction was significant, main effect of the anagram sets was significant in all three comparisons (p = .001) indicating that increased information over time also increased evaluator confidence. This change in confidence may have influenced the evaluator's appraisal attributions over anagram sets.

Results indicate that as the information set expanded, evaluators had more confidence in their beliefs regarding the importance of the employee's internal inputs. Hence, they may have been willing to put more weight upon these factors in formation of their appraisal. Hopwood (1972) suggested that the choice of appraisal style would be influenced by evaluator personality traits. This study's results on evaluator appraisal attributions suggest the appraisal style may also be influenced by information available to the evaluator in making more confident outcome attributions.

To summarize, some support for both H8 and H9 was found. Results also indicated that the information affected both employee and evaluator appraisal attributions separately. Although the results were expected for the employees, they were not expected for the evaluators. Of particular importance is the finding that effort was

considered to be a more important variable in the appraisal by employees from the consistency to the CCD case. Expectancy theory would predict that this would then result in higher effort from the CCD employees.

5.3.4 Effort Hypotheses

H10 hypothesized that employees who perceived their evaluators as PC would exhibit higher effort than employees who perceived their evaluators as BC. Furthermore, it was hypothesized that consistency evaluators would be perceived to be BC by their employees. However, as the information set expanded, the number of evaluators classified as PC would increase. Hence, introduction of consistency information was hypothesized not to result in increased effort over the BC case (H11). Both consensus (H12) and distinctiveness (H13) were hypothesized to motivate greater employee effort.

5.3.4.1 Hypothesis 10 Results

It was hypothesized that employee effort would be higher under what the employees perceived to be a PC style of appraisal as opposed to a BC style. Since employees in the control group were reminded after each work period that their appraisal was based solely upon meeting the budget, they were classified as being evaluated by a BC evaluator. Classification of employees in the other three cells was

based upon their responses on the appraisal attribution questionnaire, in particular their response to the importance of effort to their appraisal. The style was judged to be PC if the employee rated effort as important to the appraisal they received (a rating of greater than or equal to six on the nine-point scale) and BC if the employee rated effort as not important to the appraisal received (rating of five or less). They were reclassified after each anagram set.

Table 26 lists the number of employees in each category for each work period and for the first difficult and the first easy anagram set (since half of the employees had the first difficult set in the first work period and half had the first easy set in the first work period). The table clearly shows that in comparison of the consistency and CCD information cases, more CCD employees classified their evaluators as PC. This is not an unexpected result, given the findings from the appraisal attribution analysis, which indicated that employee's appraisal attributions to effort increased from the consistency to the CCD case.

Two separate analyses were run to test for differences in effort between the appraisal styles. In both analyses, the dependent variable was employee outcome, in terms of anagrams solved, controlling for phase I performance. In the first analysis, the independent variable was the employee's perceived appraisal style in the prior work

TABLE 26

APPRAISAL STYLE

EASY SETS

	E1			E2 (WP3)			E3 (WP6)		
	csy*	CC	CCD	csy	CC	CCD	csy	CC	CCD
PC	10	9	14	12	11	21	16	12	19
BC	13	14	10	11	12	3	7	11	5

DIFFICULT SETS

	D1			D2 (WP4)			D3 (WP5)		
	csy	CC	CCD	csy	CC	CCD	csy	CC	CCD
PC	12	10	14	11	14	15	8	8	16
BC	10	13	10	12	9	9	15	15	8

WORK PERIODS 1 AND 2

	WP1			WP2		
	csy	CC	CCD	csy	CC	CCD
PC	9	11	13	13	8	15
BC	14	12	11	9	15	9

D - difficult sets in order completed by subjects
E - easy sets in order completed by subjects
WP - work periods in order completed by subjects

numbers in each cell represent the number of employees who (based upon appraisal attributions) classified their evaluator under the appraisal style for that particular anagram set. Classification based upon rating of importance of effort to the appraisal (PC - rating of 6 or greater; BC - rating of 5 or less)

*csy: consistency group - due to the failure of one employee in this cell to fill out the appraisal attribution questionnaire in the second work period (D1 for that employee), the total consistency employees in these two cases is 22, rather than 23, the number of employees in that information case

period. This analysis assumed that the effort decision would be influenced by the perceived style in the prior work period, irrespective of task difficulty. In the second analysis, the independent variable was the employee's perception of the appraisal style in the prior work set of the same difficulty level. The underlying assumption was that employees classified the evaluator's style separately under favorable and unfavorable environments, the style in each environment affecting the employee's response the next time that type of enviornment was encountered. Findings from the first analysis are presented in Table 27. Table 28 presents the result from the second analysis. With regard to the first analysis, results indicate that the employee's classification of the appraisal style in the third work period (the second easy set) influenced their effort in the fourth work period (the second difficult set). The fourth work period's classification also influenced effort in the fifth work period (the third difficult set). In addition, the second analysis (Table 28) indicates that the classification in the first difficult set impacted effort on the second difficult set. In all three cases, output in the PC classification exceeded that of the BC classification. Combining the findings from the two analyses leads to the conclusion that effort on difficult sets is influenced by the classification of the evaluator's appraisal style both on the

TABLE 27

HYPOTHESIS 10 RESULTS - ANALYSIS ONE

DEPENDENT VARIABLE: outcome WP2
INDEPENDENT VARIABLE: Appraisal style WP1

Style	Number	Outcome	Phase I combined score
PC	36	10.86	24.36
BC	57	10.09	21.72

- Main effect of appraisal style: F = .26, p = .61

DEPENDENT VARIABLE: outcome WP3 (E2)
INDEPENDENT VARIABLE: Appraisal style WP2

Style	Number	Outcome	Phase I easy score
PC	33	17.61	17.24
BC	61	17.18	15.87

- Main effectof appraisal style: F = .51, p = .47

DEPENDENT VARIABLE: outcome WP4 (D2)
INDEPENDENT VARIABLE: Appraisal style WP3 (E2)

Style	Number	Outcome	Phase I difficult score
PC	44	4.86	6.77
BC	50	3.70	6.12

- Main effect of appraisal style: F = 3.0, p = .08

DEPENDENT VARIABLE: outcome WP5 (D3)
INDEPENDENT VARIABLE: Appraisal style WP4 (D2)

Style	Number	Outcome	Phase I difficult score
PC	40	5.85	6.80
BC	54	4.11	6.13

- Main effect of appraisal style: F = 9.09, p = .003

DEPENDENT VARIABLE: outcome WP6 (E3)
INDEPENDENT VARIABLE: Appraisal style WP5 (D3)

Style	Number	Outcome	Phase I combined score
PC	32	20.13	17.66
BC	62	18.29	15.67

- Main effect of appraisal style: F = .81, p = .37

TABLE 28

HYPOTHESIS 10 RESULTS - ANALYSIS TWO

DEPENDENT VARIABLE	INDEPENDENT VARIABLE
outcome E2 (WP3)	Appraisal style E1

Style	Number	Outcome	Phase I easy score
PC	36	17.92	17.33
BC	58	16.95	15.70

- Main effect of appraisal style: F = .03, p = .86)

DEPENDENT VARIABLE	INDEPENDENT VARIABLE
outcome E3 (WP6)	Appraisal style E2 (WP3)

Style	Number	Outcome	Phase I easy score
PC	44	19.93	17.20
BC	50	18.02	15.60

- Main effect of appraisal style: F = 2.28, p = .14)

DEPENDENT VARIABLE	INDEPENDENT VARIABLE
outcome D2 (WP4)	Appraisal style D1

Style	Number	Outcome	Phase I difficult score
PC	33	5.48	7.12
BC	60	3.66	6.15

- Main effect of appraisal style: F = 7.33, p = .01

DEPENDENT VARIABLE	INDEPENDENT VARIABLE
outcome D3 (WP5)	Appraisal style D2 (WP4)

Style	Number	Outcome	Phase I combined score
PC	40	5.85	6.80
BC	54	4.11	6.13

- Main effect of appraisal style: F = 9.09, p = .003

immediately preceding work period and the prior work set of the same difficult level. These results strongly support the hypothesis that employees who feel their effort is not rewarded (BC) will exert less effort in unfavorable environments than those who feel their effort is rewarded (PC). Hence, H10 is strongly supported for unfavorable environments.

5.3.4.2 Hypotheses 11 through 13 Results

It was hypothesized that employee effort would not differ from the pure BC to the consistency information case (H11) but increase from the consistency to the CC case (H12) and again from the CC to the CCD case (H13).

Table 29 lists the mean number of anagrams correctly solved by information case by anagram set. First a 4 (information case) by 2 (difficulty of anagram set) by 3 (anagram sets) repeated measures analysis of variance was run across all four cells (the anagram set variable nested within the difficulty variable). The four information cases were treated as a between subjects variable, the two levels of difficulty and the three sets as within subjects repeated measures. In order to reduce variance within the cells, phase I performance was used as a covariate.

Although, the main effect of the information was not significant (F = .54, = .70), the interaction of the information with the difficulty variable was significant

TABLE 29

OUTCOME BY INFORMATION CASE

		Information			
		control n = 24	consistency n = 23	CC n = 23	CCD n = 24
E1	mean	14.4	15.2	14.0	15.8
	s.d.	5.0	5.4	6.1	5.7
E2	mean	17.1	17.5	15.7	18.7
	s.d.	3.9	4.4	5.3	4.5
E3	mean	18.9	19.5	18.1	19.0
	s.d.	4.1	4.3	4.6	4.5
D1	mean	4.4	5.7	4.8	4.8
	s.d.	1.8	3.1	4.0	2.1
D2	mean	3.5	4.4	4.8	4.3
	s.d.	2.6	2.8	3.5	3.0
D3	mean	3.9	4.8	5.0	5.6
	s.d.	2.3	2.4	3.2	3.4

E - easy anagram sets in order completed by subjects

D - difficult anagram sets in order completed by subjects

mean outcome - mean number of anagrams solved for the indicated anagram set
s.d. - standard deviation of mean output

($F = 2.62$, $p = .056$). In order to investigate this, separate analyses were run for the difficult and easy anagrams, with sets again being a repeated measure. Results from these analyses, indicate differences in the difficult sets only ($F = 2.10$, $p = .10$), thus, the four information cases were compared pairwise. Table 30 gives the results from this pairwise analysis.

Hypothesis 11 is not confirmed, since the results show a significant difference in output between the control group and consistency case ($F = 6.3$, $p = .016$). Recall, however, that this hypothesis was based upon the prediction that employees in this information case would view their evaluators as BC evaluators. Classification of the appraisal style in Table 26, however, indicates that approximately half of the consistency employees perceived their evaluators to be PC. Hence, this may partially explain why H11 was not supported.

There were no main effects between either the consistency and the CC cases nor between the CC and the CCD cases as hypothesized. However, there was a significant interaction effect between the information case and set when the consistency and CCD cases are compared ($p = .073$). Figure 14 graphs the output on the three difficult sets for each of the four cases. Looking at the individual outputs, one can see that output in the consistency information case and the control group decreased from the first to the second

TABLE 30

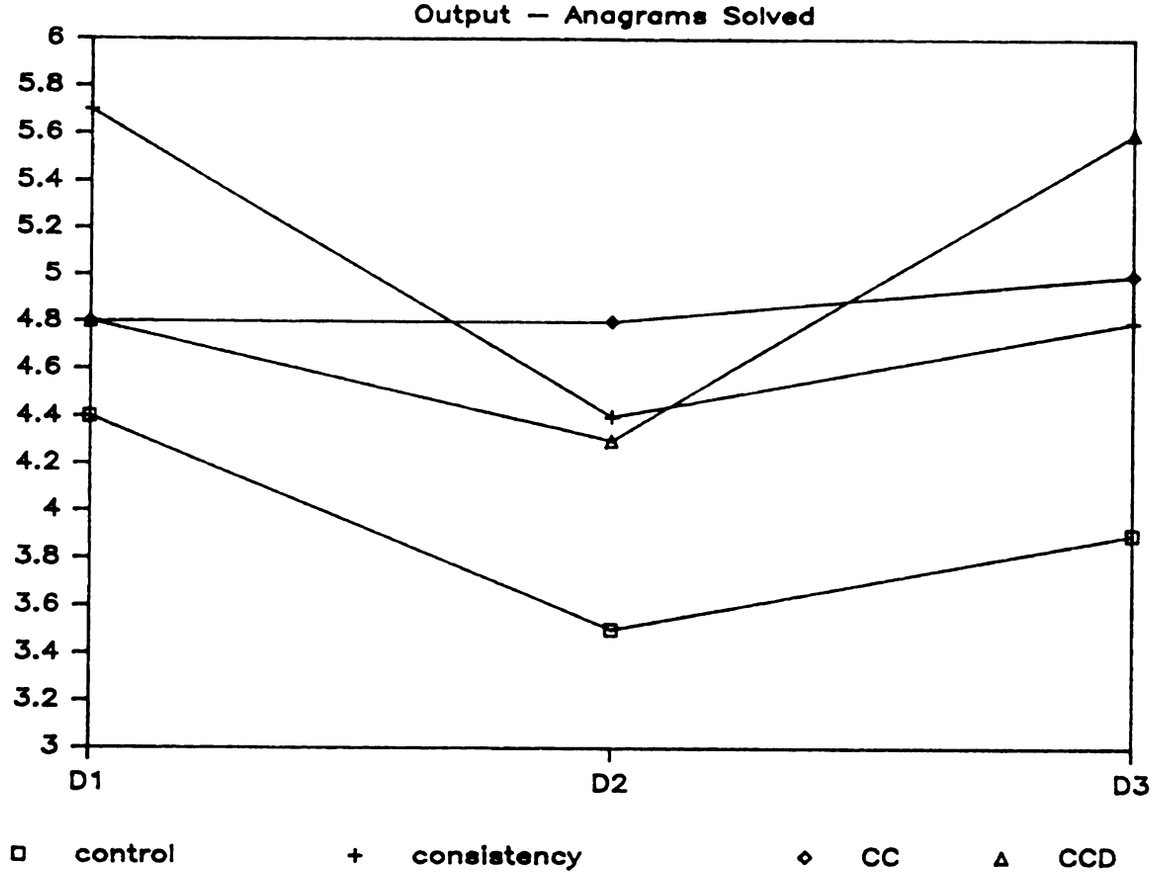
HYPOTHESES 11, 12, AND 13 RESULTS

information comparison	control and consistency		control and CC	
	F	p	F	p
information set	6.3	.016	3.03	.089
	4.16	.022	1.09	.345
interaction	.12	.883	.94	.399

information comparison	control and CCD		consistency and CC	
	F	p	F	p
information set	2.22	.143	.13	.725
	6.95	.002	1.36	.268
interaction	2.55	.089	1.42	.252

information comparison	consistency and CCD		CC and CCD	
	F	p	F	p
information set	1.77	.190	.52	.473
	5.49	.007	3.62	.035
interaction	2.77	.073	2.21	.122

Figure 14


Output — Anagrams Solved
6
5.8
5.6
5.4
5.2
5
4.8
4.6
4.4
4.2
4
3.8
3.6
3.4
3.2
3
D1
D2
D3
control
consistency
CC
CCD

difficult set, while slightly increasing from the second to the third. Paired t-tests indicate that the decrease was significant (2-tailed p = .06 in the control cell and .04 in the consistency cell). In addition, consistency output in the third difficult set was still significantly below output in the first difficult set (2-tailed p = .1). Although output in the CCD case decreased from the first to second set (the change was not significant), results indicate that output in this case significantly increased from the second to the third difficult work set (2-tailed p = .001). Consensus output remained relatively constant across all three sets.

Hence, there is strong support against H11. With regard to H12 and H13, results are less clear. The analyses resulted in no main effects. However, the analyses across work periods provided support for differential reactions to the appraisals across work sets. Results in this section indicate that the employees in the consistency information case demonstrated decreased effort as a response to their appraisals, but there was no change in the consensus case, and increased effort in the distinctiveness case. As discussed in the literature review, Mayes (1976) indicated that initial employee-evaluator interactions are learning processes in which each participant learns what behaviors will or will not be rewarded. These results are consistent with the employees in the consistency information case

learning that meeting the budget is rewarded more than effort, and responding via a decrease in effort when they believed the budget could not be met. The fact that the CC and the CCD employee did not show a decrease in effort would indicate that they believed their effort was being rewarded. This is furthur supported by the significant increase in the CCD case. Importantly, the interaction across time in comparison of the consistency and CCD case indicates a differential reaction to appraisal styles. Therefore, although there is no evidence indicating significant differences in effort from consistency to CC (H12), nor from CC to CCD (H13), there is evidence of a significant difference from the consistency to CCD case. This finding parallels both the reduction in outcome attribution conflicts from the consistency to CCD case and the increase in employee appraisal attributions to effort from the consistency to CCD case.

5.4 ADDITIONAL ANALYSES

The combination of evaluator and employee biases led to the prediction of conflicts given employee failures and no conflicts given employee successes. Outcome attribution hypotheses were explicitly based upon the assumption that subjects would view favorable variances as successes and unfavorable variances as failures (ie. classification would

be based upon the success or failure in relation to achieving the goal of meeting the budget).

With only consistency information, there would be little argument against such an assumption. However, with the introduction of consensus information, there is the potential that the evaluator may classify the employee's performance as a success or failure based upon the employee's relative performance. If this is the case no conflicts would be expected between high relative performing employees and their evaluators for either favorable or unfavorable variances. Conflicts would however be expected when a low performing employee is involved under both types of variances.

Thus, the information may have a differential effect on attributions and attributional conflicts when a low versus a high relative performer is involved. This differential reaction may then offer a potential explanation as to how the conflict reduction, found in the outcome attribution hypotheses results, occured without any accompanying change in the attributions of the evaluators as a group. Analyses performed in this section thus specifically investigated whether the effect of the information interacted with the employee's relative performance.

Initially, for each anagram set, employees were classified as high versus low relative performers according to their performance relative to the other employee subjects

in their experimental session. The employee was classified as a high relative performer if the number of anagrams solved on the particular anagram set in question was greater than or equal to the median performance of their group on that particular set.

Since classification varied by anagram set, the results were analyzed separately for each set. 3 (information) by 2 (relative performance) analyses of variance were performed for all three difficult sets and the last two easy sets[e]. Evaluator attributions, employee attributions, the disagreement score, and the difference score were all investigated for both the outcome attributions and the appraisal attributions.

In the initial analysis, the dependent variable was the disagreement score, which was the primary measure of conflict. In order to determine if the conflict or the impact of the information on the conflict depended upon relative performance, both main effects of the relative performance variable and the interaction of relative performance with the information were examined. With minimal exceptions, results were not significant. Thus, there was no evidence of a differential amount of conflict

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[e]In order not to confound the effect of low versus high relative performance with the effect of favorable versus unfavorable variances, only those meeting the budget (not meeting the budget) on the easy (difficult) sets were included in the analysis. Since the majority of the low performers did not meet the budget on the first easy set, it was not possible to run the analysis for this set.

between the two groups. More importantly, however, the lack of interaction effects indicates that the information did not have a differential effect in reducing the conflict.

Recall, however, that analyses indicated that direction of the conflicts varied within groups for both outcome and appraisal attributions (since the disagreement score exceeded the magnitude of the difference score). Hence, although the conflict may not have been differentially effected, the direction of the conflict may have been.

This possibility was examined in a 3 (information) by 2 (relative performance) analyses in which the difference score variable served as the dependent variable. Results remained insignificant for the appraisal attribution conflicts. However, outcome attribution results indicated significant differential effects of the information. Results are presented in Table 31. Examination of both the main effect of the relative performance and the interaction between relative performance and the information provides support that the direction of the conflict and the differential effect of the information on the conflict did depend upon the relative performance. Examining the unfavorable variance case first, significant interactions occured on both the second and third difficult set for the internal summary score. This provides strong support for a differential information effect on the conflict regarding the

TABLE 31

RELATIVE PERFORMANCE RESULTS: DIFFERENCE SCORES

locus summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	.94	.39	1.30	.28	1.82	.17
performance	1.90	.17	.54	.46	1.20	.28
interaction	.85	.43	2.50	.09	1.62	.21

internal summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	.42	.66	2.04	.13	1.27	.29
performance	.86	.36	1.12	.29	1.62	.21
interaction	.83	.44	6.09	.004	2.91	.06

external summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	.61	.54	.83	.44	.92	.41
performance	8.08	.01	.01	.94	.01	.92
interaction	4.69	.01	.15	.86	.20	.81

locus summary score

	E2		E3	
	F	sig	F	sig
information	1.34	.27	.81	.45
performance	12.06	.00	2.75	.10
interaction	1.62	.21	2.93	.06

internal summary score

	E2		E3	
	F	sig	F	sig
information	.27	.76	1.29	.28
performance	3.18	.08	.26	.61
interaction	1.54	.22	4.06	.02

external summary score

	E2		E3	
	F	sig	F	sig
information	2.75	.07	.81	.45
performance	9.87	.003	3.87	.05
interaction	.32	.73	.85	.43

D - difficult sets in order completed by subjects
E - easy sets in order completed by subjects

importance of internal factors on unfavorable variances. Results for external factors were not significant; hence there is no evidence of a differential conflict with regard to external factors.

Figures 15 and 16 show the internal difference scores for these two sets by information case and by relative performance. A negative difference score indicates that the employee, relative to the evaluator, took less blame for the unfavorable variance. In the consistency information case, although the difference score is negative for both groups of performers, the conflict is greater in the high relative performance group. Upon receipt of consensus information, the sign of the difference score became positive for the high relative performers, while remaining negative for the low relative performers. This indicates that high relative performers actually took more blame for the unfavorable variance than the evaluator assigned them.

With regard to favorable variances, Table 31 shows both main effects of the relative performance variable and interaction effects. In this case, both internal and external factors appear to be affected. Figures 17 and 18, present graphs for the internal summary score. A positive score indicates that the employee, compared to the evaluator, took more credit for the favorable variance. In the CC and CCD case, in both sets the high relative performers took less credit for the favorable variance

Figure 15

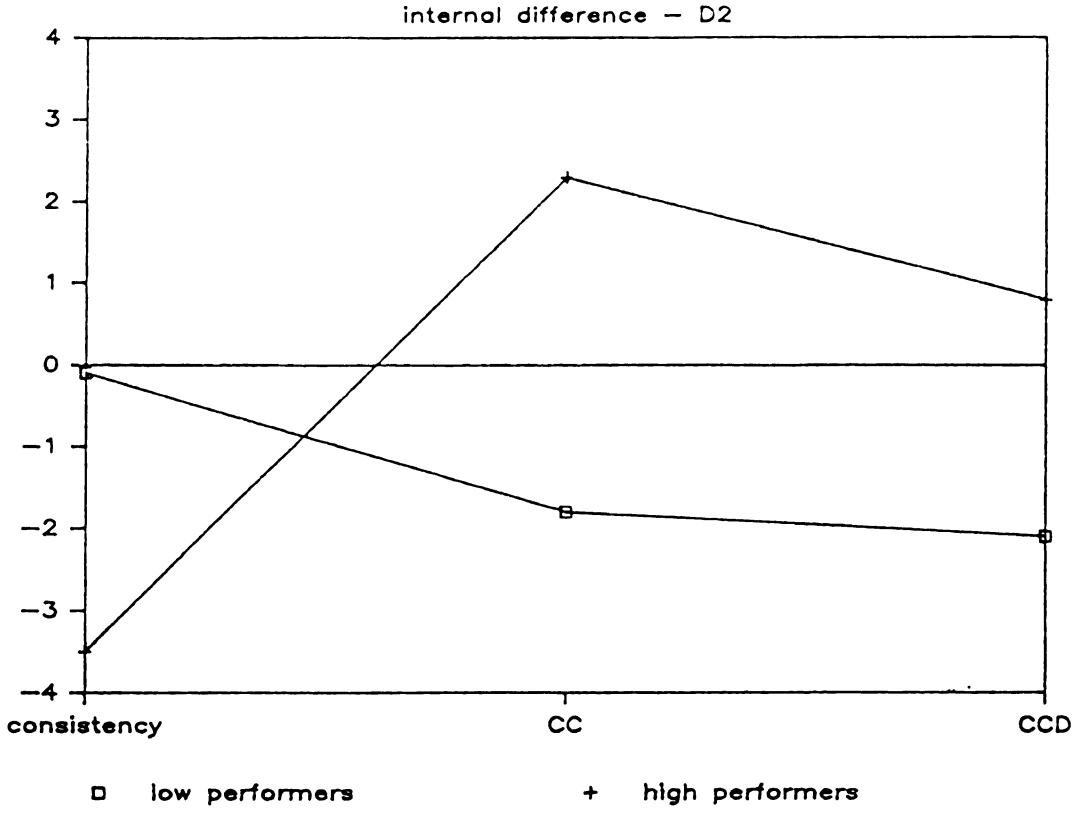


Figure 16

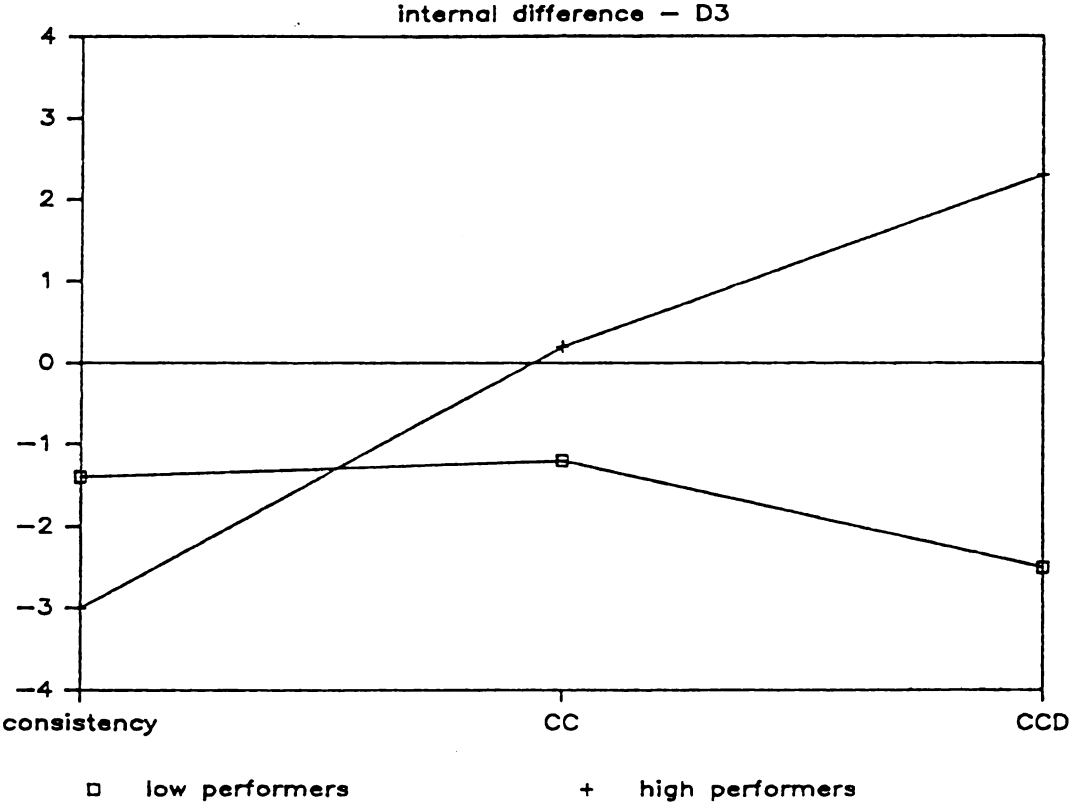


Figure 17

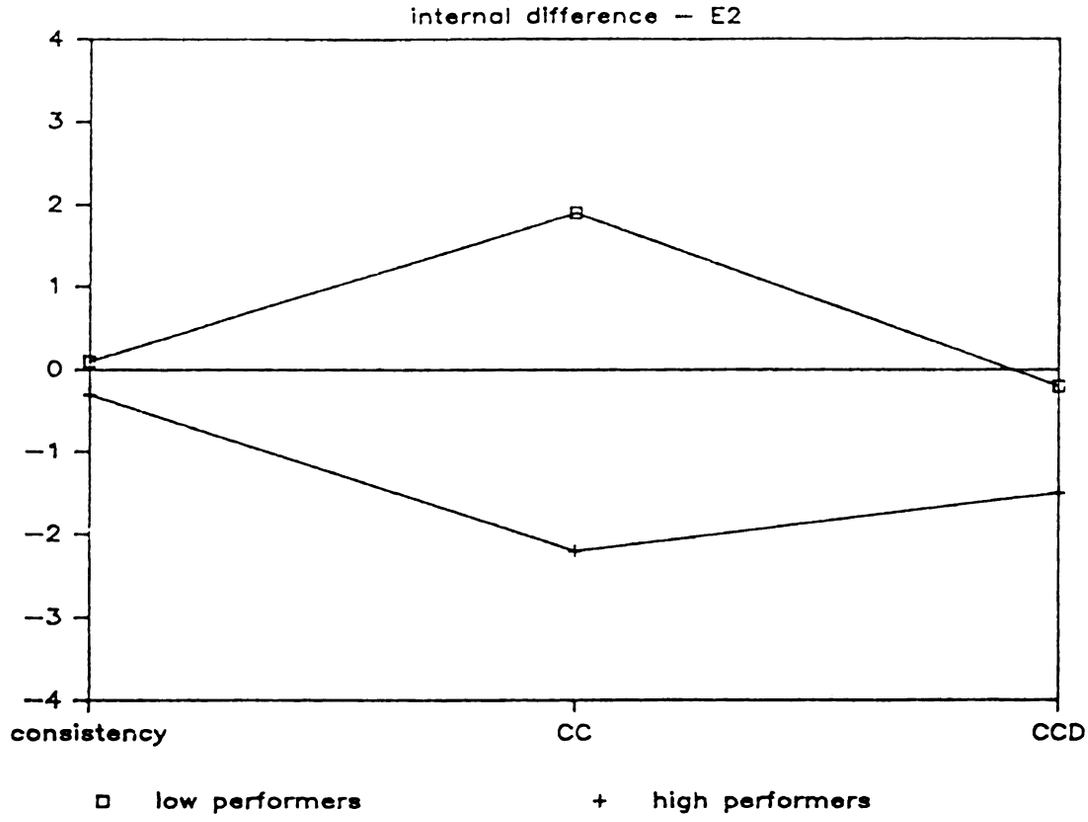
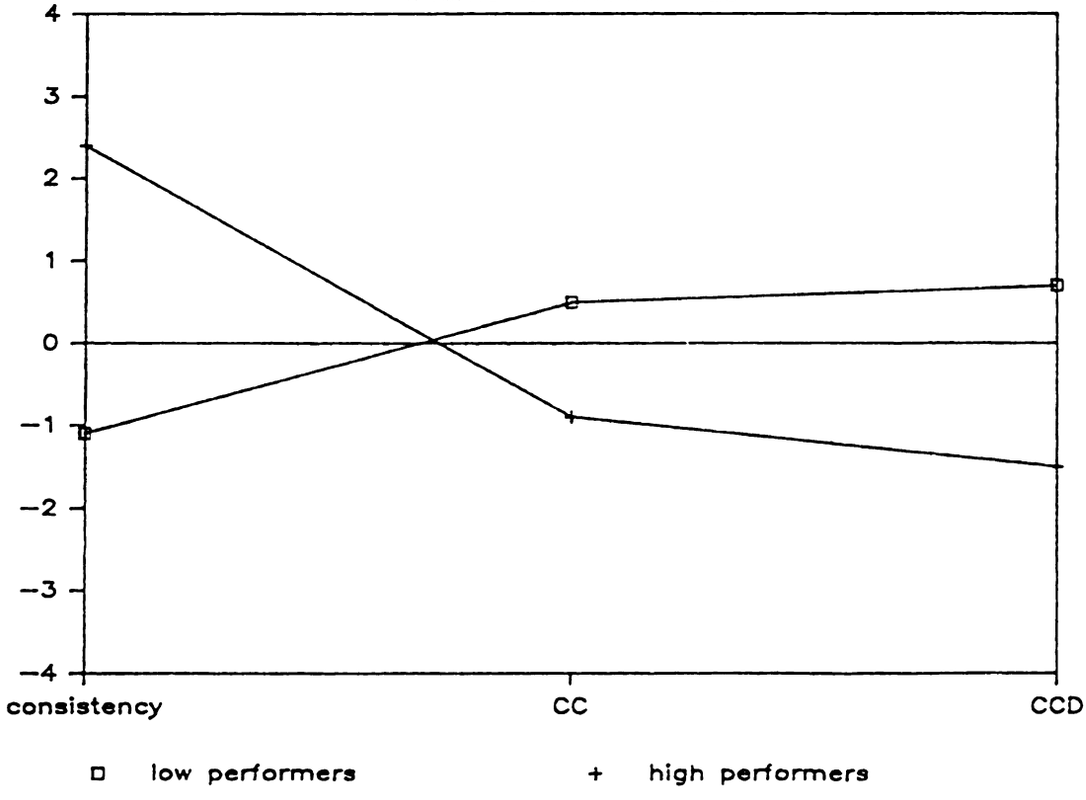


Figure 18



compared to their evaluator. In the CC case the low relative performers took more credit for the favorable variance compared to their evaluators. However, there is evidence in the CCD case (in the second easy set) of a decrease in the conflict among low relative performers and their evaluators. in this set, the evaluators actually gave the low relative performers slightly more credit than they gave themselves credit for.

In the consistency case, results on the second easy set are insignificant. However, on the third easy set, results indicate that the high relative performers took more credit for the favorable variance, compared to their evaluators. Whereas, the low relative performers took less credit compared to their evaluators. Since the direction of the conflict is the reverse of the CC case, this explains the interaction between the information and the relative performance on this set.

Figures 19 and 20 present the graphs for the external summary score. A positive score indicates that the employee, relative to the evaluator, gave more credit to external factors. These results indicate that in general, high relative performers gave more credit than their evaluators to external factors; whereas, the reverse occured for the low relative performers.

To summarize, the above results indicate that with consistency information only, evaluators as a group rated

Figure 19

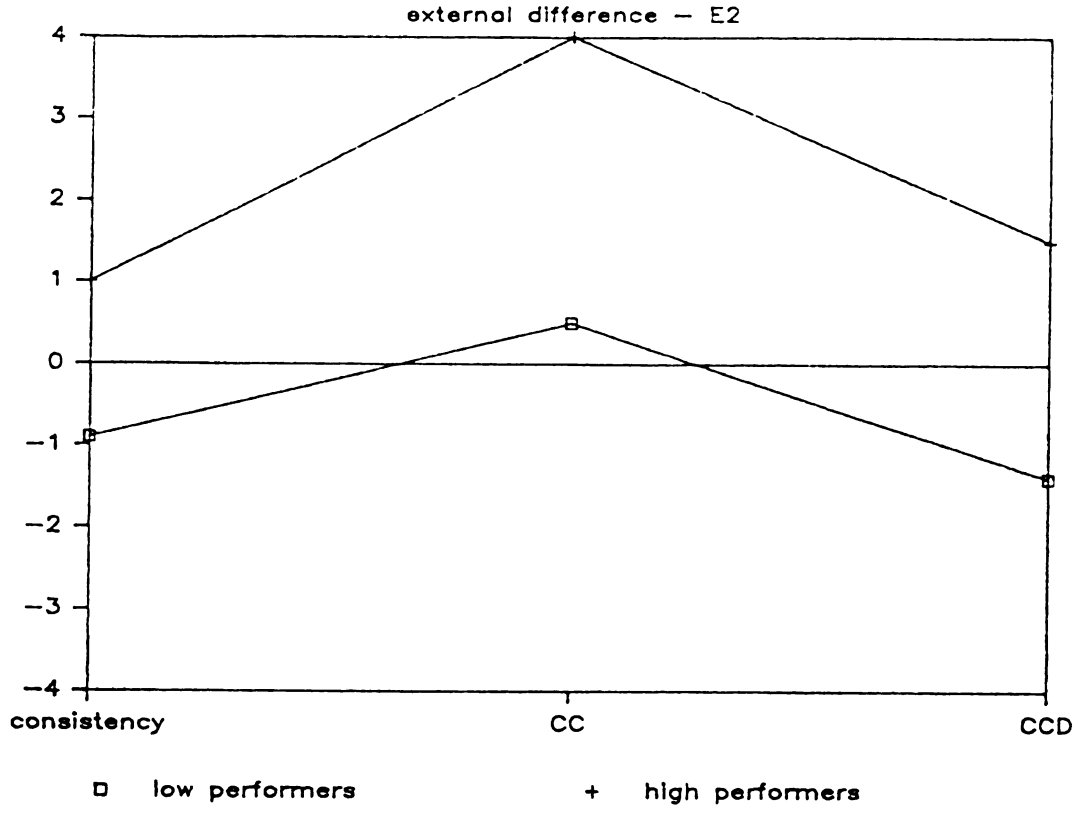
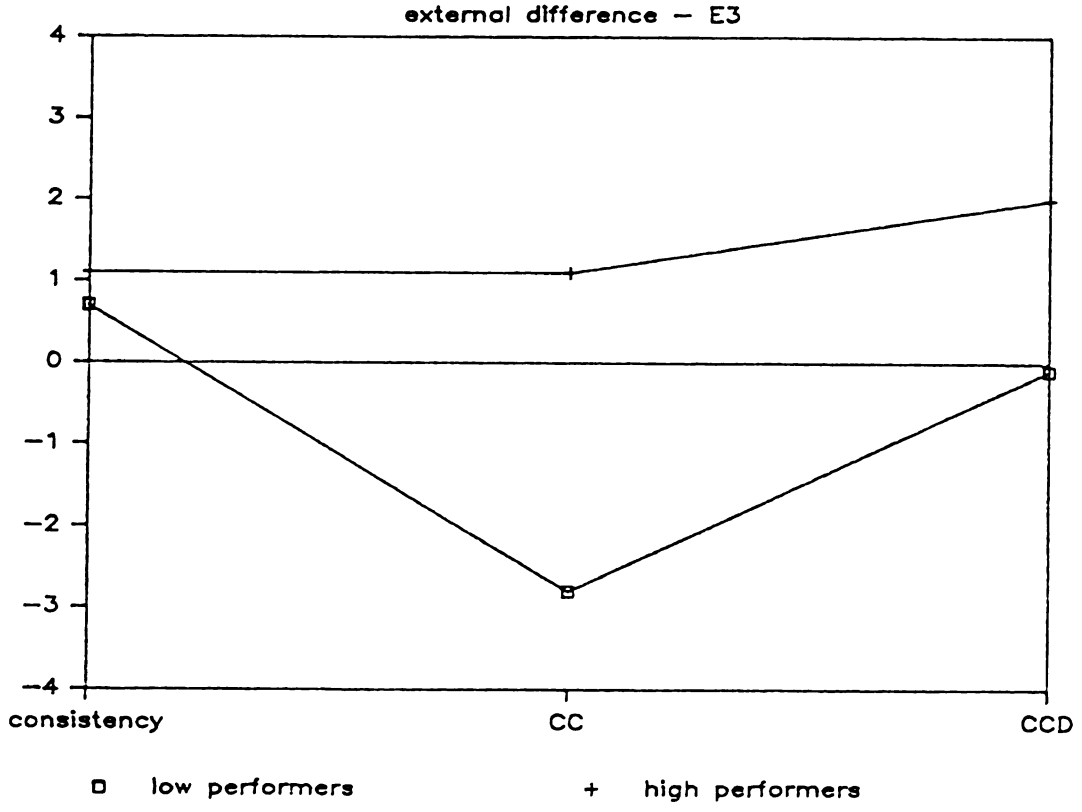


Figure 20



internal factors as a more important cause of unfavorable variances than their employees. However, the conflict between the high relative performers and their evaluators was greater than the conflict between the low relative performers and their evaluators. Also, in the favorable variance case, evidence of differential conflict occured in the final easy set. High relative performers took more credit for the favorable variance than their evaluators assigned to them. Low relative performers took less credit.

Upon introduction of consensus information, high performing employees took less credit for favorable variances than their evaluators assigned them. Low performing employees took more credit for favorable variances than their evaluator assigned them. In the unfavorable variance case, high relative performers, compared to their evaluators, took more blame for the unfavorable variances. Whereas, low relative performers took less blame for the unfavorable variances than their evaluators attributed to them. There was some indication of a decrease in conflict upon introduction of distinctiveness information in the favorable variance - low relative performance case.

Since relative performance information, by definition, was available to the CC and CCD information evaluators, but not the consistency information evaluators, similar analyses were performed on evaluator attributions, in order

to determine whether the information had a differential effect upon evaluator attributions. Results are presented in Table 32, and with the exception of the first difficult set, significant interactions occur on all internal summary scores. Thus there is strong support that the information did not effect all evaluators similarly. The individual internal summary scores for each group have been diagramed in Figures 21 through 24.

For the two difficult sets (Figures 21 and 22) the internal summary scores indicate to what extent the evaluator blamed the employee for the unfavorable variance. Evaluators blamed the employee less upon introduction of consensus information, but only for the high performers. Also, there was indication, in the second set, that with distinctiveness information the evaluator may have increased blame to high relative performers (an analysis of both effort and ability indicated that attributions to both lack of ability and lack of effort increased). Finally, not suprisingly, in the consistency information case, there was relatively no difference between internal attributions made to the high relative performers and those made to the low relative performers. Hence, both high and low relative performers were blamed similarly for the unfavorable variance.

For the two easy sets (Figures 23 and 24) the internal summary score indicates to what extent the evaluator

TABLE 32

RELATIVE PERFORMANCE RESULTS: EVALUATOR

locus summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	.64	.53	2.06	.13	4.43	.01
performance	2.02	.16	8.86	.00	16.16	.00
interaction	.33	.72	1.16	.32	2.81	.07

internal summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	.45	.64	1.49	.23	1.46	.24
performance	5.34	.03	8.94	.00	17.99	.00
interaction	.25	.78	2.61	.08	4.40	.02

external summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	.76	.47	.87	.42	3.18	.05
performance	.06	.81	.54	.47	.84	.36
interaction	1.03	.36	.72	.49	.08	.93

locus summary score

	E2		E3	
	F	sig	F	sig
information	.86	.42	3.73	.03
performance	16.08	.00	12.62	.00
interaction	5.71	.005	2.46	.09

internal summary score

	E2		E3	
	F	sig	F	sig
information	1.25	.29	3.30	.04
performance	19.26	.00	18.82	.00
interaction	6.12	.004	2.52	.09

external summary score

	E2		E3	
	F	sig	F	sig
information	1.89	.16	1.81	.17
performance	.89	.35	1.14	.29
interaction	.70	.50	.59	.55

D - difficult sets in order completed by subjects
E - easy sets in order completed by subjects

Figure 21

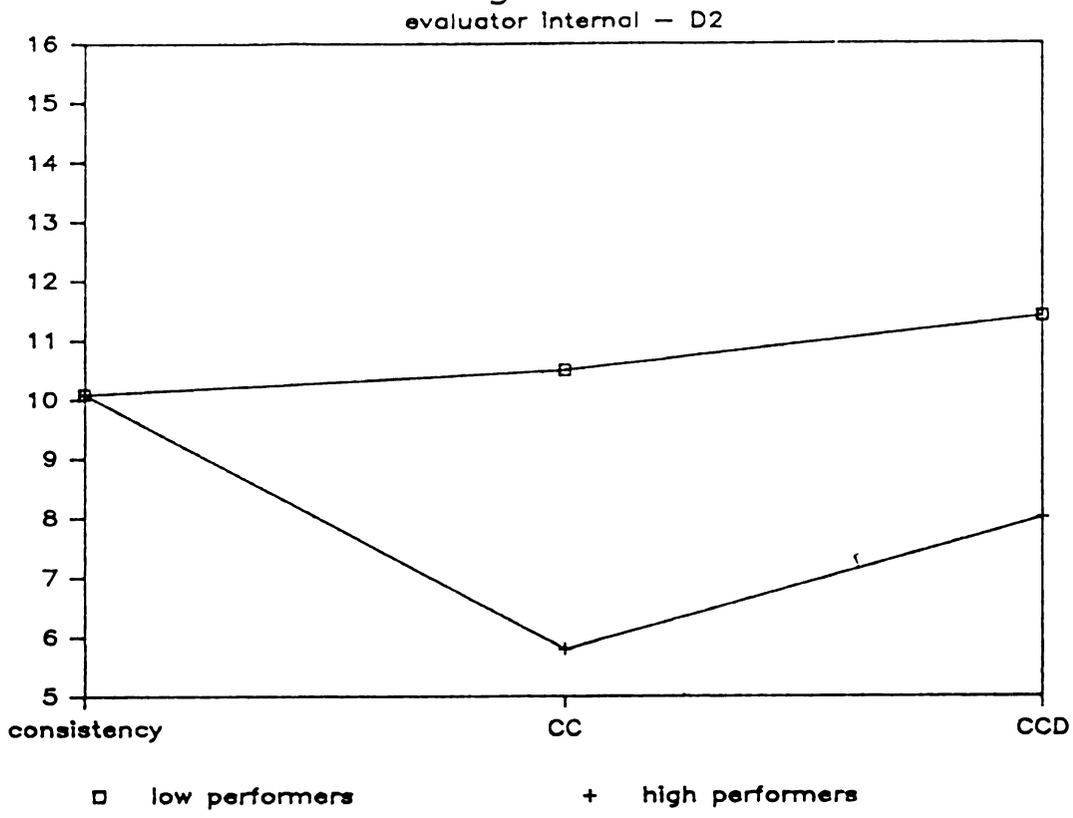


Figure 22

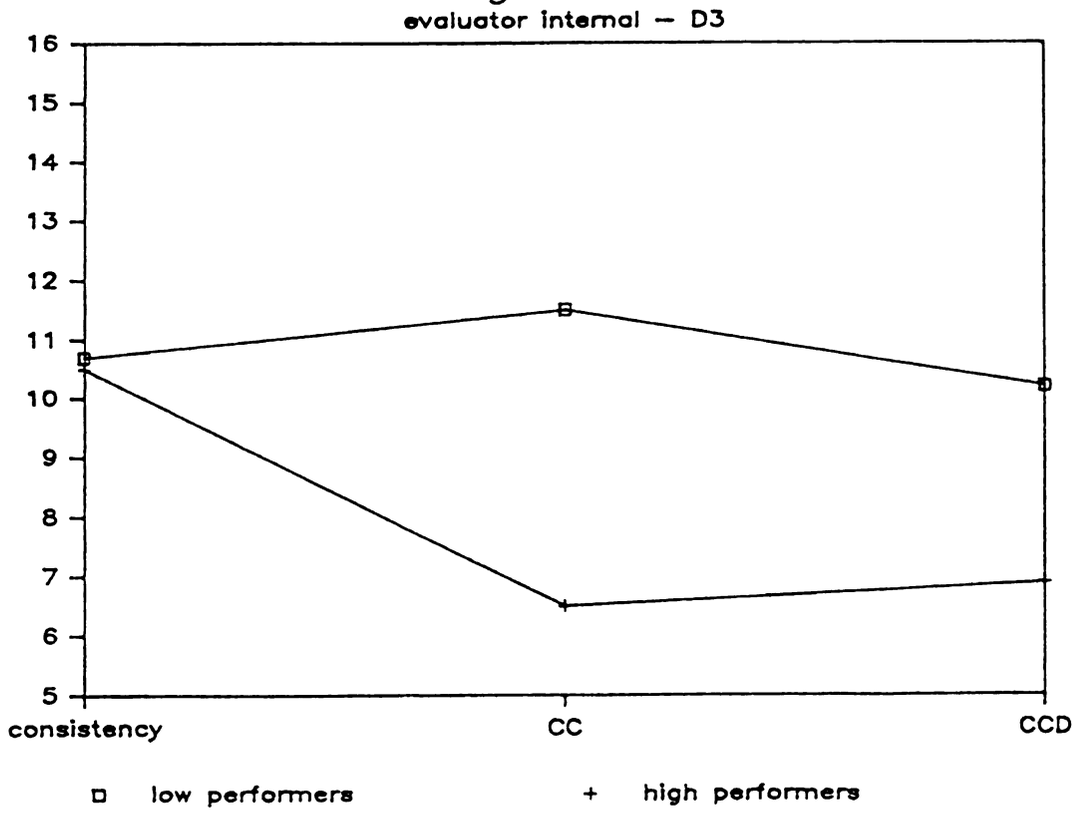


Figure 23

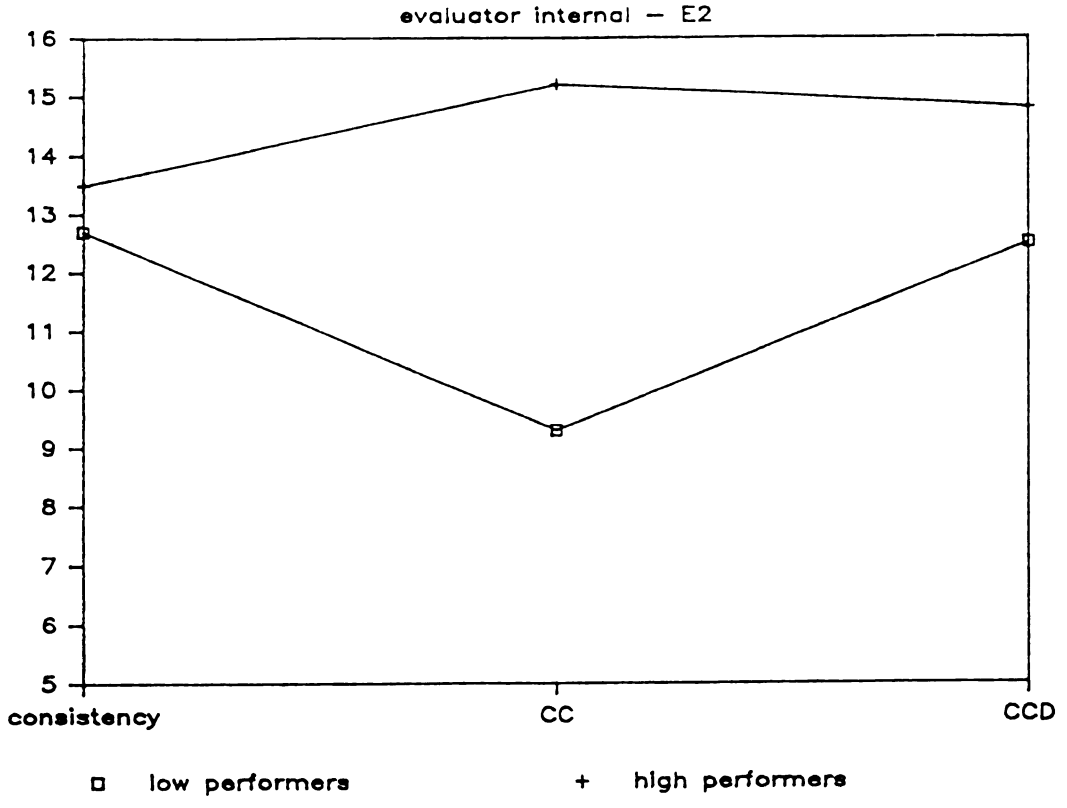
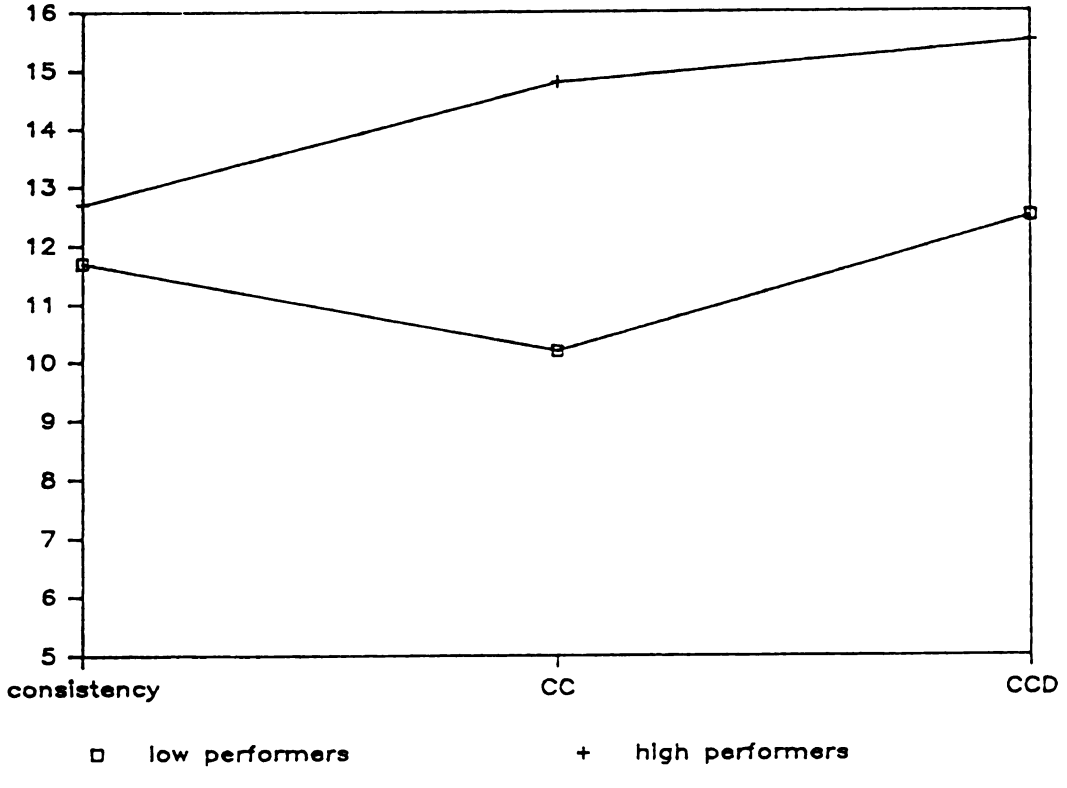


Figure 24



credited the employee for the favorable variance. These results indicate that the evaluator gave more credit to the high relative performing employee upon introduction of consensus information and less to the low relative performer. Also, upon receiving distinctiveness information, Figures 23 and 24 indicate that the evaluator gave the low relative performer more credit than without this information (analysis indicated that ability and effort attributions were both increased). As in the unfavorable variance case, the differential of credit given the low versus the high relative performers in the consistency case was small in comparison to the other information cases.

Finally, with regard to employee attributions, Table 33 presents the results of these analyses. Recall that employees in all three information cases were given relative performance information. Hence, it would be less likely to see interactions of the information with relative performance. Indeed results show few interactions of the information with relative performance; however there are several significant main effects for the relative performance variable. Specifically, there are main effects on the internal summary score for the last two unfavorable variances and main effects on the external summary score for both favorable variances. Figures 25 and 26 graph the employee internal summary scores for the last two difficult sets.

TABLE 33

RELATIVE PERFORMANCE RESULTS: EMPLOYEE

locus summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	1.02	.37	.04	.96	.54	.59
performance	11.62	.00	5.38	.01	6.79	.01
interaction	.34	.71	1.31	.28	.70	.50

internal summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	1.35	.27	.74	.48	1.09	.34
performance	1.63	.21	6.06	.01	7.68	.01
interaction	1.24	.29	1.77	.18	.78	.46

external summary score

	D1		D2		D3	
	F	sig	F	sig	F	sig
information	.06	.94	.37	.69	.24	.79
performance	14.58	.00	.45	.51	.45	.51
interaction	4.33	.02	.14	.86	.16	.85

locus summary score

	E2		E3	
	F	sig	F	sig
information	1.08	.34	.47	.63
performance	1.21	.27	1.53	.22
interaction	.14	.87	1.64	.21

internal summary score

	E2		E3	
	F	sig	F	sig
information	.41	.67	.87	.42
performance	1.99	.16	18.80	.00
interaction	.24	.78	3.06	.05

external summary score

	E2		E3	
	F	sig	F	sig
information	.86	.43	.15	.86
performance	10.29	.00	3.26	.08
interaction	.06	.94	.32	.72

D - difficult sets in order completed by subjects
E - easy sets in order completed by subjects

Figure 25

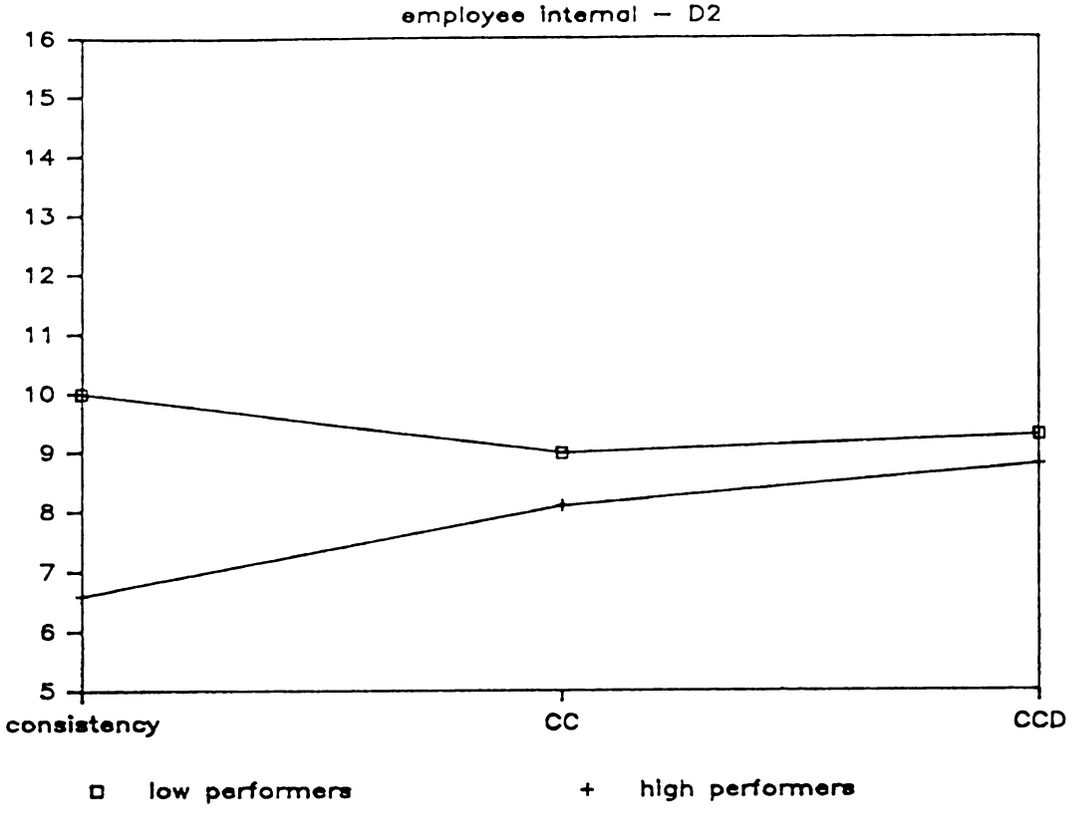
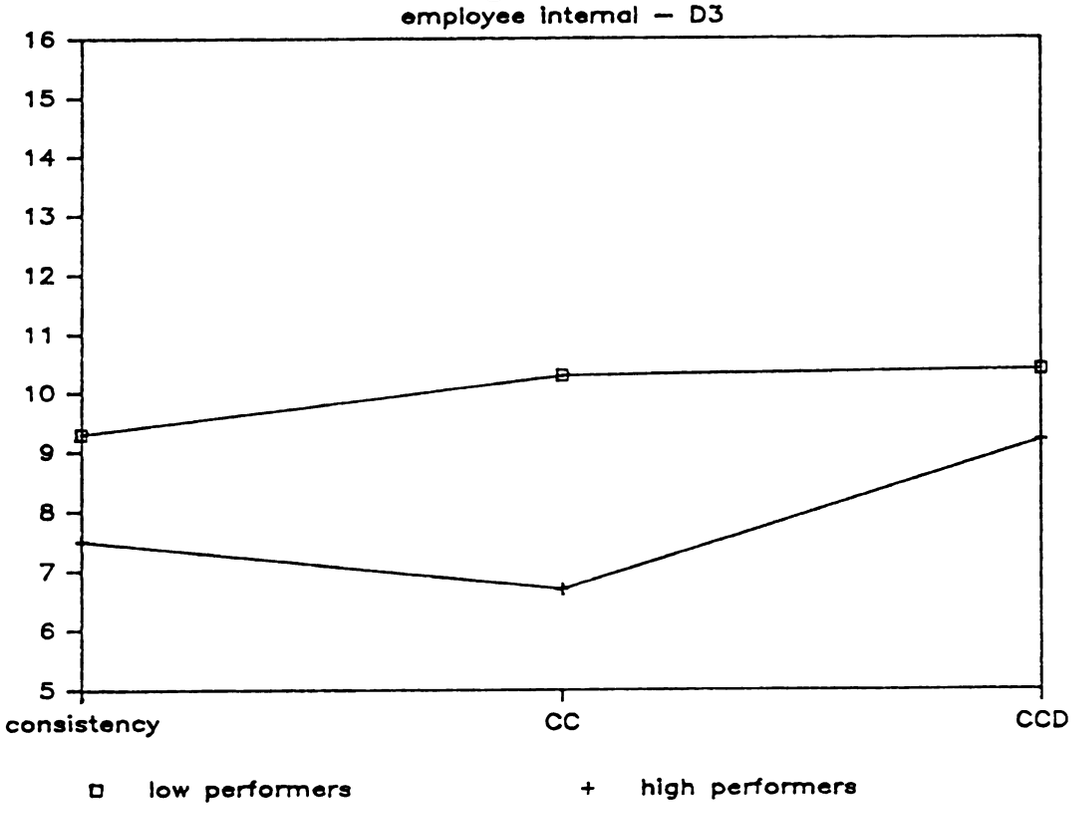


Figure 26



The score indicates how much blame the employee personally took for the unfavorable variance and, as can be seen, the low relative performer took more blame than the high relative performer. An examination of ability and effort attributions revealed that the difference was due solely to ability with the low relative performer assigning more blame to lack of ability (Main effects on the relative performance variable occured for ability attributions on both the second difficult set: $F = 3.44$, $p = .07$ and the third difficult set: $F = 10.99$, $p = .001$. There were no main effects for effort attributions). Main effects for ability also occured on the two easy sets ($F = 4.88$, $p = .03$ and $F = 29.18$, $p = .001$, respectively) with the high relative performer assigning more credit for the favorable variance to high ability than the low relative performer (again there was no effect on the effort variable). Hence, it appears that low relative performers do take more blame (less credit) than the high relative performers for unfavorable variances (favorable variances), due to the recognition of a lower level of ability. This result is important because it argues against a self-serving bias on the part of the low performing employees to deny blame for failures and take credit for successes.

With regard to the two easy sets, Figures 27 and 28 present the graphs for the external summary score. The score indicates how much credit the employee gave external

Figure 27

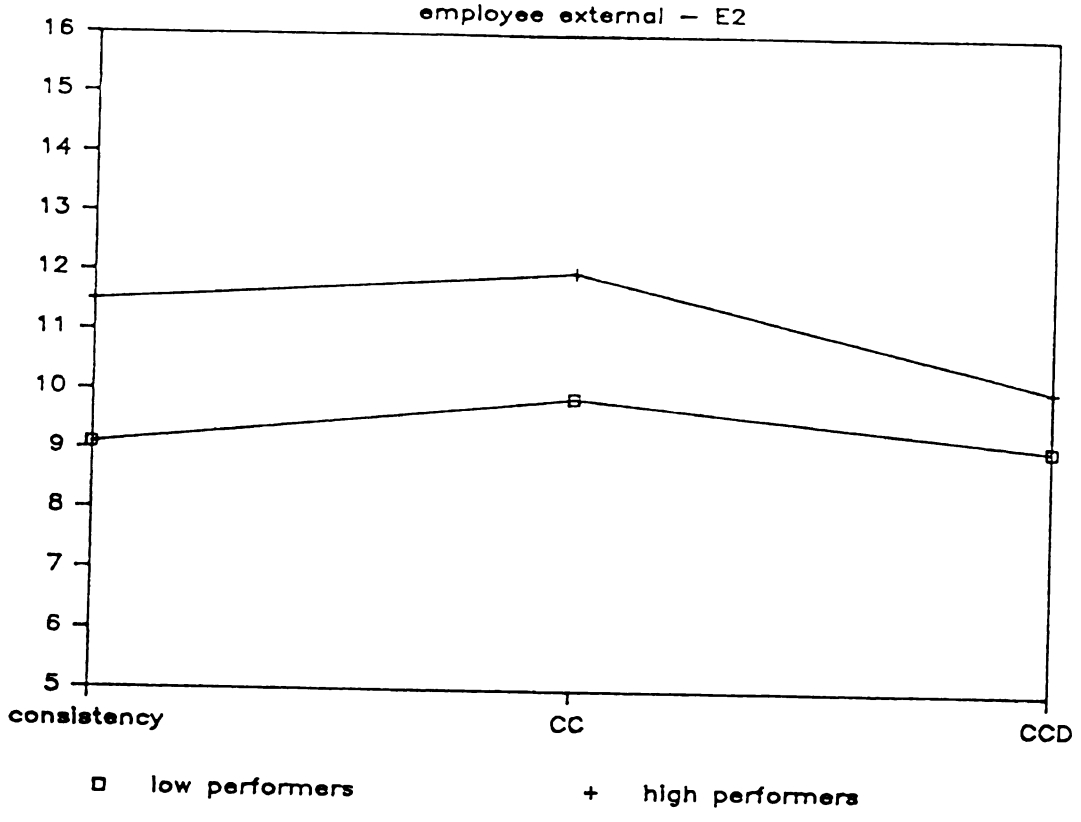
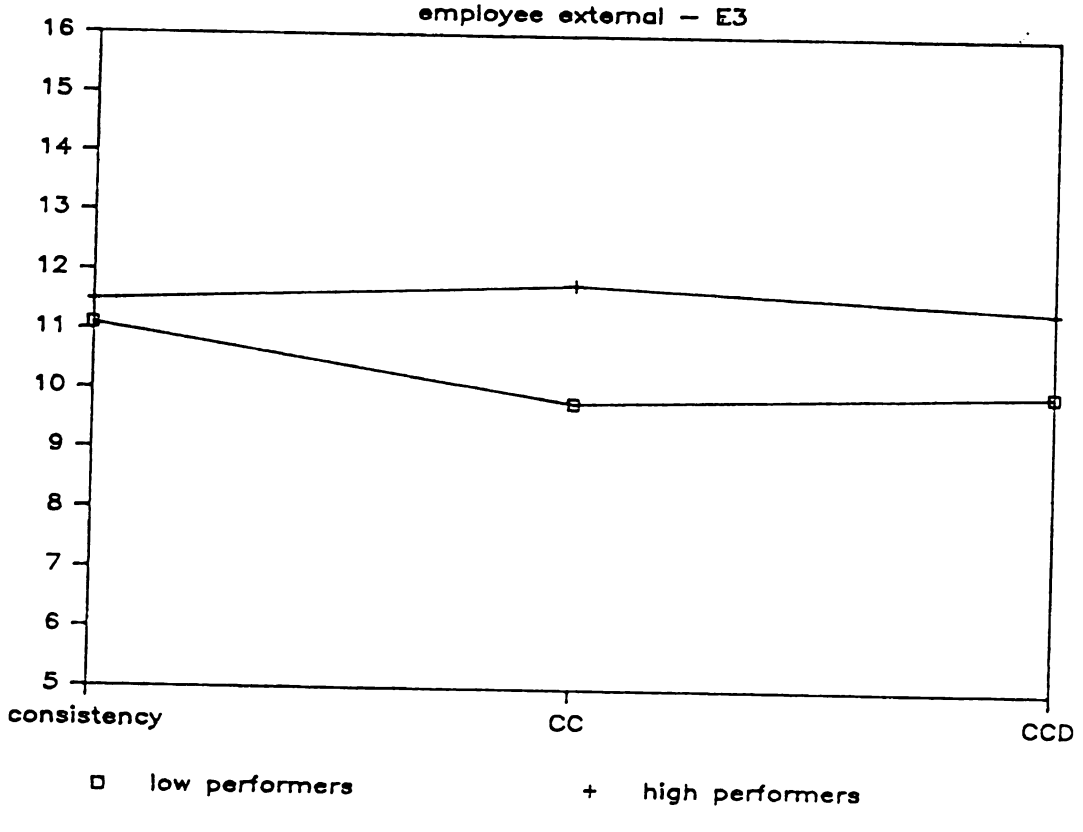


Figure 28



factors for the favorable variance. From these graphs it appears that the high relative performer gave more credit to external factors than the low relative performer (further analysis revealed that the result was due primarily to task difficulty). Since the evaluators did not respond similarly this result may help explain why high (low) relative performers gave more (less) credit for favorable variances to external factors, compared to their evaluators.

A possible explanation for this result relates to differences in how task difficulty may be interpreted: in relation to employee ability (Kukla, 1972) or in relation to group performance or norms (Weiner et al., 1971). The low relative performers may have seen the task as less easy in relation to their ability compared to the high relative performers. Hence, they would have believed that the ease of the task contributed less to the favorable variance than the high relative performer would have maintained. The evaluator, on the other hand, appeared to judge the ease of the task in relation to the number of employees who attained a favorable variance. Since the majority of the employees succeeded at the easy anagrams, the evaluators would have considered the ease of the task an important factor, irrespective of how their particular employee performed.

In combining the individual employee and evaluator results with the conflict results there are two important issues to discuss. First, despite, the lack of a decrease in conflict (disagreement score) for the high relative performers, the above analysis is consistent to some degree with a reclassification of employee success or failure upon expansion of the information set from consistency to CC to CCD. In the unfavorable variance case, the CC evaluators would reclassify the variance from a failure to a success for the high relative performers. Hence, changes to CC evaluator attributions would be restricted to this group only. In the favorable variance case, the CC evaluators would reclassify the variance from a success to a failure for the low relative performers. Hence, changes to CC evaluator attributions would be restricted to this group only. The above analyses indicated that the information did differentially effect CC evaluator attributions in the above manner.

In addition, the fact that evaluators gave the low relative performers more credit (to both ability and effort) for favorable variances upon receiving distinctiveness information but high relative performers more blame (to both lack of effort and lack of ability) for unfavorable variances may also be explained from a reclassification perspective. Review of the Phase I performances of the distinctiveness employees revealed that with only one

exception, those employees classified as low performers all performed below the mean performance in Phase I and those classified as high relative performers all attained a score above the Phase I mean performance. Thus, the evaluator may have judged the employee's performance in relation to expectations raised by the distinctiveness information. Since the low relative performers performed poorly in Phase I the evaluator may have expected the employee to be incapable of attaining the budget despite any favorable environmental conditions. Therefore, any favorable variances attained by these employees would have been viewed as successes. Similarly, unfavorable variances by high relative performers would have been viewed as failures. However, it is suprising that both ability and effort were similarly affected. Employees performing below the mean in Phase I would have been judged low in ability; hence, it is suprising that effort was not given more weight than ability. Similarly, it is suprising that lack of effort was not given more weight than lack of ability for the high relative performers in the unfavorable variance case, since these employees would have been judged high in ability.

The second important issue relevant to the additional analysis is that the these results provide a potential explanation for the reduction in conflict found in the outcome attribution hypotheses results. Recall that in the

favorable variance case, there was significant conflict in the consistency information case. However, the direction of the conflict varied within the information case. Furthermore, distinctiveness information led to a reduction in the conflict despite any significant changes to the evaluators' or employees' attributions as a group.

The results in this section indicate that low relative performers took less credit (made lower internal attributions) for favorable variances compared to the high relative performers. With regard to evaluator attributions, however, in the consistency information case, the evaluator did not possess relative performance information, and hence, could not distinguish low from high relative performers. This resulted in the evaluators assigning equal credit to the two groups for favorable variances. This may partially explain the differential conflict in the third easy set in which the high relative performers took more credit compared to their evaluators and low relative performers took less credit compared to their evaluators.

Upon receipt of consensus information, evaluators assigned more credit (made higher internal attributions) for favorable variances to high relative performers and less to low relative performers. Hence, consensus allowed evaluators to distinguish between the two types of performers. It appears, however, based upon the observed conflict, that the evaluators were more extreme in their

reaction to relative performance information than the employees. In other words, the difference in the amount of credit assigned to the low versus high relative performers by the evaluators exceeded the employee difference. This provides a potential reason for why high relative performers took less credit than their evaluators assigned them, and low relative performers took more credit than their evaluators assigned them.

Upon introduction of distinctiveness information, the evaluators still differentiated among the two types of performers, but the differential amount of credit assigned to the two types of employees narrowed. Specifically, there was evidence in both the second and third easy set that the evaluator gave low relative performers more credit for favorable variances, compared to the credit assigned by the consensus evaluators. Also, the difference score analysis on the second easy set indicated a reduction in the conflict for the low relative performers with the introduction of distinctiveness information. Therefore, these results provide an interpretation for the reduction in conflict found for the favorable variances.

With regard to unfavorable variances, there was also some evidence of a reduction in conflict in the outcome attribution hypotheses results, although the findings were not as strong as for favorable variances. Evidence in this section indicated that in the consistency information case,

evaluators assigned equal blame to high and low relative performers due to an inability to distinguish among the two types of performers. Since low relative performers took more blame for the unfavorable variances, evidence indicated that the conflict in the consistency case was stronger between the high relative performers and their evaluators as compared to the low relative performers and their evaluators.

With consensus information, evaluators decreased their blame to high relative performers. However, as in the favorable variance case, their reaction was more extreme than the reaction of the employees to the relative performance information. This led to low relative performers taking less blame than their evaluators assigned them and high relative performers taking more blame compared to their evaluators. There was some evidence that the evaluators assigned more blame to high relative performers upon receipt of distinctiveness information; however, this finding only occured on the second difficult set.

Overall, these results provide a potential explanation as to why both consensus and distinctiveness were necessary to reduce conflicts. The conflict in the consistency case appeared to occur because the employees took differential amount of blame and credit based upon relative performance, but evaluators could not vary attributions due to lack of relative performance information. The conflict in the

consensus case appeared to be due to the fact that consensus evaluators, compared to the employees, were more extreme in their differentiation of the high and low relative performers. There was evidence, particularly in the favorable variance case, that evaluators with distinctiveness information were more moderate in their differentiation among the two groups of employees which led to a decrease in attributional conflicts.

It is important to note that although distinctiveness information had a significant impact upon evaluator attributions, the nature of the impact was not as predicted. Distinctiveness was not expected to result in a change to the combined effect of internal factors (ability plus effort), but instead to result in a change in the relative weights placed upon the two variables. Results in this section, however, indicated that both ability and effort were affected in the same direction. This is an unexpected finding. As previously noted low relative employees performed below the mean in Phase I of the experiment. Hence, presumably they would have been judged low in ability by their evaluators. Thus, it is suprising that the attribution to high ability for favorable variances increased from the CC-low relative performance group to the CCD-low relative performance group. Similarly, the high relative performers would have been judged high in ability by their evaluators. Despite this, the attribution

to low ability for unfavorable variances increased from the CC-high relative performance group to the CCD-high relative performance group.

In conclusion, these results indicate that the direction of attributional conflicts between employees and evaluators may depend upon the employee's performance in relation to other performers. In addition, the effect of both consensus and distinctiveness information upon evaluator attributions and the reduction of conflicts may also depend upon relative performance. This evidence, however, was restricted to outcome attributions only. Analyses similar to those performed on the outcome attributions were performed on the appraisal attributions. These analyses found no support for either a differential conflict or a differential use of CCD information dependent upon relative performance.

CHAPTER 6 - DISCUSSION

This study explicitly addressed the following four questions: 1) Under conditions of high environmental impact on employee outcome, does employee effort under a PC style of appraisal differ from employee effort under a BC style of appraisal? 2) Do attributional conflicts between the employee and the evaluator occur, and what form do those conflicts take? 3) Would an increase in information provided to the evaluator lead to a decrease in attributional conflicts? 4) What is the effect of the conflicts and the reduction of those conflicts on employee effort (and hence on the effectiveness of the appraisal style)?

This study found strong support for a difference in effort between the two appraisal styles. In particular, effort in the PC style was significantly higher in unfavorable environmental conditions in which expectancy of meeting the budget was extremely low. The study also found strong support for conflicts regarding outcome attributions, particularly when the evaluator's information set was restricted to consistency only. As hypothesized, evaluators as a group, compared to their employees, believed lack of effort was a more important cause of unfavorable variances. Suprisingly, conflicts also occurred with regard to favorable variances. However, the

direction of the conflicts varied among the pairs. Conflicts regarding appraisal attributions also occurred. However, as in the case of the favorable variance outcome attributions, the direction varied among the pairs.

Increased information (consensus and distinctiveness) was found to lead to a decrease in both outcome attribution conflicts and appraisal attribution conflicts. Results indicated that both consensus and distinctiveness were necessary to reduce outcome attribution conflicts. Consensus and distinctiveness information combined decreased conflicts regarding the joint importance of internal factors in both favorable and unfavorable variance cases. In addition the conflicts regarding ability and effort were reduced in the favorable variance case. With regard to appraisal attribution conflicts, consensus led to a decrease regarding the importance of effort to the appraisal and distinctiveness led to a decrease in the conflict regarding the importance of meeting the budget.

Finally, this study supported a relationship between attributional conflicts and the employee's effort choice. In the consistency information case, in which significant conflicts occured in both favorable and unfavorable environments, the employee demonstrated decreased effort over difficult anagram sets. In the CCD information case, in which conflicts were significantly lower, the employee increased effort over difficult anagram sets. As

additional support, findings indicated that employees in the CCD case believed that effort was a significantly more important factor in their appraisal than the consistency employees believed. This led to a greater number of CCD employees classifying their evaluators as PC evaluators.

To summarize the major findings from this study, results provide strong support for a PC style of appraisal over a BC style. However, results also indicate that if the evaluator's information set is restricted, conflicts regarding what caused the outcome would be likely to occur. These conflicts could then decrease the effectiveness of the appraisal style which would lead to decreased employee effort. An increase in the evaluator's information set was shown to both decrease the employee-evaluator conflicts and result in an increase in employee effort. The remainder of this chapter will discuss the results of this study in more detail and related the findings back to the theory and the hypotheses.

6.1 THE BC AND PC STYLES OF APPRAISAL

This study indicated that employees who believed their effort was being rewarded (PC) exerted higher effort than those would did not believe their effort was being rewarded (BC). The results were restricted to effort in unfavorable environments (difficult anagram sets) only. When the employee believed their effort (in either favorable or

unfavorable environments) had not been rewarded, they exhibited less effort the next time they encountered an unfavorable environment, as compared to the PC style.

The findings regarding unfavorable conditions is consistent with expectancy theory predictions. Upon encountering an unfavorable environment, the BC employee would have determined that the expectancy of meeting the budget was low. Hence, the expectancy of a favorable appraisal was also low. A PC employee, however, would have believed that the expectancy of a favorable appraisal would be high if effort was high, despite a low expectancy of meeting the budget.

Under a favorable environment, both PC and BC employees would calculate a high expectancy of a meeting the budget. In addition, the PC employee's expectancy of a favorable appraisal would be high; but only for high levels of effort. Hence, the PC employees would exert high levels of effort in order to attain the high appraisal.

The BC employee's expectancy of a favorable appraisal would also be high. In this case, however, the high expectancy would be based upon the high expectancy of meeting the budget, irrespective of effort. The more favorable the environment, the less effort would be required to meet the budget; hence, the BC style makes it possible for the employee to earn a high appraisal with low effort. As noted in the literature review, the primary

goal of the BC evaluator appeared to be meeting the budget. Because of this, incremental rewards for exceeding the budget would be expected to be small. Therefore, higher effort levels for the PC style would have been predicted for favorable environments also. Results, however, did not show any significant differences in effort on the easy anagrams.

Employees who were paired with evaluators were rated on a nine-point appraisal scale. It is possible, therefore, that these employees believed performance above the budget would result in an increase in their appraisal. However, the employees in the control (pure BC) group were given no incremental reward for exceeding the budget; yet they consistently solved more anagrams than needed to meet the budget. Several explanations suggest themselves. First, the employees may have been uncertain whether they had correctly solved each anagram. Hence, they may have worked on more anagrams than needed to meet the budget in order to assure that enough anagrams had been correctly solved. Second, emloyee subjects were not provided with any alternative ways to spend the two-minute work periods. Consequently, working on the anagrams versus doing nothing at all may have appeared a more attractive alternative.

Finally, although no extrinsic motivation existed for solving anagrams beyond the budget, intrinsic motives may have existed which outweighed the lack of extrinsic

rewards. For example, in examining the the employee responses on the final questionnaire, it was noted that in addition to being motivated by the appraisals, subjects indicated that being informed of other employees' variances influenced their effort decision (responses indicated that they were motivated by the desire to outperform other employees). Hence, in favorable environments, these intrinsic motivators appeared to have outweighed the lack of extrinsic rewards.

It is important to note, however, that intrinsic motivators would also have been present in the unfavorable environment case. The fact that there was a significant difference in effort on the difficult anagrams indicates that the lack of extrinsic reward dominated any potential intrinsic motivators.

Hirst (1983) and Govindarajan (1984) defined a highly uncertain environment as one in which the impact of external factors on the outcome was both unpredictable and significant. Their results indicated that the PC style was superior to the BC style under these conditions. This study, in simulating an environment which meets the above definition of environmental uncertainty, thus supports Hirst's (1983) and Govindarajan's (1984) findings. In addition, these findings provide increased validity to Hirst's (1983) and Govindarajan's (1984) results by confirming their results using a different research

methodology. (They used survey data which would be stronger with regard to external validity; whereas the laboratory methodology employed in this study would be stronger with regard to internal validity.)

In addition, the results reported here suggest that the evaluator information set may influence the choice of appraisal style. Evaluator subjects were all given the same instructions: to weigh effort highly in forming the appraisal. Thus, evaluator appraisal attributions were not expected to change as the information set expanded. Results, however, indicated that evaluators did increase both effort and ability appraisal attributions as the information set expanded. It was also noted that evaluators became more confident in their outcome attributions as they received more information.

Both evaluator appraisal style and confidences in outcome attributions have been linked to personality factors. Hopwood (1972) found a link between evaluator consideration and evaluator appraisal style. He found that PC evaluators (compared to BC evaluators) rated higher on consideration (measured by the Leadership Behavior Description Questionnaire). Miller et al.'s (1978) results indicated that an increase in a need for control may lead observers to distort the meaning and completeness of information in order to increase confidence in their attributions. Although results from this study do not contradict a link

between personality and either evaluator confidence or appraisal style, the fact that evaluators were randomly assigned to information cases would argue against the above results being due solely to differences in evaluator personalties.

It has been suggested in the accounting literature (e.g. Baiman, 1982) that reward contracts between employees and evaluators can only be based upon factors known or observable to both participants; and since effort is not observable by the evaluator, effort cannot be a basis for the employee's reward. The results from this study indicate, however, that evaluators may base appraisals upon their beliefs regarding employee effort despite the presence of incomplete knowledge regarding this factor. However, as evaluators received more information they became more confident in their beliefs regarding the employee's effort, and hence may have been more willing to base the appraisal upon these beliefs. Evaluator appraisal style and confidences in outcome attributions may thus be based upon a combination of personality factors and the amount of information available to make those outcome attributions.

This study thus has implications to the BC versus PC appraisal style literature in that it demonstrates the importance of information to the choice of the appraisal style. As discussed in the literature review, Hopwood (1972) indicated that the evaluator would need additional

information beyond the budgetary variance in order to effectively use the PC style of appraisal. These results support the need for additional information in that as information increased evaluators increased their emphasis on ability and effort in making performance appraisals.

In low information cases the evaluators appeared to have recognized the difficulty of making an accurate assessment of employee inputs. BC styles may have appeared more reasonable since, as Hirst (1981) indicated, PC styles are more ambiguous than BC styles, since they rely on the individual evaluator's assessment of the situation as opposed to a predetermined formula. Hirst (1981) indicated that increased job ambiguity would lead to job related tension which could negatively affect employee performance. Clearly, the less accurate the evaluator's assessments the more ambiguous the situation would appear, since the employees would be highly uncertain in all situations as to how their performances would be evaluated. Hence, under a low information case, the BC style may have appeared preferable to the evaluator, since the evaluator would have recognized the impossibility of effectively implementing the PC style given the inadequate information availability.

6.2 IMPACT OF CCD INFORMATION ON ATTRIBUTIONAL CONFLICT

Hypotheses regarding the presence of outcome attributional conflicts were based upon the presence of differential employee-evaluator biases discussed in the attribution literature. Specifically, these biases led to the prediction of conflicts regarding unfavorable variances in which the employee would, compared to the evaluator, take less blame for the variance. Conflicts regarding favorable variances were not hypothesized, since both parties were predicted to be biased toward internal attributions. Consistency information was predicted to have no effect upon the conflicts; whereas both consensus and distinctiveness were hypothesized to lead to a decrease in the conflicts.

The amount of information varied across the evaluator subjects only; employees were given all three pieces of information. However, as explained in the literature review, employees have been found to make less self-serving attributions when they are aware that evaluators have information to contradict biased attributions. Hence, the decrease in the conflict was hypothesized to come about from a decrease in both evaluator and employee biases.

Results confirmed both the presence of conflicts and the reduction of those conflicts with an expansion of the information set. However, both the nature of the conflict and the impact of the information on the conflict was more

complicated than originally hypothesized. This was due to the fact that employees and evaluators did not respond in all cases in accordance with the predicted biases. In addition, the information did not impact the evaluators in each group similarly. Instead, there was evidence of a differential change in evaluator attributions contingent upon the employees' relative performances. Finally, there was no evidence of a change in employee attributions with an increase in the information set.

Results in the consistency information case confirmed the presence of conflicts in the unfavorable variance case. Evaluators identified lack of effort as a more important cause of the variance than the employees. In examining the presence of individual biases, employees did deny blame on all three sets in accordance with the self-serving bias. However, relative performance analysis indicated that low relative performers were willing to take more blame for unfavorable variances and less credit for favorable variances, compared to the high relative performers. Hence, there was some evidence against a self-serving bias.

Evaluators only responded in accordance with the fundamental attribution bias on the third difficult set. Given uncertainty as to the cause of an outcome, the fundamental attribution bias predicts that internal factors would be more salient to the evaluator, and hence, be given more weight than external factors. Results indicated that the

consistency evaluators were the least certain of the three information groups. In addition, since certainty increased over anagram sets, the evaluators would have been least certain in the first work period. Hence, the fundamental attribution bias would have been most likely to occur in the consistency case on the first set. As already discussed, however, given the methodology of the experiment it is possible that external factors were more salient to evaluator subjects. This may have occured due to a combination of not being in direct contact with employee subjects and of being informed by the experimenter that the difficulty of the task would vary.

Finally, evaluators assigned equal weight to lack of effort and lack of ability for unfavorable variances, contrary to the control bias prediction. Examination of the evaluators' responses to the final questionnaire, however, indicated that evaluators in the consistency information case were attempting to influence their employees' effort levels via the appraisals, and that they believed the appraisals were having an effect. Also, since the evaluators did give a moderate amount of weight to lack of effort, this indicates that they did believe lack of effort did contribute to some extent to the unfavorable variance. Consequently, some evidence of a control motivation on the part of the evaluator exists. Whether this evidence indicates that the evaluators' attributions

were inaccurate is not possible to ascertain. However, since the primary conflict in the consistency information group concerned lack of effort, the presence of this conflict indicates that inaccurate (or biased) attributions were made by the evaluators, the employees, or a combination of the two groups.

Conflicts in the consistency information cases were not predicted to occur for favorable variance, since both employees and evaluators were predicted to be biased toward internal attributions. As predicted, both employees and evaluators did make higher attributions to internal versus external factors for favorable variances. However, the disagreement scores differed significantly from zero. Since the difference score did not differ from zero, this indicated that conflict existed, but that the direction of the conflict was not the same in all employee-evaluator pairs. Additional analysis suggested a possible explanation for this result.

Employees achieving a high outcome, relative to the group, took more credit (made higher internal attributions) for favorable variances than the low relative performers. Evaluators in the consistency information case, however, were unaware of their employee relative performance. Being uninformed of relative performance, it would not be possible to assign a differential amount of credit based upon relative performance. The differential amount of

information between employees and consistency evaluators could easily have led to disagreements as to the amount of credit the employees should receive. Results on the third easy set indicated that the high relative performers believed they deserved more credit than the evaluators assigned them; whereas, the low relative performers accepted less credit than the evaluators assigned them. Since the evaluators were unaware as to to how much credit to assign the employee, they gave a moderate amount of credit to all employees resulting in what a high performing employee would perceive as not enough credit and a low relative employee would perceive as too much credit.

Increasing the evaluator's information set was hypothesized to decrease attributional conflicts. Results did find support for a reduction in conflicts. However, both consensus and distinctiveness were necessary in order to obtain significant decreases in conflict. Consensus information was hypothesized to decrease the evaluator's tendency to blame employees for all unfavorable variances. A decreased emphasis on external factors was also hypothesized. Consensus did result in a decreased emphasis on lack of ability for unfavorable variances. This decreased both the internal summary score and the summary locus score. However, no change to external factors occurred. Also, despite the change in evaluator attributions, the

only reduction in conflict which occured from the consistency to CCD case was with regard to the the summary locus score.

Additional analysis provided a potential explanation for why there was no conflict reduction for ability or the internal summary score with consensus information. Additional analysis revealed that consensus information did not effect all evaluators equally. Instead, evaluators of high relative performers decreased their attributions to internal factors for unfavorable variances; whereas evaluators of low relative performers did not. Similarly, consensus evaluators gave high relative performers more credit for favorable variances and low relative performers less credit. This resulted in a conflict between low relative performers and their evaluators, with the employees taking less blame for unfavorable variances and more credit for favorable variances. However, surprisingly, the high relative performers were willing to take more blame for the unfavorable variances and less credit for the favorable variances, compared to their evaluators. Hence, although the nature of the conflicts in the consensus case differed from the nature of the conflicts in the consistency case, the magnitude of the conflicts did not significantly differ. Therefore, it was concluded that consensus information alone was insufficient to reduce attributional conflicts.

The presence of both consensus and distinctiveness, however, did lead to a greater reduction in conflict. In both unfavorable and favorable variances, conflict regarding internal factors were reduced, as evidenced by the reduction in the disagreement on the internal summary score. In addition, in the favorable variance case, conflicts regarding both ability and effort separately were reduced.

Consensus information was not sufficient in reducing conflicts because evaluators appeared to be too extreme in their differential reaction between high and low performers. In the distinctiveness information case, however, the differential response of the evaluator to the two groups decreased. In particular, the evaluator gave low relative performers more credit for favorable variances and high relative performers more blame for unfavorable variances.

Two important points regarding the effect of consensus and distinctiveness information on evaluator attributions need to be made. First, although both pieces of information did affect evaluator attributions, the effect was not entirely as predicted. Recall, that without distinctiveness information, the evaluator was predicted to believe that differences in employee performance was due primarily to differences in effort. Distinctiveness was designed to make the impact of ability on the difference in relative

performance more salient to the evaluator. Results indicated that consensus evaluators did differentiate among their employees based upon relative performance information, but that effort and ability were given equal weight. In addition, distinctiveness affected both ability and effort equally.

Second, it was noted that consensus information had no effect upon evaluator attributions to external factors. This finding is in contrast to prior studies (e.g. Brown and Mitchell, 1986) which found significant effects to external attributions with consensus information. Surprisingly, distinctiveness information did significantly effect external attributions. The task was given more weight for both favorable and unfavorable environments, and luck was given less weight in both environments. Since the finding regarding external attributions is in contrast to prior studies, additional research should be performed to determine the exact nature of the effect of both consensus and distinctiveness on external attributions.

With regard to appraisal attributions, support was found for conflicts in the consistency information case. It was hypothesized that evaluators would identify internal factors as more important and employees would identify meeting the budget as more important. Contrary to hypothesis, results indicated the direction of the conflicts differed among the pairs. There was also evidence of a

decrease in the conflicts upon expansion of the information set. An analysis to determine whether the direction of the conflict depended upon relative performance, as in the case of outcome attributions, did not find significant differences in the conflict dependent upon relative performance. It is possible that differences depended upon a personality factor of either the employee or the evaluator. However, this does not explain why the conflict would decreased with an increase in the information set. Hence, additional research about the formation of appraisal attributions would be useful.

6.3 THE EFFECT OF CONFLICTS ON EFFORT

The joint attribution-expectancy theory model predicted an increase in effort with a decrease in conflict. Outcome attribution hypotheses supported a significant decrease in conflicts when the information set was expanded from consistency to CCD. Also, appraisal attribution analyses indicated that employees believed effort was more important to their appraisal as the information set expanded from consistency to CCD. Thus, the model predicts an increase in effort from the consistency to the CCD case. Also, in the BC versus PC analysis, effort was demonstrated to be higher in the PC case. The fact that the amount of PC employees increased from the consistency to CCD case

would lead to an expectancy prediction of higher effort in the CCD case.

Results found no difference in effort between the groups on the easy anagrams. However, since the BC versus PC analysis produced no difference on the easy anagrams, lack of an effort difference is not a suprising result. With regard to the unfavorable variances, effort across all three difficult sets did not vary from the consistency to CCD case. However, results indicated a decrease in effort across sets in the consistency case, and an increase in effort across sets in the CCD case. Since the consistency employees were aware that their evaluators were informed only of their variance from budget, this suggests that in the first difficult set the consistency employees exerted an extremely high amount of effort in order to attempt to meet the budget. Upon learning that it was too difficult to meet the budget, and that appraisals would be unfavorable for unfavorable variances, the consistency employees responded via a decrease in effort. The distinctiveness employees, however, believed effort did influence their appraisal; hence they increased effort across anagram sets.

Finally, differences in effort between the pure BC employees and the consistency employees occured, contrary to hypothesis. Appraisals given the consistency employees were comparable to the BC appraisal style in that they were favorable for favorable variances and unfavorable for

unfavorable appraisals. However, approximately half of the consistency employees classified their evaluators as PC evaluators. As discussed previously, since consistency employees were appraised on a nine-point scale they may have believed that an increase in effort would affect an increase in appraisal without a change in the variance from unfavorable to favorable. Since the BC employees appraisals only changed when a variance changed from unfavorable to favorable, the consistency employees would have had more motivation to increase effort. Hence, this may explain the unexpected results with regard to this hypothesis.

Overall, results from this study are supportive of the joint expectancy theory-attribution theory model and the predictions derived from it. Employee-evaluator conflicts were shown to decrease with an expansion of the information set. As conflicts decreased, employees perceived a stronger relationship between their effort and the appraisals received. Finally, the employees in the low information-high conflict group decreased their effort level over anagram sets; whereas, the employees in the high information-low conflict group demonstrated increased effort.

CHAPTER 7 - LIMITATIONS, CONTRIBUTIONS, AND FUTURE RESEARCH

This chapter contains three sections. It begins with a discussion of some of the limitations of this study. This is followed by a section identifying directions for future research. The final section discusses the study's major contributions.

7.1 LIMITATIONS

Limitations involve threats to both internal and external validity. First, measurement errors may threaten internal validity. Elig and Frieze (1976) noted that the causal attribution scale, which was used in this experiment, is the most reliable method for eliciting outcome attributions. Hence, measurement errors should be minimal for outcome attributions. However, the method used to assess appraisal attributions has not been previously used (although it was designed in a similar manner to that which was used to measure outcome attributions). Hence, measurement error may be a greater threat to the validity of the appraisal attribution findings.

Second, changes in attributions may be due to personality differences. As noted previously, people may make differing attributions depending upon how strong their need for control (the control bias) is. Also, self-esteem, locus of

control, and other individual differences have been found to influence causal attributions (Ickes and Layden, 1978).

Conditional to satisfying two constraints, the subjects were randomly assigned to cells. First, in order to use employee outcome as a surrogate for effort, it was required that the mean Phase I performance be equal across cells. Second, in order to take into account subjects' availability to participate, subjects were asked, when volunteering for the experiment, to list times and dates they were available. Assignment to Phase II accomodated both restrictions. Internal validity would have been stronger had total randomization been possible; however, it is unlikely that these two constraints would have resulted in a systematic difference in personalities across cells. Hence, the threat to internal validity is believed to be minimal.

With regard to external validity, students were used as subjects and conditions under which they performed the experiment were surrogate conditions of the real world. Threrefore, the generalizability of the results to an actual employment setting is questionable. In assessing laboratory experiments, Swieringa and Weick (1982), however, differentiated between mundane realism - whether the laboratory events are similar to real world events, and experimental realism - whether the laboratory events are believed, attended to, and taken seriously. They claim

that, in testing a theory, it is experimental realism which is important, since "it is the theory that factiltates generalization across actors and setting..." (Swieringa and Weick, 1982, page 57) As discussed in the results section, examination of subjects' responses on the final questionnaire indicated that they did take the experiment seriously and attended to the information provided.

Two more important points must be made with regard to external validity. First, it may be argued that employees and evaluators in a real-world setting would not be subject to the biases found in this experiment because professional people would have learned to avoid such biases for effective decision making. However, several studies, mentioned in the literature review, found attributional biases using real managers as subjects (Harrison, et al., 1988; Kaplan and Reckers, 1985; Shields, et al., 1981).

Second, due to the limited factors investigated (both independent and dependent variables), even if the experimental results are internally valid, they may not exist in real work-settings due to the importance of other factors which this study failed to consider.

With regard to independent variables, the accounting information system is only one source of information available to evaluators. Hence, if this system does not provide sufficient information to make accurate attributions, the evaluator can then seek out other information.

However, initial attributions are made from information typically provided by the accounting system. Results from Harrison, et al. (1988) indicated that the information search is biased toward confirming the initial attribution. Therefore, initial attributions are important, and the information provided by the accounting control system which would be used to make the initial attribution is also extremely important, despite other available information.

With regard to the dependent variables chosen here, the evaluators only responded via the performance appraisal, and the employees' only response was the effort response. Clearly, in a real work-setting the evaluator would have alternative responses available, for example firing the employee or working with the employee to improve skills. Studies, however, have found that the choice of alternative responses, are also significantly influenced by causal attributions (Kaplan and Reckers, 1985; Mitchell and Wood, 1980).

Regarding employees' effort choice, employees studied in the PC versus BC literature were managers who made action choices in addition to effort choices. Hence, attributional conflicts may have no affect upon employee effort, but may effect action choices instead. The results from this study indicated that effort choices will not be optimal given attributional conflicts. If action choices were also available to employees, it is most likely that

those action choices would also not be optimal with regard to firm goals. This is because both effort decisions and action decisions are features of employee motivation which would be similarly made (Vroom, 1964). Hopwood (1972) for instance, indicated that a BC style may motivate employees to manipulate accounting numbers in order to obtain a favorable variance, or to postpone incurring necessary costs in order to avoid going over the budget. Therefore, although making conclusions as to employee effort may be restrictive, there is no reason to believe that the results would not extend to employee motivation in general which involves both action and effort decisions.

7.2 DIRECTIONS FOR FUTURE RESEARCH

This study indicates a need for future research both with regard to BC versus the PC appraisal styles and with regard to employee-evaluator attributional conflicts.

With regard to the evaluator's appraisal style, results from this study indicated that the amount of information available to the evaluator influenced the choice of appraisal style. Prior research (Hopwood, 1972) demonstrated a link between evaluator personality and appraisal style. Further research should be done in order to determine the importance of both personality and available information. If evaluator biases do decrease the effectiveness of the control system, different control system

designs are needed to reduce biases depending upon whether biases are due to personality factors or lack of information.

Second, increased information increased appraisal style effectiveness (in terms of motivating increased effort), in addition to affecting the choice of appraisal style. However, as indicated in the limitations section, the findings of this study may lack external validity due to omitted variables. Hence, field research examining hypotheses from this study is necessary.

With regard to outcome attributions, more research needs to be performed specifically investigating the role of CCD information on employee and evaluator outcome attributions and conflicts. In particular, in contrast to prior research (Brown and Mitchell, 1986) evaluator attributions to external factors were not altered with the introduction of consensus information. Additional research examining specifically the role of consensus information in forming external attributions should be undertaken.

With regard to distinctiveness information, in comparison to the consensus information case, CCD evaluators of low ability performers increased attributions to both ability and effort for favorable variances. CCD evaluators of high ability performers increased attributions to both low ability and low effort for unfavorable variances, in comparison to the consensus information case. Since this

finding was contrary to prediction, future research should examine the effect of distinctiveness information on internal attributions. Also, although consensus did not affect external attributions, distinctiveness had a significant effect on external attributions in both favorable and unfavorable situations. Thus, the role of distinctiveness information in influencing external attributions needs additional study.

Finally, with regard to appraisal attributions, this study found strong support for differential conflicts in the consistency information case, and a reduction of those conflicts with an increase in CCD information. The nature of the conflicts were not consistent with original hypotheses since the direction of the conflict varied among employee-evaluator pairs. Differences in relative performance was unable to account for the conflict. Hence, additional research is needed to address how appraisal attributions are formed and how conflicts can arise. In particular, personality factors such as need for control should be examined.

7.3 CONTRIBUTIONS

The major research contribution of this study was in providing a direct test of the impact of attributional conflicts on the effectiveness of the accounting control system in motivating employee effort. Although previous

research has demonstrated the existence of conflicts, these studies did not allow interaction between employees and evaluators. This study, in allowing for such interaction, allowed the two participants to directly influence each other. Results provided support for a negative relationship between attributional conflicts and employee effort. Hence, accounting control systems should be designed to keep conflicts at a minimum.

In addition, this study demonstrated a correlation between the amount of information provided in the accounting control system and attributional conflicts. Results indicated the desirability of providing CCD information in the accounting control system, subject to the cost of providing the information.

Finally, this study has implications to the BC versus PC literature in that it suggests that the choice and the effectiveness of the style is contingent upon the amount of information available to the evaluator. Hence, future research about the BC versus PC appraisals styles should explicitly take into account information availability to the evaluators.

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APPENDICES

APPENDIX D

EVALUATOR OUTCOME ATTRIBUTION FORM - UNFAVORABLE

UNFAVORABLE VARIANCE FORM - EVALUATOR

SUBJECT NUMBER _____

WORK PERIOD _____

Instructions: Rate the extent to which you perceive the following factors caused the variance to be unfavorable in the current working period.
1. If the factor to no extent caused the outcome.
9. If the factor to an extremely high extent caused the outcome.
(Circle the number which comes closest to your perception)

1. Low employee task ability	1	2	3	4	5	6	7	8	9
2. Low employee effort	1	2	3	4	5	6	7	8	9
3. The difficulty of the task	1	2	3	4	5	6	7	8	9
4. Employee's bad luck	1	2	3	4	5	6	7	8	9

How certain are you as to the above assessments?

very uncertain 1 2 3 4 5 6 7 8 9 very certain

APPENDIX E

APPRAISAL FORM

PERFORMANCE RATING WORK PERIOD _____

FROM EVALUATOR: SUBJECT NUMBER _____

TO EMPLOYEE: SUBJECT NUMBER _____

unsatisfactory 1 2 3 4 5 6 7 8 9 outstanding

APPENDIX F

EVALUATOR APPRAISAL ATTRIBUTION FORM

CRITERION FORM - EVALUATOR SUBJECT NUMBER _____

WORK PERIOD _____

Instructions: Rate the extent to which the following factors influenced you in forming your current performance appraisal of your employee.
1. If the factor to no extent influenced the appraisal.
9. If the factor to an extremely high extent influenced the appraisal.

RATE THE EXTENT TO WHICH THESE FACTORS INFLUENCED YOU IN FORMING YOUR PERFORMANCE APPRAISAL. (Circle the number which comes closest to your perception)

1. Your employee's ability at this task	1	2	3	4	5	6	7	8	9
2. Your employee's effort level during the current task performance	1	2	3	4	5	6	7	8	9
3. Whether the variance from standard was favorable or unfavorable	1	2	3	4	5	6	7	8	9

APPENDIX G

EMPLOYEE APPRAISAL ATTRIBUTION FORM

CRITERION FORM - EMPLOYEE SUBJECT NUMBER _____

WORK PERIOD _____

Instructions: Rate the extent to which you perceive the following factors influenced the evaluator in forming your current performance appraisal.
1. If the factor to no extent influenced the appraisal.
9. If the factor to an extremely high extent influenced the appraisal.

RATE THE EXTENT TO WHICH YOU PERCEIVE THESE FACTORS INFLUENCED THE EVALUATOR IN FORMING YOUR PERFORMANCE APPRAISAL. (Circle the number which comes closest to your perception)

1.	Your ability at this task	1	2	3	4	5	6	7	8	9
2.	Your effort level during the current task performance	1	2	3	4	5	6	7	8	9
3.	Whether your variance from standard was favorable or unfavorable	1	2	3	4	5	6	7	8	9

How certain are you as to the above assessments?

very uncertain 1 2 3 4 5 6 7 8 9 very certain

APPENDIX H

PHASE II EMPLOYEE INSTRUCTIONS

[1],[2],[3],[4] refer to cell numbers. Text following a cell number will be given only to subjects in those cells.

This is phase 2 of the experiment in which you participated in previously. You have been given a sheet of paper, on which is indicated, individually and combined, the number of anagrams you solved on the two sets of anagrams you completed in phase 1. In addition, the sheet also indicates the average score of all performers in phase 1.

You will be paid $1 for participating in phase 2 of the experiment. In addition to this money, you will earn a bonus. How this bonus is earned will be described later.

[2],[3],[4] You have been paired with a subject, who will serve as your evaluator. This subject is sitting in another room.

[2],[3] This evaluator has no information about how you or anyone else performed in phase 1 of the experiment.

[4] This evaluator has been informed of your combined score on the two sets of anagrams in phase 1, along with the group average.

In phase 2 of the experiment you will again be solving anagrams. The experiment will be run in work periods. The exact number of work periods is unspecified, but the experiment will run for no more than 8 working periods.

In each work period you will have two minutes to solve as many anagrams as you can from a set of anagrams which will be provided to you. All of you will be working on the same set of anagrams at the same time. The anagrams will randomly vary in difficulty from low to high from work period to work period. You will not be informed in advance as to the difficulty level of the anagrams for any work period. The number of anagrams you solve will be compared to a standard of 11 anagrams, which we have determined to be a reasonable standard for anagrams of intermediate difficulty. A variance from this standard will be calculated by subtracting the standard from the number of anagrams you solved. The variance will be labelled favorable if your performance exceeded or met the standard and unfavorable if it did not.
for example: if you solved 9 anagrams correctly, variance = 2 unfavorable, 11 correct implies a variance of 0 favorable, and 15 correct a variance of 4 favorable.

After the two minute time is called please stop working and put your pencils down. Your work will be collected and the variance calculated. Your variance, along with the variances of all other employees working on the task, will be written up on the board.

You will then be asked to fill out either a favorable or unfavorable variance form. You should have a copy of each of these forms in front of you. Please look at them now. If your variance was favorable, you will be given a favorable variance form to fill out by the grader. This form asks you to rate the following four factors: high task ability, high effort, the ease of the task and good luck, according to the extent to which you perceive they caused the variance to be favorable. The scale ranges from 1 to 9. You should use a 1 rating if you believe the factor to no extent caused the variance to be favorable, a 9 if you believe the factor to an extremely high extent caused the variance to be favorable, and intermediate ratings for intermediate beliefs regarding the factor's effect on the variance. If your variance was unfavorable, you will be given an unfavorable variance form to fill out by the grader. This form asks you to rate the following four factors: low task ability, low effort, the difficulty of the task and bad luck, according to the extent to which you perceive they caused the variance to be unfavorable. The scale is the same as that for the favorable. The evaluator will not see your responses on either of these forms. Don't forget to put your subject number and the work period on the forms as you use them.

[1] You will be evaluated for your performance and this evaluation will be based solely upon whether or not you met the standard. If you achieved a favorable variance, your performance will be considered outstanding and if you achieved an unfavorable variance your performance will be considered unsatisfactory.

[2],[3],[4] Upon being scored your variance will be given to your evaluator. Note that your evaluator will not be informed as to the difficulty level of the anagrams you solved, only your variance.

[2] Thus, the only piece of information the evaluator will be given will be your variance from the standard.

[3],[4] In addition to being given your variance from standard, the evaluator will be informed as to the variances of all other subjects in the room working on the task.

[2],[3],[4] The evaluator's job will be to fill out a form rating your performance. You have a copy of this form in front of you. Please look at it now. As you can see the evaluator will rate your performance on a 9 - point scale ranging from unsatisfactory to outstanding. The evaluator is free to use whatever criterion he/she wishes in order to make this rating. Please do not show your performance rating to any other subject.

[2],[3],[4] Once you receive the rating form, you will be asked to fill out a criterion form. You should have a copy of this form in front of you. Please look at it now. As you can see, this form asks you to assess the extent to which you believe certain factors influenced the evaluator's appraisal of your current performance. The three factors are your task ability, your effort level during the current task performance, and whether your variance was favorable or unfavorable. The scale ranges from 1 to 9. You should rate the factor 1 if you believe it to no extent influenced the appraisal, a 9 if you believe that the factor to an extremely high extent influenced the appraisal, and intermediate ratings for intermediate perceptions regarding the extent to which you perceive the factor influenced the appraisal. Again, the evaluator will not see your responses on this form.

After you have filled out this form, the next working period will begin. Each working period will involve the same exact steps as I have just described to you.

Upon completion of the experiment, you will be asked to fill out a few other forms which will be explained to you at that time. While you are filling out these forms, your bonus will be calculated.

[2],[3],[4] Your bonus will be based upon the appraisals you received from your evaluator. The more favorable your appraisals the higher your bonus will be. Specifically, your bonus will be $.10 for every 1 rating you received, $.20 for every 2 rating, etc., up to $.90 for every 9 rating.

[1] Your bonus will be based upon your evaluations. For every unsatisfactory evaluation, you will receive a $.10 bonus and for every outstanding evaluation, you will receive a $.90 bonus.

Your evaluator, on the other hand will also be paid $1 for participating plus $0.06 for every anagram you, as your evaluator's employee correctly solve over the entire experiment. The entire process should not take more than two hours. Thank you for participating in this experiment

APPENDIX I

PHASE II EVALUATOR INSTRUCTIONS

[6],[7],[8] refer to cell numbers. Text following a cell number will be given only to subjects in that cell.

You have been paired with another subject sitting in another room. This subject will serve as your employee. You will be paid $1 for participating in this experiment. In addition, you will receive a bonus. How this bonus is earned will be described momentarily.

Your employee will be working on solving anagrams. Anagrams are scrambled words which must be unscrambled. For example:

kahtn unscrambles into the work thank

iemt unscrambles into the word time

aer unscrambles into the word are

beumnr unscrambles into the word number

The anagrams range in difficulty from low to high at each extreme (thus intermediate values are possible). In a prior phase of this experiment, the employee subjects worked on these anagrams. They were allowed to work on the task until they indicated that they felt they thoroughly understood how to best perform the task. They were then asked to solve one set of low difficulty anagrams and one set of high difficulty anagrams. They were given two minutes to work on each set, and were paid $.10 for each anagram they solved.

[8] - You have been given a piece of paper indicating your employee's combined performance on those two sets of anagrams, along with the average performance of all other employees performing in phase 1. Your employee knows you have this information.

In this particular phase of the experiment, the employees will again be solving anagrams. The experiment will be run in work periods. The exact number of work periods is unspecified, but the experiment will run for at most 8 working periods. You will be paid a bonus of $.06 for each anagram your employee solves over the entire length of the experiment.

In each work period, the employees will have two minutes to solve as many anagrams as they can from a set of 25 anagrams which will be provided to them. All employees will be working on the same set of anagrams at the same time. The anagrams will randomly vary in difficulty from low to high from work period to work period.

The number of anagrams solved will be compared to a standard of 11 anagrams, which we have determined to be a reasonable standard for anagrams of intermediate difficulty. A variance from this standard will be calculated by subtracting the standard from the number of anagrams the employee correctly solved. The variance will be labelled favorable if the performance exceeded or met the standard and unfavorable if it did not. Under no conditions will the employees be given any more or less than exactly two minutes to work on the task.

for example: if your employee solved 9 anagrams correctly, their variance = 2 unfavorable. For 11 correct anagrams, the variance = 0 favorable and for 15 correct anagrams, the variance = 4 favorable.

You will be informed as to the variance your employee attained. You will not, however, be informed as to the difficulty level of the anagrams that were worked on. Under no circumstance are you to discuss your employee's variance with other evaluator subjects.

[7],[8] - In addition, you will be given the variance of all other employee subjects working on the task at this time. Your employee is aware that you will receive this information.

Upon receipt of the variance, you will be asked to fill out either a favorable or unfavorable variance form. You should have a copy of each of these forms in front of you. Please look at them now. If your employee's variance was favorable, you will be given a favorable variance from to fill out from the grader. This form asks you to rate the following four factors: high task ability, high effort, the ease of the task and good luck, according the the extent to which you perceive they caused the employee's variance to be favorable. The scale ranges from 1 to 9. You should use a 1 rating if you believe the factor to no extent caused the variance to be favorable, a 9 if you believe the factor to an extremely high extent caused the variance to be favorable, and intermediate ratings for intermediate beliefs regarding the factor's effect on the variance. If the variance was unfavorable, you will be given an unfavorable variance form to fill out from the grader. This form asks you to rate the following four

factors: low task ability, low effort, the difficulty level of the task and bad luck, according to the extent to which you perceive they caused the variance to be unfavorable. The scale is the same as that for the favorable variances. Your employee will not see your responses on either of these forms. Please make sure you put your subject number and work period on each form as you use them.

You will then be asked to rate the employee's performance on a rating form. You must fill this form out by yourself. Do not consult with or discuss your rating with any other evaluator subjects. You have a copy of this form in front of you. Please look at it now. As you can see the form asks you to rate the employee's performance on a 9 - point scale ranging from unsatisfactory to outstanding. Since the more effort the employee takes, the more anagrams your employee will solve, you are advised to factor highly the amount of effort you perceived the employee to have taken in assigning a rating to your employee. The ratings you give the employee will determine the bonus the employee will receive at the end of the experiment. Specifically, the employee will receive $0.10 for each 1 rating, $0.20 for each 2 ratinge, etc. Please do not write anything on the rating form except for the work period, your subject number and your employee's subject number along with circling the rating you wish to give.

After you fill out this form, it will be taken by a grader back to your employee. You will then be asked to fill out a criterion form. You should have a copy of this form in front of you. Please look at it now. As you can see, this form asks to to what extent three factors influenced you appraisal of the employees performance. The three factors are: your perception of the employee's task ability, your perception of the employee's effort level, and whether the variance was favorable or unfavorable. Again, your employee will not see your responses on this form.

After the employee receives your rating form, the next working period will begin. Each working period will involve the same exact steps I have just described to you.

Upon completion of the experiment, you will be asked to fill out a few other forms which will be explained to you at that time. While you are filling out these forms, your bonus will be calculated. The entire process should not take more than two hours. Thank you for your participation.

APPENDIX J

FINAL QUESTIONNAIRE - CONTROL GROUP (CELL 1)

FINAL QUESTIONS - EMPLOYEES

A. Instructions: Think about your task ability, your effort level, and the difficulty of the task across ALL work periods. The items below concern your opinions of these causes on three different dimensions. Circle the number for all nine questions which best reflects your opinion regarding your task ability, effort and the task difficulty.

Regarding your task ability, was your ability level:

1. Something that reflects an aspect of yourself	1	2	3	4	5	6	7	8	9	does not reflect an aspect of yourself
2. Controllable by you	1	2	3	4	5	6	7	8	9	not controllable by you
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

Regarding your effort level, was the effort level you took:

1. Something that reflects an aspect of yourself	1	2	3	4	5	6	7	8	9	does not reflect an aspect of yourself
2. Controllable by you	1	2	3	4	5	6	7	8	9	not controllable by you
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

Regarding the difficulty of the task, was the task difficulty:

1. Something that reflects an aspect of yourself	1	2	3	4	5	6	7	8	9	does not reflect an aspect of yourself
2. Controllable by you	1	2	3	4	5	6	7	8	9	not controllable by you
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

B. Sex (check appropriate box) Male ____ Female ____

C. Class Freshman ____ Sophomore ____

Junior ____ Senior ____ Grad ____

D. How motivating was the monetary incentive?

i) in Phase I

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

ii) in Phase II

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

E. How motivating was getting class credit?

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

F. How important were the following factors to the amount of reward you received?

1. Whether or not you met the standard

not at all important 1 2 3 4 5 6 7 8 9 very important

2. Your effort level

not at all important 1 2 3 4 5 6 7 8 9 very important

3. Your ability at this task

not at all important 1 2 3 4 5 6 7 8 9 very important

G. Briefly state how hard you worked at the anagram task AND why you chose the effort level you did (If your effort varied across work periods explain why)?

APPENDIX K

FINAL QUESTIONNAIRE - EMPLOYEES (CELLS 2, 3, 4)

FINAL QUESTIONS - EMPLOYEES

A. Instructions: Think about your task ability, your effort level, and the difficulty of the task across ALL work periods. The items below concern your opinions of these causes on three different dimensions. Circle the number for all nine questions which best reflects your opinion regarding your task ability, effort and the task difficulty.

Regarding your task ability, was your ability level:

1. Something that reflects an aspect of yourself	1	2	3	4	5	6	7	8	9	does not reflect an aspect of yourself
2. Controllable by you	1	2	3	4	5	6	7	8	9	not controllable by you
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

Regarding your effort level, was the effort level you took:

1. Something that reflects an aspect of yourself	1	2	3	4	5	6	7	8	9	does not reflect an aspect of yourself
2. Controllable by you	1	2	3	4	5	6	7	8	9	not controllable by you
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

Regarding the difficulty of the task, was the task difficulty:

1. Something that reflects an aspect of yourself	1	2	3	4	5	6	7	8	9	does not reflect an aspect of yourself
2. Controllable by you	1	2	3	4	5	6	7	8	9	not controllable by you
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

B. Sex (check on box) Male ____ Female ____

C. Class Freshman ____ Sophomore ____

Junior ____ Senior ____ Grad ____

D. How motivating was the monetary incentive?

i) in Phase I

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

ii) in Phase II

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

E. How motivating was getting class credit?

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

F. Briefly state how hard you worked at the anagram task AND why you chose the effort level you did (If your effort varied across work periods explain why).

APPENDIX L

FINAL QUESTIONNAIRE - EVALUATORS (CELLS 6, 7, 8)

FINAL QUESTIONS EVALUATORS

A. Instructions: Think about your employee's task ability, effort level, and the difficulty of the task across ALL work periods. The items below concern your opinions of these causes on three different dimensions. Circle the number for all nine questions which best reflects your opinion regarding your employee's task ability, effort and the task difficulty.

Regarding your employee's task ability, was ability level:

1. Something that reflects an aspect of your employee	1	2	3	4	5	6	7	8	9	does not reflect an aspect of your employee
2. Controllable by your employee	1	2	3	4	5	6	7	8	9	not controllable by your employee
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

Regarding your employee's effort level, was effort level:

1. Something that reflects an aspect of your employee	1	2	3	4	5	6	7	8	9	does not reflect an aspect of your employee
2. Controllable by your employee	1	2	3	4	5	6	7	8	9	not controllable by your employee
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

Regarding the difficulty of the task, was the task difficulty:

1. Something that reflects an aspect of your employee	1	2	3	4	5	6	7	8	9	does not reflect an aspect of your employee
2. Controllable by your employee	1	2	3	4	5	6	7	8	9	not controllable by your employee
3. Variable over time	1	2	3	4	5	6	7	8	9	stable over time

B. Sex (check appropriate box) Male ____ Female ____

C. Class Freshman ____ Sophomore ____

Junior ____ Senior ____ Grad ____

D. How motivating was the monetary incentive?

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

E. How motivating was getting class credit?

Not at all motivating 1 2 3 4 5 6 7 8 9 Very Motivating

F. Briefly state if you had any strategy in providing the evaluations you provided, what factors you looked at in making your evaluations and what you hoped to accomplish with the evaluations provided.