Effects of Locus Control Upon Pay Satisfaction

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THE EFFECTS OF LOCUS OF CONTROL UPON PAY SATISFACTION

BY

RICHARD AVERY CURLE
B.A., University of Central Florida, 1980

THESIS

Submitted in partial fulfillment of the requirements for the Master of Science degree in Industrial Psychology in the Graduate Studies Program of the College of Arts and Sciences University of Central Florida Orlando, Florida

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INTRODUCTION

The issue of pay satisfaction is of increasing concern to management because of today's high cost of recruiting and training employees. Also of concern to management is the impact that a high employee turnover rate, due to pay dissatisfaction, can have on organizational effectiveness. Therefore, identifying the causes of, and reducing the probability of, employee pay dissatisfaction is desirable.

Lawler's (1971) model of the determinants of pay satisfaction clearly shows that an individual's reported pay satisfaction may be directly affected by his beliefs in his own locus of control (internal vs. external). The internal-external variable is defined as follows: If a person perceives that he exerts control over the occurrence of his own rewards, he has a belief in internal control. If, on the other hand, an individual believes that outside forces exert control over his rewards, he has a belief in external control (Rotter, 1966).

Locus of Control and Personality Variables

Perhaps the most prevalent area of research involving the locus of control construct has been to determine correlations between it and certain trait variables. The predominant instrument used to measure the I-E construct in these studies is the 23-item test developed by J. B. Rotter.
Several of these correlational studies between trait variables and locus of control have dealt with various types of anxiety. Watson (1967) found a correlation between the I-E variable and manifest anxiety of $r = -0.36$, and a correlation between locus of control and debilitating anxiety of $r = -0.25$, meaning that externals tend to suffer more from these traits than internals. These correlations are significant at the $p < 0.01$ level.

Clouser and Hjelle (1970) found that locus of control correlates positively with dogmatism at the $p < 0.01$ level. It may be inferred from this that the external person possesses a more closed system of beliefs-disbeliefs.

Ray (1980) found correlations between external locus of control and these trait variables: alienation $r = 0.554$, achievement motivation $r = -0.281$, authoritarianism, $r = -0.208$, neurotic tendencies $r = 0.360$, and Machiavellian tendencies $r = 0.404$. This suggests that externals tend to feel alienated, tend to possess neurotic tendencies and show a lower level of achievement motivation than internals. The evidence that externals do not tend to be of an authoritarian nature is not congruent with several other current studies indicating that this construct appears to be of a situational nature and varies even among externals themselves.

Williams and Nickels (1969) found that externals had higher scores on the Accident Index ($p < 0.001$), THE MMPI Suicide Scale ($p < 0.001$), and on the Potential Suicide
Personality Inventory (p<.01). This indicates that externals are more accident prone and show a greater tendency toward suicide proneness than internals. However, accident proneness and suicide proneness have been called transient personality characteristics rather than permanent character traits (Shneidman, 1965). There is also evidence that accident prone individuals tend to forget their accidents (LeShane and Brame, 1953). Litman and Tabachnick (1967) found that externals revealed a greater amount of overt "death anxiety" than internals. They also showed a greater amount of "maladjustment." These findings may account for the positive correlations between externality, accident proneness and suicide potentiality. Perhaps a quote by LeShane (1952) best expresses this view on the accident prone external, "The ego of the accident prone individual refuses to accept responsibility for his actions....They simply 'happen', and 'fate' or 'luck' seems to be against the person." As an addendum to these studies, Burnett (1981) found no significant interaction between locus of control and fear.

Several studies have investigated the relationship between locus of control and various measures of aggression. The study involving the greatest number of relationships and yielding the most concrete results was done by Williams and Vantress (1969). This study found that the correlation between the I-E variable and the Buss-Durkee Hostility Inventory was r=.27. This result indicates
that the more one sees his reinforcement as contingent upon factors other than his own behavior, the more aggression and hostility he reports. In this study, externals scored higher than internals on these dimensions; resentment, suspicion, and negativism \( (p<.001) \), indirect aggression \( (p<.01) \) and verbal aggression \( (p<.05) \). No difference was indicated between internals and externals regarding negativism, guilt or assault.

Bledsoe (1979) conducted a study correlating locus of control with a multitude of personality characteristics. His subject group was comprised entirely of women who were given Rotter's I-E scale and the 16 Personality Factor Questionnaire by Cattell. In this study, internals were found to be (have) more trusting, more willpower, more imaginative, more sophisticated (shrewd) and more relaxed than externals. Externals, however, were found to be more practical, more naive, more anxious, more shy, more reserved, more easily upset, more apprehensive and less warmhearted than internals. These correlations were all significant at the \( p<.05 \) level.

Locus of control has also been shown to correlate negatively with perceived competence (by others), self reported intrinsic motivation and satisfaction with life in general. These were all significant at the \( p<.001 \) level (Hargrett 1981). This study revealed that internals are seen as more competent by their significant others, are more intrinsically motivated and therefore are more
satisfied with their respective lives than their external counterparts.

Several studies have been done that investigated the relationship between locus of control and various aspects of stress. No significant interaction between locus of control and heartrate was demonstrated, although internals have been shown to exhibit a greater heartrate increase than externals when exposed to a stressful situation. Internals have been shown to perform better in an avoidable stress situation and externals performed best in an unavoidable stress condition (Houston 1972). The evidence in this study indicates that internals exhibit a greater physiological response than externals when stressed. Externals appear to "accept" threat as a no-control situation while internals are "aroused" in a threatening situation. Through extrapolation, it was also hypothesized that the information gathered by this study might be generalized to the workplace.

Anderson et al. (1977) studied the relationship between locus of control, environmentally induced stress and various coping behaviors. In this study it was discovered that internals perceived less stress than externals. There was a correlation between locus of control and Class One coping behaviors of $r=-.72$. This indicates that internals, when faced with an environmentally induced, stressful situation, exhibit coping behaviors aimed at resolution of the problem, correcting the situation per se. Locus of
control showed a correlation of $r=.665$ with Class Two coping behaviors. This explains the notion that externals feel a great amount of tension when faced with a stressful situation of this nature. In this study, externals also reported feeling more threatened, more emotional and less productive than their internal counterparts. This study confirmed previous findings that externals perceive greater amounts of stress in a given situation than do internals. Internals responded with more task-oriented coping behaviors in stressful situations while externals responded more emotionally and with more defensiveness. This information may indicate that an internal locus of control may be one of many prerequisites for entrepreneurial success. These results may have important implications for entrepreneurial training as well as stress training and stress management.

Many studies have investigated the various expectancies developed as a function of locus of control. Coppell and Smith (1980) found that internals were more successful in achieving success in a Response-Stimulus paradigm and that externals were more successful in a Stimulus-Stimulus setting ($p<.02$). This indicates that internals responses come from what rewards they believe they can receive by responding in a particular way, i.e., the workplace, the valence that they assign to these rewards and to their subjective probability beliefs that their actions will lead them to acquire these rewards.
Externals responses are determined by their reactions to the effect that the environment has upon them, and to a lesser degree, their own actions. In order for rewards to be used as a motivator for performance, several cognitive beliefs must be in evidence. First, an individual must believe he can obtain these rewards by expending effort, doing a "good job." Second, he must value these rewards as something worthy of his efforts. Last, he must believe that by expending this effort, he will have the necessary tools and environment so he will be able to perform this "good job."

Locus of Control and Skill vs. Chance Situations

Several studies have researched the paradigm of skill versus chance situations. Ude and Vagler (1969) discovered that, in an ambiguous task, internals perceived the task as skill determined more than externals (p<.01). Ducette et al. (1973), among others, also replicated this finding. In the previous study, Ude and Vagler also determined that internals were more aware of the correct response-reinforcement contingencies than externals (p<.01). Results of this study indicate that the approach to a learning situation is determined by locus of control when perceived locus of control influences the tendency to become aware of contingencies in the environment. This awareness is necessary for conditioning, therefore internals are more likely to be conditioned than externals. This information could have strong implications in employee training.
programs and in employee awareness workshops for companies of all industry.

The relationship between the I-E variable and skill-chance situations has received a great amount of attention in the past. Watson and Boumal (1967) found that internals made more errors in a chance condition and that externals made more errors in a skill condition (p<.05). Julian and Katz (1968) also supported these findings with the results of their study. The implications of this research are quite strong. If one feels that he has little or no control over a situation, he becomes more anxious, thereby making more errors and thus taking longer to learn a task to criterion.

Lefcourt et al. (1968) developed an interesting study involving the I-E construct, a skill-chance condition and Rotter's Level of Aspiration Board (LOAB). This study showed that decision time was not significantly related to locus of control. Internals reported more task relevant thoughts than externals (p<.10). Internals also reported more assertiveness and self confidence (p<.05). This indicates that internals might function more effectively than externals in an open, loosely constructed environment.

Littig and Sanders (1979) also investigated the relationship between locus of control and the skill-luck paradigm. Persistence was not shown to be significantly different for the I-E construct. Willingness to return to the same situation was different at a significant level. Internals given skill instructions agreed to return more
than those in the chance situation (p<.001). The opposite was true for externals at the p<.05 level. These results were supported by Kahle (1980). This study showed that externals were more likely to select a test of chance and that internals were more likely to select a test of skill (p<.01). These results imply that behavior is both a function of self-selecting stimulus conditions and a function of personality factors. Different types of people are attracted to different types of situations and motivation is enhanced when situation and person type are matched. People manipulate the environment to make it more compatible with their own preferences. This leads us to believe that internals might be more satisfied in an environment over which they think that they have control, i.e., a merit-based pay system.

Kravety (1974) studied a situation in which feedback (success) was manipulated on a fixed scale. Externals stressed chance elements more than internals (p<.03) and internals stressed skill elements significantly more than externals (p<.001). There was no difference in the level of effort expended by either group. In low-success conditions, externals indicated that chance led to incorrect responses more than internals (p<.05). In high success conditions, externals said that chance led to correct responses more than internals (p<.001). Internals stressed skill in success conditions and lack of skill in failure conditions. In these situations, subjects were given ambiguous
instructions and were asked a question regarding the amount of skill required to complete a task. As reported, internals stressed skill components and externals stressed chance components. This suggests that internals and externals begin tasks under different cognitive sets. In a related study, Rotter and Mulry (1965) discovered that internals take longer to make decisions in skill conditions and that externals take longer to make decisions in chance conditions (p<.05). Again, this also indicates that internals appear to function best in an environment that they believe they have control over.

Ducette and Walk (1973) investigated the relationships between locus of control and some of its motivational and cognitive correlates. This study basically dealt with the prediction of success involving both skill and chance conditions. Externals performed more poorly on the skill determined task than on the "luck" determined task (p<.001). Internals took fewer trials to success in the skill conditions (p<.001). Internal subjects preferred the skill task and externals preferred the "luck" task (p<.001).

**Locus of Control and Reinforcement**

Locus of control and reinforcement have been shown to have significant relationships in several different manners. Julian and Katz (1968) conducted a study in which a subject could choose to rely on himself, a more skilled opponent or on withdrawal from the situation to earn points.
In this study, internals preferred to rely on their judgment more than externals (p<.01). The withdrawal option was not significantly related to locus of control. The perceived competence of the opponents was rated equal by both internals and externals. Decision time differences were not significant. Internals completed the easier tasks quicker than externals, however, they completed difficult tasks more slowly. Under conditions where success on a task is largely a matter of skill, internals prefer task strategies that enhance their personal control of the outcome. In this study, internals chose to rely on their own judgment even they saw their opponents are more competent at the task. The authors explain this phenomenon as follows, "...the internal control orientation involves, as a motivational aspect, a need to predict one's outcomes. This predictability is enhanced by exerting a greater control over outcomes and by having an accurate appraisal of one's talents and capabilities relevant to a particular situation." Idealistically, these components would be evident in a merit-based pay system.

Locus of Control and Time Perspective

Platt and Eisenmen (1968) studied the relationship between the I-E construct, time perspective and adjustment. Internals differed from externals on several time-oriented variables. Among these, impersonal future extension, personal future extension, and impersonal past extension showed the greatest significant differences. These results
merit some interesting observations. Internals tend to see the passage of time as having greater movement from the present to the future. Thus, shortened time perspectives are related to the external point of view. Therefore externals see their future as being populated with fewer events. Perhaps internals perceive themselves as having the same probabilities of reinforcement, but see themselves as participating in a greater number of these reinforcement contingent situations. The greater personal future extension scores for internals indicate that they view a greater length of time in which these situations may occur. Externals, on the other hand, are more anxious because of their inability to appraise the world as one in which they can complete organized response sequences. Externals, therefore, prefer a more rigid, fixed environment, one in which they can be "guaranteed" at least a moderate degree of reward.

The effects of locus of control on goal setting and performance has been studied infrequently. Perhaps the most informative research in this area has been done by Escovar (1979). He found that internals tend to set more ambitious goals than their external counterparts (p<.05). The level of performance of internals, over time, increased more than that of externals (p<.05). The two groups did not differ in their ability to estimate their own performance.
Locus of Control and Information

Information seeking and processing is an integral function in today's workplace. Davis and Phares (1967) completed an interesting study involving information seeking in a social influence situation. In the control condition (ambiguous instructions), internals asked significantly more questions than externals (p < .05). The results were the same in the condition which involved instructions that related the task as being skill determined. In the "chance" condition, the tendency was for externals to ask more questions, but this result did not reach significance. In all three conditions, internals expressed a preference for more information. Within the framework of Rotter's social learning theory, information seeking would be viewed as a function of the value placed on the goals to which the information-seeking behavior is related and the expectancy for success in achieving these goals. Phares (1968) studied the relationship between locus of control and the recall-utilization of material. In this study there was no significant difference between internals and externals on total number of items recalled. Internals, however, recalled more items correctly (p < .05). In the utilization phase, internals gave a greater number of reasons for their responses (p < .02). Internals also gave more correct reasons in the utilization phase (p < .01). In addition, internals had a greater ratio of correct reasons to total reasons (p < .01). There was no locus of control
effect on trials to learn. These studies, in conjunction with research previously cited, indicate that internals place more value on skill reinforcements, and that externals tend to value chance reinforcements more highly. It is possible that in skill situations, internals and externals do not have the same reinforcement histories and therefore do not have the same expectancies for success. If internals actually do have higher expectancies for success in skill situations, it is very likely that they would seek more information in these situations, hence the results of these studies.

Ducette and Walk (1973) showed that the internal subject excelled on three facets of this study: (a) He extracted information better; (b) He recalled information better; and (c) He used the information more efficiently. This indicates that internals are more sensitive to environmental stimuli. Internals appear to function more effectively than externals in more complex environments, those in which the rules are not rigid or clear cut.

Locus of Control and Various Social Parameters

Pines and Julian (1972) conducted research involving information processing and social influence. This research contained both relevant and irrelevant cues, as well as both high and low social evaluation. The results showed that internals fared better in the relevant cue condition and that externals performed better in the high social evaluation situation (p<.05). Internals were more affected
by the task and informational demands of the situation. Externals were more affected by the social conditions of evaluation. Both internals and externals may seek to exercise control over reinforcement, but they engage in different strategies to obtain their desired results. Internals appear to focus on the task requirements as a way of maximizing information critical to the successful performance of the task. Externals, on the other hand, seem to be less interested in acquiring information relevant to task performance. Instead they are more concerned with ascertaining and complying with the social demands of a given situation. Other possibilities for these differences were controlled for and thus ruled out in this study. Among these factors were differences in initial learning, intelligence, motivation (in terms of a desire to please the experimenter) and differences in material retention. A more likely explanation of these results would relate to the construct properties of the I-E variable.

Risk taking, actual performance, attempts at social influence, and levels of effort all share a common feature, an attempt to directly control the environment. Locus of control research has centered around the premise that internal subjects tend to be more successful in exerting these types of control than external subjects. The mediating power of locus of control appears to reside in motivational and cognitive qualities, both of which appear necessary but neither of which is sufficient alone.
Several other studies have been conducted involving locus of control and various social parameters. Hardy and Holt (1977) found that internals were superior to externals on certain types of cognitive processing. From their study they deduced that internals and externals do not differ in acquisition (amount) of material. Internals gave more reasons for their decisions. Differential retention was ruled out as an explanation for the differences in this study. Differential utilization of material was, instead, suggested.

Phares (1965) constructed a situation in which volunteers were subjected to the influence of three types of experimenters; internal, external and control (neutral). The reported influence by the internal experimenter was greater than that of the external experimenter at the \( p < .03 \) level. The internal's influence was greater than the control's influence at the \( p < .01 \) level. There was no significant difference between the external and the control experimenters. This research indicates that internals exert more influence in a social situation than externals or even a group bordering on neutral ground. Externals appeared to be no more influential than a control group in a social situation. Thus internals appear to be superior to the other groups in exerting influence in a social situation. This explanation can also be extended to interpersonal relationships in the working environment.
Locus of Control and the Role of the Organization

Organ and Green (1974) investigated the relationships between locus of control, role ambiguity and work satisfaction. The correlation between locus of control and role ambiguity was $r = .42$, indicating a rather strong relationship at the $p < .01$ level. This means that externals show a propensity towards confusion about their roles in life. Locus of control correlated with work satisfaction at $r = -.36$, significant at the $p < .01$ level. It also showed a correlation of $r = -.27$ with job satisfaction ($p < .01$). The part correlation between locus of control and work satisfaction, controlling for role ambiguity, is $r = -.27$ ($p < .01$). However, the part correlation between role ambiguity and work satisfaction, controlling for locus of control, was $r = -.18$ ($p > .10$). From this study, it appears that locus of control provides a greater independent contribution to differences in work satisfaction than does role ambiguity. This study did not look at pay satisfaction in particular and did not use the Job Descriptive Index as a measurement tool.

Sims and Szilagyi (1976) conducted a study which produced some rather surprising results. This research dealt primarily with locus of control, job characteristic relationships and self actualization need strength. Externals were shown as having stronger relationships between autonomy and work satisfaction and autonomy and satisfaction with supervision. Locus of control basically
did not moderate the job characteristic relationships. The "strange" results of this study may possibly be explained by the fact that this is a very internal subject group (Mean locus of control score was 5.10). Such factors as peer pressure and social ostracism might have contributed to these results, if external individuals had taken the opportunity to use this research as a tool to vent their work-related complaints and frustrations. Such factors, whether real or imagined, may have had an effect on these results.

Sims and Szilaggi (1976) conducted a study involving over 1600 employees of a medical facility who were situated in administrative, clerical, service, technical and professional positions. Internals perceived higher Performance-Reward relationships across all fields. They were also shown to perceive higher Effort-Performance relationships for professional, clerical and service personnel. Except for technical employees in the P-R condition, which was significant at the p<.05 level, all correlations were significant at the p<.01 level or better. This information indicates that the type of individual who actively seeks out information of an instrumental nature is certainly one who believes he can control his own fate. Thus, the internal individual may be more adept at discerning the performance requirements that are necessary for him to attain the organizational rewards he so vehemently desires.
Locus of Control and Motivation

The relationship between locus of control and the various categories of motivation have been widely studied in a multitude of situations. Phillips and Lord (1977) conducted a study involving intrinsic motivation, locus of control and competence. They hypothesized that the incentive and reinforcement functions of feedback may lower perceived internal control and decrease intrinsic motivation. On the other hand, directional feedback may help clarify roles leading to task mastery, competence, perceived internal control and intrinsic motivation. They discovered that the crucial intervening mechanism, perceived locus of control, was significantly related to problem attempts, free time behavior, self reported intrinsic motivation and satisfaction. Hackman and Oldham (1976) have noted that autonomy and responsibility, logically associated with an internal locus of control, and feedback, related to the amount of competence information received, are essentials for the intrinsic motivation of an individual to perform a task.

Alexander (1977) looked at the relationship between locus of control, achievement motivation, persistence and confidence. Here, locus of control was positively correlated with self confidence at the p<.01 level. Achievement motivation was significantly correlated with persistence. Locus of control, in this situation, was not correlated with persistence. From this research, it can be
argued that achievement motivation and locus of control, while similar theoretically, were not measuring different facets of a given dimension behavior, but tapped completely different dimensions. The evidence here indicated that locus of control is a better predictor of thought and that achievement motivation is best used as a predictor of action. Success, when added to locus of control, significantly increased the variance on both dependent measures (persistence and confidence).

Dailey (1979) found that internals perceive a greater degree of task difficulty than externals. Internals also perceive more variability in the tasks they perform than do externals. In this study, internals were also rated as better performers than were externals (all at p<.05).

Broedling (1975) conducted a study involving the I-E construct, measures of Valence (V), Instrumentality (I) and Expectancy (E), job performance and job effort. The correlation between VxI and locus of control was $r=-.39$. The correlation between valence and locus of control was $r=-.27$. The correlation between E and locus of control was $r=-.28$. The correlation between E(VxI) and locus of control was $r=-.38$. These correlations were all significant at the p<.01 level. These were the only significant correlations obtained in this study. Internals were rated as having given a greater degree of effort than externals. They were also rated as performing more task relevant behaviors. Both of these correlations were significant at the p<.05
level. Internals were rated as being more motivated and as better performers \( (p<.001) \). In this study, personnel of the higher pay grades were shown to possess an internal locus of control. The results of this study indicate that internals as employees are more motivated to work than externals, actually perform better and view hard work as being instrumental in obtaining those things of value to them. However, though other research has shown no difference between males and females on the I-E variable, caution must be taken when evaluating this particular piece of research.

**Locus of Control and the Workplace**

The relationship between locus of control and the workplace and the various aspects that make up the working environment have received much attention in the I-E research conducted to date. Tseng (1970) studied the relationships between locus of control and job proficiency, employability and training satisfaction. The correlations between locus of control and 15 work-related factors were found to be significant. Internals were rated higher (better) on ability to work with others, cooperation, self reliance, courtesy, and reliability. They were also rated higher (better) on care of equipment, safety practices, compliance with rules, work tolerance and work knowledge. Internals were also shown to be more conscientious, more cautious, more calm, more satisfied and quicker to grasp ideas. However, in this study, internals were not shown to
be significantly more employable. Internals expressed a higher satisfaction with training than did externals. Internals showed a higher need for achievement. No significant difference was found on the fear of failure construct. From this research, one can surmise that locus of control is an expectancy variable rather than a motivational variable.

Locus of control appears to show a correlation with occupational structure. Eichler (1980) studied the relationship in a setting involving two distinct types or classes of work environments. Class A type environments involved routine, non-complex tasks which were clearly supervised. Class B type environments involved relatively complex tasks which required little or no supervision. The results in this study indicate that group A subjects were significantly more external than group B subjects.

Many studies have been done relating locus of control to our leaders, supervisors, evaluators etc. Anderson and Schneier (1978) found, in their study of leaders, that leaders were significantly more internal than non-leaders. In another facet of this study, it was found that groups with internal leaders outperformed groups with external leaders. Internals were seen as calm, decisive, supportive, democratic, domineering, self-serving and they formed coalitions. Externals were seen as critical, emotional and quiet. This research suggests a personality type and some associated behaviors which appear to correlate with
leadership in a small group-task oriented setting. The behaviors of the individuals in this situation appear to suggest a task orientation for internals which could account for performance differences. Along the same lines of the previous study, Goodstadt (1973) found that, in a leadership/supervisory situation, internals used more persuasive powers than externals. Externals employed more punishing/coercive powers than internals. From this research it was inferred that internals believed they would be successful and therefore used a milder form of influence (personal persuasion). Externals believed they would not be successful and used the harshest form of influence (coercive power).

The relationship between locus of control and certain job related behavioral consequences has been investigated by Hargrett (1981). In this study, subjects acted like managers; hiring, firing and promoting persons based on a film of an actor portraying a laborer. Locus of control was found to correlate with perceived competence \( r = -0.52 \), self reported intrinsic motivation \( r = -0.69 \) and satisfaction \( r = -0.61 \) (all significant at \( p < 0.001 \)). This indicates that internals were seen as more competent, reported more intrinsic motivation and were seen as being more competent. Szilaggi et al. (1976) found some rather interesting and somewhat different results in a similar study. Internals here reported higher satisfaction with work for professional, clerical and service groups. There was,
however, no reported difference in performance ratings for the I-E construct. The fact that the subjects in this study were employed by a medical facility and were about 80% female must be taken into consideration when assessing these results even though studies by White (1977) and other researchers found no differences between males and females on the locus of control variable.

Mitchell et al. (1975) investigated the relationship between locus of control and satisfaction with work and supervision. The subject group consisted of both rank and file employees and a large group of managers of these same employees. This research showed that internals are more satisfied than externals with their jobs, intrinsic outcomes and the general condition of their job environment ($p<.001$). They are also more satisfied with extrinsic outcomes ($p<.10$). Managers were shown as being more internal than rank and file employees ($p<.001$). Internals were seen as perceiving a stronger relationship between their actions and what happens to them ($p<.001$). Internals also exhibit a higher degree of expectancy, control and instrumentality than do externals ($p<.001$). Externals view coercion and formal position as the best methods to use to influence subordinates, whereas internals reportedly value rewards, respect and expertise as the best ways to influence their subordinates ($p<.05$). If externals are more unhappy and unsatisfied than internals and see no room for advancement, they will choose to leave an organization or
they will have a tendency to become more internal. This research has shown that internals are more satisfied with a participatory management style while externals are more satisfied with a directive management style. These findings, coupled with the path-goal information, suggest that externals may generally be more dissatisfied with organizational life simply because they feel they do not have control over the organizational outcomes which are important to them. When the most recent literature on organizational environment is reviewed, there appears a rather clear emphasis on a more open, evolving participatory and complex atmosphere where management is concerned. In light of the results presented in this and previously mentioned studies, it may be more likely that the internally oriented person may be better able to adapt to the more personally demanding, constantly fluctuating environment which characterizes the current and, most likely, future organizational environments.

Rothberg (1980), in a study involving corporate executives and career military officers from the rank of Major on up, discovered that externality does not, in itself, prevent one from attaining a position of power. Because powerless groups have traditionally been thought of as external, many researchers have assumed that most or even all powerful groups were internal in nature. This is clearly not the case as evidenced by the results of this study.
Locus of control has been shown to moderate other career-oriented variables as well. Kyriacou and Sutcliff (1979) found that locus of control correlated with self reported stress $r = .36$, indicating that externals reportedly experience more stress in the workplace than do internals. In this study poor career structure correlated with locus of control $r = .25$ and with self reported inadequate salary $r = .24$ (all significant at the $p < .01$ level). This indicates that externals not only are lacking in their structuring of career goals and paths, they are also lacking in compensation when compared to their internal counterparts.

Kimmons and Greenhaus (1976) investigated the relationship between locus of control and the reactions of employees to various work characteristics. Internals were depicted as perceiving a greater degree of autonomy ($p < .05$). They also reported greater overall job satisfaction ($p < .05$). Internals perceived more performance feedback, perhaps leading to the previous results ($p < .01$). A weaker correlation showing that internals were more likely to perceive a connection between pay and performance was also shown ($p < .10$). In light of this information, one could suggest that internals shape their jobs to obtain more autonomy, feedback etc. or they might actually perform better, thus increasing their chances of being granted more autonomy in the form of more job involvement. This in turn would present them with more feedback. The criterion listed previously would most likely be incorporated during
construction of the "ideal" merit based pay system in one
form or another.

Locus of Control and Work Experience

One very interesting study involved locus of control
as a contributor to and an outcome of work experience. Adrisani (1975) conducted this research using a shortened
version of Rotter's I-E scale and data derived from the
National Longitudinal Survey's sample of middle aged males. This study looked at several job related factors in the
time periods of 1969 and 1971. Internal locus of control
was found to correlate positively with the following:
occupational attainment (1969, 1971), hourly earnings
(1969, 1971), annual earnings, perceived financial progress
(from 1969-1971), positive change in job satisfaction, and
a positive change in annual earnings. All of these
correlations were significant at the p<.01 level. There was
no significant difference between internals and externals
regarding unemployment, occupational attainment or hourly
earnings. These relationships were obtained controlling for
education, training, health, tenure, age, marital status,
region, city size, and race. The partial correlations
between several of these relationships were examined while
holding others constant. Several significant differences
were found when examining these correlations. For example,
these relationships implied that blacks, those at the
bottom of the occupational hierarchy and public sector
workers were more likely to develop external outlooks
during this time period. However, whites, those in better occupations, the private wage sector and salaried workers tended to become more internal. I-E expectancies appear to influence the degree of success of those in the workplace. These expectancies are also influenced by the employment experience. The apparent manner in which locus of control and the environment seem to reinforce each other is entirely consistent with the expectancy literature covered to date. Seeman (1972) indicates that the work experiences of individuals shapes their perceptions of control over the environment, which in turn, shapes the way in which they react to the environment in future situations. Unfavorable work experiences are thought to increase tendencies toward external control, which in turn will reduce the individuals willingness to participate in society in general and in the institution of work in specific. This appears to explain why externals function best in a simplistic, non-demanding environment where they stand a lesser chance of failure.

**Locus of Control and Job Satisfaction**

Evaluation of work by an individual should be directly related to his attitudes about the particular job in question. One who thinks that work in general is, at best, a necessary evil to be undertaken only when all other strategies fail is likely to be unhappy even in the best of working environments. Conversely, one who feels that personal worth results only from hard work and self sacrifice, will probably derive some satisfaction even in
the most demanding position. Blood (1968) showed a strong positive relationship between satisfaction and the so-called "Protestant Work Ethic" (p<.01).

Scheafer (1953) argued that job satisfaction will vary rather directly with the extent to which those needs of an individual which can be satisfied are actually satisfied. This "Fulfillment Theory" is one of the building blocks of modern job satisfaction research. "Equity Theory" stated that satisfaction is determined rather directly by a person's perceived input-output balance. To reiterate, satisfaction is determined by the perceived ratio of what one receives from the job to what one puts into the job. People then compare this balance with their perception of this relationship involving their comparison other. Porter (1961) has presented perhaps the most complete explanation of satisfaction..."it is the perceived discrepancy between the amount of a stimulus received by a person and the amount of that stimulus a person feels he should receive."

The most widely used and the most widely documented instrument employed to measure the various facets of job satisfaction is the Job Descriptive Index (JDI) developed by Smith, Kendall and Hulin (1963). The JDI measures job satisfaction in five different facets (work, pay, promotion, supervision and coworkers). Vroom (1964) stated that, "The JDI is without doubt the most carefully constructed measure of job satisfaction in existence
today...The extensive methodological work underlying this measure as well as the available norms should insure its widespread use in both research and practice."

Hulin (1969) investigated the relationship between the JDI and satisfaction with the job in general for residents of two separate but similar communities. He found that the five JDI scales correlated positively with an individual's satisfaction with his job in general. Some other factors shown to be related to a measure of satisfaction with the job in general are: training opportunities, management's response to complaints, working conditions, and several "environmental" factors such as weather, housing, recreational opportunities, cost of living and location (p<.01). Evans (1969) stated that, "It seems more logical to assume that these work related values may precede and influence job satisfaction rather than the opposite. Perhaps higher job satisfaction partly exists as a consequence of congruence between individual and institutional goals."

When attempting to measure job satisfaction, one must keep in mind the divergence among operational definitions of job satisfaction. It does not appear to assume that because two different measures are reported as measuring satisfaction that, in fact, they are highly correlated. Occasionally, the strength of the relationship reported can be influenced by the choice of which job satisfaction measure used. It therefore appears that some of the
conflicting results reported in studies of satisfaction are due to the different measures of job satisfaction that have been used. The evidence suggests that it is possible to validly measure satisfaction within different facets of people's jobs. As a general rule, the data have shown that facet satisfaction weighted by various means have yielded no better results than unweighted versions (Wanous and Lawler, 1972).

Rosenberg (1957) showed that people have a tendency to change jobs to coincide with their values rather than vice versa. The differences found in most studies of this nature show that this phenomenon is not due to anything that has been done by the organization to the employee after hiring, but to the kind of person initially attracted to the organization.

Vroom (1964) pointed out that satisfaction only applies to outcomes already possessed or experienced by an individual. He suggests that the term "valence" be used to describe as effective orientation toward anticipated outcomes. The difference being whether or not the job experience has already happened (satisfaction) or whether it is anticipated (attraction).

Several validation studies of the JDI have shown that an employee's satisfaction with pay has been directed as much at wage and salary administration as it has been directed at wage levels (Hulin, 1969). People may have a feeling that stems from how much they would like to earn
and a different feeling that stems from what they think they should earn. The mediating factor in these instances is the method in which compensation is administered.

Obviously, a multitude of personality variables come into play when one investigates the realm of job satisfaction. Locus of control has been shown to have a significant correlation with various facets of job satisfaction. Internals were shown to have a higher overall degree of job satisfaction than externals (Mitchell et al., 1975). Internals were more satisfied with intrinsic and extrinsic outcomes \((p<.001)\). As a related hypothesis, one might suspect that externals, being less happy than internals, would either leave the organization or become more internal over time. This study also showed that the subjects (a management group) were significantly more internal than were the rest of the employees \((p<.001)\). Internals have been shown to be more satisfied with a participatory management style than externals; the reverse is true for a more directive style. Internals had higher expectancy scores \((p<.001)\), instrumentality scores \((p<.001)\) and control scores \((p<.01)\) than did externals. Therefore, internals believe that working hard is more likely to lead to acceptable performance, that this acceptable performance is likely to lead to valued rewards and that they have more control over how they spend their time on the job than do externals. Thus, the work environment appears more random to externals than to internals. Even though locus of
control is seen as only one component in the Effort-Performance-Reward trichotomy, accounting for only a small portion of the total variance, it is quite consistent and in this lies its strength (Mitchell et al., 1975).

The evidence presented so far indicates that there are psychological constructs which may precondition the degree of individual job satisfaction.

**Locus of Control and Pay**

An individual's orientation toward pay increases appears to be rather predictable when given information on the union affiliation of the individual, whether his organization bases pay on performance and information on the extent of the individual's pay satisfaction. Workers, in general, do not have strong, stable orientations toward pay increases (Krefting, 1980). These orientations seem to vary situationally and often change as circumstances change. Those dissatisfied with pay generally find it insufficient for their respective lifestyles and, thus, focus of monetary issues. If and/or when this dissatisfaction is varied or improved, this orientation can, and does, shift. It has often been suggested that individuals with a particular orientation towards pay self select into situations consistent with that orientation. Self-selection, however, requires a wide range of occupational choices and complete and accurate information about the job in question. It is doubtful that potential employees have either.
Lawler (1971) proposed that pay satisfaction be viewed as a function of the perceived discrepancy between: (a) The amount of money an individual feels he should receive from his job; and (b) The amount of money he actually does receive. According to Lawler, the perceived amount of pay that should be received is influenced by perceived job inputs, perceived inputs and outcomes of referent others, perceived job characteristics, perceived non-monetary incomes and wage history. The perceived amount of pay received is influenced by wage history, perceived pay of referent others and actual pay rate. When these elements are in agreement, the employee should be satisfied. When pay outcomes fall short of what the employee perceives they should be, he should feel dissatisfied with his pay. When pay outcomes exceed what the employee believes they should be, he will most likely harbor feelings of guilt, inequity and other discomfort.

Obviously, employee satisfaction with pay should be of importance to the organization because pay constitutes a substantial cost of conducting business. Herzberg, for example, states that pay should be seen only as a major source of dissatisfaction. Even though the evidence shows pay as a major source of dissatisfaction, the evidence clearly does not support the hypothesis that pay operates only as a dissatisfier. The modern hypothesis holds that pay satisfaction should be viewed as a continuum ranging from positive to negative. Porter and Lawler (1968)
attempted to disentangle the effects that various independent variables had on pay satisfaction. This study attempted to solve one of the major problems associated with pay satisfaction research, that is, the multitude of variables associated with pay satisfaction. A second problem with the study of pay satisfaction is the non-standard nature of many of the measures used in pay satisfaction research. This makes it quite difficult to determine to what degree differences in empirical findings are a function of differences in the measures used.

Until recently, most research involving the relationship between pay satisfaction, organizational level and method of wage payment has come to a similar conclusion. The evidence in the majority of instances has yielded the conclusion that pay satisfaction is negatively related to organizational level. That is, when wage level is held constant, those higher in the organizational hierarchy are less satisfied with their pay (Schwab and Wallace, 1974).

The majority of earlier studies conducted by those interested in the satisfaction-wage system relationships came to the conclusion that performance based pay systems consistently showed that higher satisfaction with pay was gained in the performance-based pay system as opposed to time-based pay systems (Cherrington et al., 1971). Whyte, 1977, contends that incentive systems are likely to disrupt the social system and thus lead to feelings of inequity and
dissatisfaction. Schwab and Wallace (1974) also found that, with the effects of other variables held constant, age had no effect on pay satisfaction. Klein and Maher (1966) showed a strong negative relationship between education level and pay satisfaction ($p < .01$). Porter and Lawler (1968) found a negative relationship between pay satisfaction and job performance. Gruenfield (1962) found several significant relationships with pay satisfaction. Pay was shown to be more important to men than to women. Those low in self assurance tend to value pay more highly. The less pay received, the more important pay is ranked. These studies also showed that the more pay received, the more likely an individual was to be satisfied with his pay. Lawler also showed that organizational level is negatively related to the importance attached to pay. Those individuals in industrial settings place the most importance on pay while those in government and social service settings place the least amount of importance on their pay. Lawler and Porter (1966) determined that upper-level managers are less satisfied with their pay than lower-level managers, providing that pay level is held constant. Penner (1966) found that individuals that receive large amounts of non-monetary outcome should be more satisfied with their pay. Stagner and Rosen (1965) discovered that pay satisfaction correlated negatively with union membership, and other union oriented activities such as strikes and grievances ($p < .01$).
Several investigators have looked at the effects of pay satisfaction on other aspects of the working environment. House and Wigdor (1967) found that pay satisfaction correlated negatively in a strong fashion with turnover ($p<.01$). This study also indicated a weak negative relationship between pay satisfaction and absenteeism. In this research, pay satisfaction was shown to influence job satisfaction, not vice-versa.

The Motivation Model, developed by Lawler, suggests that there are some relatively fixed differences among individuals which may play a part in determining how employees may view the relationship between pay and performance. Specifically, it suggests that the belief in internal versus external control will vary among individuals. Those high in internal control have a belief that they can influence their own destiny. Those with a belief in external control feel that they have little or no influence over their own destiny. Therefore, those rated high on the internal-external continuum are likely to believe that they can influence their own pay—if the pay system gives them any reason to hold this belief. Externals are not likely to believe that they can have an influence over their pay, regardless of their actions or the type of pay system employed by the organization. Rotter has suggested that a person's position with respect to locus of control is relatively fixed. Thus, selection decisions or pay system structuring may play an important role in
determining the success of pay programs and, ultimately, the success of the organization. If an organization is comprised primarily of employees who believe strongly in internal control, a rather strong case may be stated for the implementation of a merit pay system. Conversely, if an organization is populated by individuals with a belief in external control, a merit based pay plan may be doomed to failure from the outset. This information suggests that, first, an organization might wish to determine what type of employees they have, with respect to locus of control, before it decides upon the type of pay system to employ. Secondly, as suggested by Lawler, an organization might wish to include a locus of control "test" in its selection system. This raises the possibility that potential employees can be selected initially on the basis of the degree to which they are likely to accept the pay plan currently employed by an organization.

The first suggestion raises some interesting possibilities with regard to selection. If there is a drastic mismatch of person type and the pay system used, a strong case may be stated that this individual may stand a greater-than-average chance of becoming dissatisfied with his pay. If the pay system employed and person type are in congruence, then a good chance exists that the individual may be satisfied with the method of pay currently employed.

The second situation, although thought provoking, has the potential to cause some rather difficult situations.
First and foremost are the possible legal implications that could be raised if one decides to use a locus of control measure in a selection system. Although far from being conclusive, several studies have shown significant differences between various cultural, racial and ethnic groups on the locus of control variable. Certain moral implications can be raised in this situation as well. Therefore, it seems that the best way for an organization to use information gained from administering a locus of control measure would be to utilize this information when deciding what type of pay system to employ. In this way an organization can attempt to maximize the congruence between employee type and the method of the pay system employed.

**Hypotheses**

The intent of this study was to view the relationship between locus of control and pay satisfaction. One test (predictor) was compared to one measure of satisfaction (criterion). The relationship between the predictor and the actual criterion measure was statistically analyzed using a field sample size of 106 subjects.

According to motivational theory, each of the hypotheses was expected to be significantly upheld. The relationship between each of the dependent variables to the predictor was predicted to be significantly different from each other.
Hypothesis I

Those individuals with a belief in internal control will be more satisfied in a system where they perceive that pay is contingent upon performance rather than in a system where pay is not seen as being based on performance.

Hypothesis II

Those individuals with a belief in external control will be more satisfied in a pay system where pay is not seen as performance based and less satisfied in a system where pay is viewed as being contingent on performance.

Hypothesis III

The relative size of the group means for pay satisfaction with respect to locus of control (internal vs. external) and pay satisfaction in two pay contingency situations (merit vs. non-merit) is predicted to be as follows (from the most satisfied to the least satisfied):

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with Pay and:</td>
<td></td>
</tr>
<tr>
<td>1. Internal LOC...Pay contingent on performance</td>
<td></td>
</tr>
<tr>
<td>2. External LOC...Pay not contingent on performance</td>
<td></td>
</tr>
<tr>
<td>3. Internal LOC...Pay not contingent on performance</td>
<td></td>
</tr>
<tr>
<td>4. External LOC...Pay contingent on performance</td>
<td></td>
</tr>
</tbody>
</table>
METHOD SECTION

Selection of Subjects

Due to the nature of this research design, it was necessary to solicit participation on a voluntary basis via a blanket mailing. These subjects were educators employed by the University of Central Florida in Orlando, Florida, and Memphis State University in Memphis, Tennessee. They will be asked to participate on a voluntary basis via a blanket mailing. In order to gather the number of participants needed for this study, 200 packets were distributed by mail to subjects at each institution. The subjects will be solicited randomly from mailing lists provided by the participatory organizations. A letter of introduction asking for support and participation in a psychology experiment without compensation and guarantee of confidentiality was included. Each subject was asked to sign and complete a consent form along with the test instruments, which consisted of three individual questionnaires combined into one packet.

Apparatus

Three different test measures were completed by and obtained from each of the respondents. The three different measures are as follows:
1. Predictor--The 23 item test developed by J. B. Rotter designed to determine an individual's locus of control. The scale of this test ranges from a low of 0 to a high of 23. A lower score indicates a personality foundation of internality. Conversely, a higher score indicates an external nature.

2. Criterion--The Job Descriptive Index (JDI) developed by Smith, Kendall and Hulin. This device measures job satisfaction in five different facets (work, pay, promotion, supervision and coworkers).

3. Background Questionnaire--A questionnaire developed by the author to gather information about the sex, age and educational level of the subjects. This instrument will also gather information about the perceived pay contingency situation (merit vs. non-merit) of the subject.

Procedure

The experimenter (E) personally compiled and mailed each questionnaire packet. These were then be distributed to the potential subjects chosen at random from the educators employed at the University of Central Florida and Memphis State University. Each packet (see Appendix A) contained the three aforementioned questionnaires, a consent form and a cover letter, including instructions. The cover letter notified the subject of the purpose of the research, the intended use of the test scores, guarantee the anonymity of said test scores, relayed the fact that participation was voluntary, and finally, asked the subject
to read and sign the consent form. The cover letter then informed the subjects that they were to complete the three questionnaires. The subjects were asked to complete all items on all sheets to the best of their abilities. Directions accompanied all questionnaires. The E will also provide information as to where he may be contacted in the event the subject has any questions.

When the subject had completed the packet, he was instructed to return all information to the E in the enclosed, addressed envelope. The subject was then thanked for his participation. No debriefing was required as the intent of this research was apparent, there was no intent to deceive or confuse the subject and that the information gathered was used only for its stated purpose.

Data Analysis

When the packets were returned, each quiz was assigned a raw score, or scores, according to the nature of the quiz being assessed. The predictor, the 23-item locus of control test, was evaluated using the standard method suggested by its author, J. B. Rotter. Each item was assigned a value of either one (1) or zero (0). The total number of points was then tallied. These total scores ranged from a low of 0 to a high of 23. Subjects with a score of 7 or less were considered to be internals while those with a score of 8 or greater were considered to be externals.

The background data instrument contained a section regarding the subject's orientation towards his pay. The
subjective estimate of the pay-for-performance phenomenon was be the subjects’ own estimation, his view, of his own particular pay situation. This was represented by the subjects’ score on the seven-point Likert scale.

The criterion measure, the Job Descriptive Index, was assessed by its prescribed method. All positive traits were assigned a score of one (1) if answered "Yes," a score of negative one (-1) if answered "No" and a score of zero (0) if answered "?". All negative traits were assigned a score of negative one (-1) if answered "Yes," a score of one (1) if answered "No" and a score of zero (0) if answered "?".

The data was analyzed by a 3-Way ANOVA (ANalysis Of VAriance) using a 2x2x2 design. The locus of control variable was assigned to columns (C), the two measures being internal and external. The perceived pay system involved represent the rows (R), merit and non-merit based pay were the two measures. The layers (L) variable was represented by two merit based pay variations, high and low. The latter was represented by Memphis State University and the University of Central Florida, respectively. The individual pay satisfaction scores on the JDI were the actual data that was placed in the appropriate data cell.

The total sum of squares in this analysis was partitioned into eight additive parts: three main effects (R,C,L), three first order interaction terms (RxC,RxL,CxL), one second order interaction (RxCxL) and one within cells
sum of squares. These sums of squares, divided by the appropriate degrees of freedom for each measure, yielded a variance measure for each of the eight parts. The first seven variance estimates were each divided by the within cells variance estimate to obtain an "F" ratio for each. These measures were used to determine the significance of the three main variables and all interactions.

The correlation coefficient, in deviation score form, was determined for the interaction between locus of control and overall job satisfaction.

One correlational table was constructed. The first table contains the correlations between pay satisfaction and locus of control in four situations: non-merit pay, merit pay, high merit pay and low merit pay. The table also contains the correlations between locus of control and overall job satisfaction in these same four situations.
RESULTS

Examination of the data indicated that the results of the study were in the direction predicted, and thus the hypotheses were supported as stated.

Pay Variables--Across Institutions

The following section will examine the relationship between the merit/non-merit pay variable and locus of control for the two universities combined. This section will first examine the overall pay issue, then the merit pay situation will be discussed.

Overall Pay

The results of the three-way ANOVA for overall pay satisfaction are shown in Table 1. The main effect for the merit/non-merit pay variable produced an F ratio of 4.056, significant at the p<.05 level. This indicated a significant difference in pay satisfaction between those individuals who believe that their overall pay is based on performance (merit pay) and those who have the perception that their pay is not performance based (non-merit pay). An examination of the marginal means indicated that, as hypothesized, those who believe that their pay is based on merit were more satisfied with pay than their non-merit counterparts.
A strong interaction (F=13.82) was shown between the merit/non-merit pay variable and locus of control, significant at p<.01. The indication here was that internals were more satisfied in a pay environment that was perceived to be merit based and externals were more satisfied in a non-merit pay environment.

An examination of the summary of marginal means indicates that, overall, those who believe that their pay is merit based were significantly more satisfied (pay
satisfaction=0.724) than those who believed that their pay was not merit based (pay satisfaction=-1.129). Overall, internals (pay satisfaction=0.026) were more satisfied than their external counterparts (pay satisfaction=-0.430). Lastly, employees at Memphis State (pay satisfaction=0.153) were more satisfied than were employees at U.C.F. (pay satisfaction=-0.558).

Merit Pay

The question dealing with merit pay, as opposed to overall pay, was also analyzed using a three-way ANOVA. The results of this analysis are shown in Table 2. This analysis yielded some very interesting results. The study showed no significant difference in pay satisfaction between the type of pay system perceived. The results also indicated that there was also no significant difference for the locus of control variable. The data did include an F ratio of 3.171 for the institution variable. Though not significant, the direction and strength of this measure gave support to the hypotheses. A pay system/locus of control interaction was shown to be close to the p<.05 level of significance (F=3.640).

The pay satisfaction difference between institutions was in the direction predicted. An analysis of the marginal means shows that the subjects at Memphis State were more satisfied (pay satisfaction=0.604) than their U.C.F. counterparts (pay satisfaction=-1.111). Overall, those who believed that their "merit pay" pay was truly based on
merit were more satisfied (pay satisfaction=0.178) than their counterparts with non-merit based beliefs (pay satisfaction=-0.684), though the difference did not reach significance. Surprisingly, the pay satisfaction scores of internals and externals were virtually equal.

**TABLE 2**

THREE-WAY ANOVA FOR MERIT PAY

<table>
<thead>
<tr>
<th>Variable A = Merit/Non-Merit Pay</th>
<th>Variable B = Locus Of Control</th>
<th>Variable C = UCF/MSU</th>
<th>Variable Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable A:</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>15.61</td>
<td>0.802</td>
</tr>
<tr>
<td>Variable B:</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>0.021</td>
<td>0.001</td>
</tr>
<tr>
<td>Variable C:</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>61.74</td>
<td>3.171</td>
</tr>
<tr>
<td>A x B</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>70.88</td>
<td>3.640</td>
</tr>
<tr>
<td>A x C</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>0.105</td>
<td>0.005</td>
</tr>
<tr>
<td>B x C</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>5.035</td>
<td>0.259</td>
</tr>
<tr>
<td>A x B x C</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>13.29</td>
<td>0.683</td>
</tr>
<tr>
<td>Within Cell</td>
<td></td>
<td></td>
<td></td>
<td>87</td>
<td>19.47</td>
<td></td>
</tr>
</tbody>
</table>

**p<.01  * p<.05**

Pay Variables--Among Institutions

The following section will examine the relationship between the merit/non-merit pay variable and locus of control for the two universities on a separate basis.
Overall Pay

The data in this category for U.C.F. yielded some concrete results as shown in Table 3. There was a significant difference in pay satisfaction for the merit/non-merit variable indicated by an F ratio of 7.406, p<.01. The differences in locus of control here were negligible. There was a sizable F ratio of 11.031 for the interaction equation, p<.01. The marginal means were reviewed and the data was as predicted in the hypotheses.

TABLE 3
TWO-WAY ANOVA FOR OVERALL PAY--UCF

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable A:</td>
<td>105.4</td>
<td>1</td>
<td>105.4</td>
<td>7.406 **</td>
</tr>
<tr>
<td>Variable B:</td>
<td>0.201</td>
<td>1</td>
<td>0.201</td>
<td>0.014</td>
</tr>
<tr>
<td>A x B</td>
<td>157.0</td>
<td>1</td>
<td>157.0</td>
<td>11.03 **</td>
</tr>
<tr>
<td>Within Cell</td>
<td>540.9</td>
<td>38</td>
<td>14.23</td>
<td></td>
</tr>
</tbody>
</table>

** p<.01  * p<.05

Pay satisfaction scores were significantly greater in the perceived merit pay situation (pay satisfaction= 1.134) than in the non-merit pay situation (pay satisfaction=-2.250). A negligible difference in pay satisfaction scores was reported for the locus of control variable.
The data, shown in Table 4, for this category for Memphis State yielded no significant results for either the locus of control or the merit/non-merit pay variables. There was, however, a significant interaction between locus of control and the merit/non-merit pay variable (F=4.196, p<.05). An examination of the cell means put this finding in perspective.

**TABLE 4**

**TWO-WAY ANOVA FOR OVERALL PAY--MSU**

<table>
<thead>
<tr>
<th>Variable A = Merit/Non-Merit Pay</th>
<th>Variable B = Locus Of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
<td><strong>Sum of Squares</strong></td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Variable A:</td>
<td>1.129</td>
</tr>
<tr>
<td>Variable B:</td>
<td>12.24</td>
</tr>
<tr>
<td>A x B</td>
<td>80.11</td>
</tr>
<tr>
<td>Within Cell</td>
<td>878.2</td>
</tr>
</tbody>
</table>

** p<.01     * p<.05

Internals in the perceived merit pay condition and externals in the perceived non-merit pay condition had positive pay satisfaction scores, pay satisfaction=2.200 and 0.818 respectively. Conversely, internals in the perceived non-merit pay condition and externals in the perceived merit pay condition had negative pay satisfaction scores, pay satisfaction=-1.571 and -0.833 respectively. An
analysis of the marginal means showed that the data supported the hypotheses. Those in the non-merit pay condition had greater dissatisfaction with pay than their merit based counterparts.

Pay satisfaction scores were greater in the perceived merit pay condition (pay satisfaction=0.314) than in the non-merit pay condition (pay satisfaction=-0.008). Internals were, once again, found to be more satisfied than their external counterparts (pay satisfaction=0.683 and -0.377 respectively).

Merit Pay

The data in this category for U.C.F., as shown in Table 5, yielded no results that reached significance. The interaction quantity, $F=3.343$, was the result that was closest to reaching this plateau. The examination of the marginal means espoused results that were somewhat concurrent with the hypotheses. Surprisingly, an analysis of this category showed that all marginal means were negative.

Subjects in the perceived merit pay situation were less dissatisfied with their pay (pay satisfaction=-0.644) than those who perceived themselves to fall in the non-merit pay category (pay satisfaction=-1.577). The data derived from the marginal mean analysis of the column variable showed internals as being more dissatisfied with their pay than externals. An examination of the cell means showed, however, that the data was as predicted.
The results of the data analysis in this category for Memphis State are shown in Table 6. This statistical analysis for this portion of the study yielded no significant results for either main effect or for the interaction.

The examination of the marginal means led to a determination that the results were as hypothesized. Pay satisfaction scores were shown to be greater in the perceived merit pay condition than in the perceived non-merit pay situation (pay satisfaction=1.000 and -0.439 respectively). Internals were shown to possess greater satisfaction with their "merit" pay (pay satisfaction=0.602) than were their external counterparts (pay satisfaction=-0.042).
TABLE 6
TWO-WAY ANOVA FOR MERIT PAY--MSU

Variable A = Merit/Non-Merit Pay  
Variable B = Locus Of Control

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable A</td>
<td>21.98</td>
<td>1</td>
<td>21.98</td>
<td>1.143</td>
</tr>
<tr>
<td>Variable B</td>
<td>4.399</td>
<td>1</td>
<td>4.399</td>
<td>0.229</td>
</tr>
<tr>
<td>A x B</td>
<td>7.775</td>
<td>1</td>
<td>7.775</td>
<td>0.404</td>
</tr>
<tr>
<td>Within Cell</td>
<td>846.0</td>
<td>44</td>
<td>19.23</td>
<td></td>
</tr>
</tbody>
</table>

** p<.01    * p<.05

Correlations and Other Statistics

Pearson "r" correlations were derived for the relationship between merit pay scores and overall pay scores for the two institutions separately. The correlations for the two universities were found to be quite similar (U.C.F., r=0.691, Memphis State, r=0.641) indicating a moderate degree of correlation between merit pay and overall pay across institutions and a large similarity between schools. This relationship is shown in Table 7.

The relationship between locus of control and overall job satisfaction was also scrutinized. Pearson "r" values were derived for this relationship for each university separately and were consistent with the findings from
previous studies. The correlations for U.C.F. ($r=-0.327$) and for Memphis State ($r=-0.303$) indicate a strong agreement between the two institutions for this relationship. Therefore, these correlations gave support to the contention that the hypotheses were correct as stated. This relationship is also shown in the correlational matrix.

Table 7 contains the means and standard deviations of the predictor, the criterion and information gathered from the background questionnaire. Locus of control scores for the two institutions approached equality (U.C.F. = 7.69, M.S.U. = 7.58). Educators from Memphis State were shown to have greater overall pay satisfaction and greater overall job satisfaction than their U.C.F. counterparts. Memphis State subjects also had perceived their "merit" pay as being based more on performance than did subjects employed by U.C.F (pay satisfaction score = 3.92 and 3.32 respectively).
<table>
<thead>
<tr>
<th>Measure</th>
<th>Institution</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus Of Control</td>
<td>UCF</td>
<td>7.643</td>
<td>3.741</td>
</tr>
<tr>
<td></td>
<td>MSU</td>
<td>7.581</td>
<td>4.559</td>
</tr>
<tr>
<td>Pay Satisfaction</td>
<td>UCF</td>
<td>-0.967</td>
<td>4.66</td>
</tr>
<tr>
<td></td>
<td>MSU</td>
<td>0.400</td>
<td>4.470</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>UCF</td>
<td>39.84</td>
<td>19.39</td>
</tr>
<tr>
<td></td>
<td>MSU</td>
<td>45.40</td>
<td>20.09</td>
</tr>
<tr>
<td>Overall Pay Score</td>
<td>UCF</td>
<td>4.083</td>
<td>1.802</td>
</tr>
<tr>
<td></td>
<td>MSU</td>
<td>3.981</td>
<td>1.742</td>
</tr>
<tr>
<td>Merit Pay Score</td>
<td>UCF</td>
<td>3.324</td>
<td>1.642</td>
</tr>
<tr>
<td></td>
<td>MSU</td>
<td>3.962</td>
<td>1.502</td>
</tr>
</tbody>
</table>
DISCUSSION

Hypothesis I stated that those individuals with a belief in internal control will be more satisfied in a system where they perceive that pay is contingent upon performance rather than in a system where pay is not seen as being based on performance. Conversely, Hypothesis II stated that those individuals with a belief in external control will be more satisfied in a system where pay is not seen as performance-based and less satisfied in a system where pay is viewed as being contingent on performance. The results espoused by the three-way ANOVA clearly show that, when these educators considered their overall pay, hypotheses I and II were found to be correct as stated F(1,84), p<.01. The data yielded no significant results to support these hypotheses for the "merit" portion of the subjects overall pay. Though the results of this component of the study did not reach significance, the direction and strength of these measures lent support to the hypotheses as stated.

Hypothesis III dealt with the relative strength of the pay satisfaction measurement with respect to locus of control in two pay contingency situations (merit vs. non-merit). The results were along the line predicted and are listed below (from the highest pay satisfaction score to the lowest).
Relationship Situation
Satisfaction with pay and:
1. Internal LOC...Pay contingent on performance
2. External LOC...Pay not contingent on performance
3. Internal LOC...Pay not contingent on performance

Implications of This Study
Lawler suggests that there are some relatively fixed differences (locus of control) among individuals which may play a part in determining how employees may view the relationship between pay and performance. The results of this study, which attempted to ascertain the relationship between pay satisfaction and locus of control, certainly indicate that this is a distinct possibility. Thus, selection decisions or pay system structuring may play an important role in determining the success of pay programs and, ultimately, the success of the organization. If an organization is comprised primarily of employees who believe strongly in internal control, a rather strong case may be stated for the implementation of a merit pay system. Conversely, if an organization is populated by individuals with a belief in external control, a merit based pay plan may be doomed to failure from the outset. This information suggests that, first, an organization might wish to determine what type of employees it has, with respect to locus of control, before it decides upon the type of pay system to employ.
This study raises another interesting possibility, as suggested by Lawler, that an organization might wish to include a locus of control "test" in its selection system. This raises the possibility that potential employees can be selected initially on the basis of the degree to which they are likely to accept the pay plan currently employed by an organization. This approach, however, may well pose some difficult questions. First, more controlled studies would have to be conducted to further assess the discriminatory aspects of Rotters' locus of control "test." Most of the data collected of this nature are over 15 years old. The ever-evolving values of society today cast doubt on the rigidity of previous findings. Secondly, studies of this nature, as conducted by the author, must be done over a wide variety of occupations and demographic conditions.

Future Research

The most glaring limitation of this study was the minimal number of participants. Only 106 educators returned survey packets that were usable for data analysis. ANOVA cells had a minimum of 7 participants and a maximum of 23 participants. This study utilized subjects from only two institutions of higher learning and thus the results may have limited generalizability across similar occupations or environments. Many of the subjects did not appear to be aware of the extent to which their pay was indeed based on merit, as defined by their respective salary administrators.
Future researchers should be aware of these limitations when expanding upon this study. Considering the typical lower response rate from subjects in a semi or non-confined environment, a larger subject base should be sought. Obviously, future studies should encompass a greater variety, as well as number, of institutions of a similar nature.

The results of this study supported the hypotheses quite well. This should entice future researchers to expand the subject base to examine the relationship between pay and locus of control in other occupational and demographic areas.
REFERENCES


