Antecedent Factors Affecting Valences, Instrumentalities and Expectancies

Paul S. Goodman
Carnegie Mellon University

Follow this and additional works at: http://repository.cmu.edu/tepper
Part of the Economic Policy Commons, and the Industrial Organization Commons
Antecedent Factors Affecting Valences, Instrumentalities and Expectancies

Paul S. Goodman
Graduate School of Industrial Administration
Carnegie Mellon University
Pittsburgh, Pennsylvania 15213

Paper Presented at
Expectancy Theory Workshop
Boston, Massachusetts
8/23/73
The rapid increase in research and review papers on expectancy theory over the last 10 years indicates that it is one of the dominant theories of work motivation. The preliminary support for this theory, coupled with its features of being parsimonious and a useful heuristic device for analysis of work behavior, indicates it will continue as an important theoretical force.

Critical theoretical and methodological issues need to be examined if the quality of this research is to increase as fast as the number of studies. There is ample evidence that theoretical fads invade and quickly leave the area of organizational-social psychology. One way to avoid the fad phenomenon is to continually evaluate knowledge from this research, to question basic theoretical and methodological assumptions and to provide direction to new research areas. A related approach is to identify basic issues in expectancy theory that cut across other theoretical perspectives (e.g., social learning theory, attribution theory). By identifying common research areas we can get greater cross fertilization from a variety of theoretical perspectives and more of an opportunity for a cumulative body of knowledge to develop. Hopefully, this paper is in that tradition.

The basic objective of this paper is to examine the issues concerning the antecedent factors or determinants of valences, instrumentalities, and expectancies (henceforth VIE). Other components have been specified in the general expectancy model (cf. Mitchell and Biglan, 1971). However, only the major components of the model are considered here, with the hope that these will apply to the other variables. An alternative way to describe this research would be to answer these questions: What factors
affect how individuals learn and accept beliefs (expectancies) about their capacity to perform at certain levels of behaviors? How stable are these expectancies and what factors affect how they change over time? Similarly, what factors affect how people acquire beliefs (instrumentalities) about behavior-reward contingencies? More basically, what are the theoretical constructs or processes that affect the acquisition and modification of expectancies and instrumentalities? Similar questions could be generated for the valence component of the model.

Two factors define this paper's major orientation. First, unlike most previous research, the focus is on a dynamic, not static, view of expectancy theory. Much of the research to date has taken a primarily static view. The main question has been how the VIE components relate to some criterion such as effort or performance. The failure to move from this ahistorical position to a more dynamic position seriously limits future developments of the theory. Organizational life is dynamic. Changes in structure, personnel, and reward systems are an unending process. If the theory's ultimate goal is to explain behavior in this social context, then research on this perspective must move toward theoretical conceptualization and designs that focus on dynamic rather than static characteristics. That is, we need to investigate how VIE components develop and change over time as well as the relationship between these components and effort and performance.

Second, this paper examines expectancy theory in the context of the organization as a social system. Social system analysis has been well documented (Katz and Kahn, 1966). However, psychological inquiry in organizations often focuses primarily on the individual. The individualistic
characteristic of expectancy theory made it natural to focus on the VIE components to the exclusion of the large social context. Most studies have not related organization structure to individuals' expectancies or instrumentalities. The few studies that have considered organizational characteristics (e.g., Jorgenson, Dunnette, and Pritchard, 1973) suggest they are important determinants of components in the expectancy framework. Since little consideration has been given to the dynamic aspects of the theory or to the relationship between expectancy theory and the organization as a social system, these would seem to be major areas for future research. Examining antecedents or determinants of expectancies is important not only because there is limited research in this area, but also because research about antecedents should increase our understanding of the relationship between VIE components and behavior.

CONCEPTUAL FRAMEWORK

Figure 1 presents a simplified organization learning framework for examining the relationship between antecedent variables and the expectancy model. The organization as a social system is divided into individual, role, and structural categories. Within each category are variables that affect the VIE components.

Individual differences in age, education, ability, needs, or personality all can influence the acquisition or modification of VIE components.

The relationship with a supervisor is one dimension in the role category that can affect the expectancy model. The supervisor, by identifying path goal relationships or raising expectancy levels through encouragement, can change instrumentalities and expectancies.

At the organizational level we must consider the nature of the intended reward system. A piece-rate system should cause a stronger perceived
4. relationship between pay and performance than an hourly system. However, many other structural properties must be considered. The nature of the technology, with specific reference to the structure of tasks, workflow, etc., is a critical variable, as are the communication and authority structures. Organization climate is another dimension. Organizations also have structural properties that assist in interfacing with environment. In some cases these appear as formal role relationships with other organizations (e.g., unions); in other cases the structure is more diffuse. In either case these structures can affect the VIE components. Instead of solely focusing on structural properties, we can also examine more aggregate ways to describe the organization. For example, we might examine how different types of organizations (e.g., utility vs. manufacturing) or how different characterizations of organizational units (e.g., organic vs. mechanistic) affect these components.

The process variables (see Figure 1) explain how valences, expectancies and instrumentalities develop and change. That is, they represent the mechanisms for learning within the organization. It is assumed that the three antecedent categories are linked to the process variables and, in turn, to the VIE components. Focusing solely on the relationship between the structural variables and the VIE components will not get at how and why these components form and change. For example, the introduction of a piece-rate system should lead to a belief that behavior and rewards are highly contingent. However, there are often discrepancies between intended reward systems and the perception of these systems. Also, workers sometimes reject piece-rate systems. The critical point is that the relationship between an objective structure and the perception of that structure is complex, and the
process variables may serve to increase our understanding of that relationship.

Three process variables are considered: communication, generalization, and reinforcement. Communication refers to the way information is presented by one individual and received and accepted (or rejected) by another individual. If an individual is told that meeting his department's budget will lead to a bonus and he thinks the source of this information is credible, he will probably adopt the instrumentality that producing the assigned number of outputs within cost limitations will be rewarded by a bonus.

Generalization refers to a process by which an individual extrapolates from his own experience or from observation of others to form beliefs about the VIE components. For example, if an individual who had been successful in meeting his sales quota in one territory is moved to another similar territory, he may infer from past experience (i.e. develop an expectancy) that he can meet the quota in the new territory. Or he may observe that his coworker puts in long hours and has been selected for a promotion, and then infer that long hours of work are likely to lead to promotions (instrumentality). In each case the individual uses his own or others' experiences to develop or modify beliefs about means-end relationships; no direct communication (verbal or non-verbal) is necessary.

The process of reinforcement has different impacts on the three components. For the valence component increasing (decreasing) the frequency of a valued outcome may reduce (increase) the valence at that outcome. For

---

1 To simplify the number of terms in the model, I am including the traditional use of "generalization" and "discrimination" in the learning literature within the concept of generalization.
expectancies and instrumentalities the performance of a particular level of behavior or the application of a reward following a behavior would serve to strengthen expectancy and instrumental beliefs.

Several points should be noted about the relationships among the antecedent variables, processes, and VIE components. First, the antecedent variables may serve as main effect variables or moderators. For example, if a new pay system was introduced, that would be labeled as the main effect variable. Characteristics of the individual, role, and other organizational dimensions would serve as moderator variables.

Second, although the three processes may affect all of the VIE components, their relative impact on the three components varies. For example, communicating a particular behavior-reward contingency probably has less effect on its formation than reinforcement.

Third, an important construct underlying the acquisition of expectancies and instrumentalities is the perception of causal links. For example, if a coworker exhibited high performance and was selected for promotion, we would be concerned with the way the observer would use this information to form instrumental beliefs about performance and promotion. A variety of sub processes (within the concept of generalization) such as defining "other" as relevant, identifying the relevant behavior (high performance) and outcome, eliminating other explanations (e.g., the boss likes him) and attributing the reason for high performance (e.g., effort vs. luck) all bear on the individual's definition of this behavior-reward contingency. Theoretical frameworks such as equity and attribution might contribute to this study of how these causal links are perceived in organizations.

Fourth, there are likely to be competing cues about the expectancy and
instrumental beliefs. For example, from past experience or from conceptions of self a person may infer (generalize) that he cannot perform at a particular level. However, if he receives communications that he can perform at that level and he perceives similar others performing at that level, he must resolve this conflict among cognitions. It is not within the scope of this paper to outline forms of resolving cognitive inconsistencies; this has been well documented in the literature. It is important, however, to recognize that inconsistencies are very likely, and additional theoretical considerations must be incorporated into the model to explain the resolution of these inconsistencies.

The other relationships in Figure 1 are between the components and actual behavior and their effect on the various feedback processes. The former relationships have been the principal focus of expectancy research and will not be discussed here. A number of feedback loops can be identified. The performance of the required behavior affects the expectancy belief; the application of the reward following the behavior affects the instrumentality belief; the amount and frequency of the reward affect the valence of the outcome. Performance or non-performance of the organizationally described behavior can also feed back and affect the antecedent categories. For example, good performance may enhance feelings of self esteem. Lack of acceptable performance may lead to changes in the reward system or role relationship.

Models by Vroom (1964)--Figure 2--and Lawler (1971)--Figure 3-- are presented as alternatives to the model discussed above. Both concern aspects of antecedents of VIE components. Vroom's situational variables generally would be considered process variables in the organization learning model.
The main difference between the two models is that Vroom's does not focus on the major antecedent variables that affect communication and reinforcement, which in turn affect VIE components. Lawler's model is very similar to the one in Figure 1. Boxes 3 and 6 recognize the importance of individual difference. Box 4, "observed and personal experience," corresponds to the generalization process. There are some significant differences, however. Figure 3 gives no consideration to objective organizational level factors and their impact. Ability is treated as a moderator of the effect-performance relationship. It is likely that ability differences also bear on expectancy estimates. Although other contrasts can be drawn among the three models, the purpose of citing the Vroom and Lawler models was to provide alternative approaches to the question of antecedents of VIE components and to acknowledge previous work in the area. I prefer the organization learning model in Figure 1 because it is more comprehensive in identifying the social system categories that affect VIE components. That is, this model places expectancy theory in a more organizational than purely individual context. It also separates antecedent variables from process variables.

RESEARCH EVIDENCE

Although there has been limited research on antecedents of VIE components (at least in organizational literature), some studies do bear on the utility of the conceptual model (Figure 1). The following review is not exhaustive. It simply provides a mechanism for applying the framework to completed studies and for raising possible research issues.

Individual Factors

Lawler (1966) has examined how managers rated themselves on certain
dimensions (e.g., performance, level of responsibility) and whether these dimensions are seen as instrumental for pay. A modest significant association is reported. That is, managers who view themselves as good performers view performance as an instrumental behavior; those who see themselves with long length of service view that dimension as important. When objective measures of these dimensions (e.g., performance, length of service) are related to instrumental beliefs about pay, no relationships appear. A replication of these results in a manufacturing firm and a utility company (Goodman, 1973) indicates similar relationships. In the context of the model, the data indicate that individuals redefine the structural aspects of the pay system to reinforce their own self interest. For example, in the utility company there were clear communications, opportunities to generalize and reinforcements for the belief that performance leads to pay raises. However, individuals who rated themselves high on dimensions such as seniority or loyalty tended to view these factors as important in determining pay. In this situation the individuals resolve discrepancies between cues about the pay system and perceptions about themselves to maximize their own self-interest.

The internal-external variable (Rotter, 1966) has been used in studies on antecedents of instrumentalities. In organizational studies the assumption is that internal individuals are likely to perceive stronger performance outcome contingencies. Lawler (1971) and Evans (1973) provide some support for this relationship. In a study on the introduction of the Scanlon Plan (Goodman and Moore, 1973) internal control was associated with beliefs that suggestion making behavior would lead to positive outcomes for managers. A similar result (i.e., higher internal control individuals perceived a
greater performance → pay connection) appeared in a study of managers in a utility company (Goodman, 1973).

There is a paucity of data on other personality level variables. Gavin (1973) examined whether self esteem would moderate the relationship between expectancies and job performance. His data did not indicate a clear moderator effect. In the utility study (Goodman, 1973) we included measures of self esteem, risk taking, level of aspiration and Machiavellianism. None of these factors had consistent relationships with instrumentalities about pay. The only interesting results, which much be viewed very tentatively, were that high risk takers and individuals with high levels of aspiration were not likely to view nonachievement factors such as length of service as instrumental to pay. Individuals characterized as high on Machiavellianism, in contrast, did see length of service as contributing to pay raises. The high Mach's also viewed more achievement-oriented behaviors, such as quality of performance and ability, as less important in determining pay.

**Role Factors**

Several studies have discussed the impact of role behaviors on VIE components. House's (1971) conceptualization specifically relates how a leader can change his subordinate's expectancies, instrumentalities, and valences. Evans' research (1970, 1973), operating within a similar tradition, relates leadership dimensions such as Considerations and Initiation of Structure to path goal instrumentalities and expectancies. His findings indicate that high consideration leadership is positively associated with high expectancies and instrumentalities relevant to performing a variety of work related behaviors. Individual differences in internal control seemed to enhance this relationship. Other hypothesized moderators such as the influence of
the supervisor or the degree of role conflict (subordinate) did not consistently moderate the relationship between leadership behavior and perceived path goal instrumentalities. Other relevant studies have looked at more specific leadership dimensions. In the study of a plant introducing the Scanlon Plan (Goodman and Moore, 1973) the supervisor's past behavior in facilitating or blocking suggestion making was related to expectancies and instrumentalities about suggestion making behavior. That is, if the supervisor had blocked suggestions in the past, an individual was less likely to report he could make suggestions under the Plan. Here generalization would seem useful in explaining how past experiences affect new beliefs. In the utility company study (Goodman, 1973) factors such as the employee's degree of confidence in his supervisor and how well the supervisor was informed about the employee's work were positively related to the belief that performance and pay are related. In the Scanlon Plan firm, the degree of confidence and the degree the supervisor was informed are not consistently related to the instrumentalities about the pay system. The difference between the two plants may partly explain the difference in the findings. The utility has a clear system, administered by the supervisor, relating pay to performance. Confidence in the supervisor is critical for believing in the pay system. The manufacturing plant, on the other hand, has a more diffuse pay-performance system and the plant manager rather than the supervisor was critical to the salary allocation decision.

Another important role variable--peer relationships--affects the components of the model. In the Scanlon Plan study (Goodman and Moore, 1973) favorable group attitudes toward the Plan led to stronger expectancies about being able to make suggestions and stronger instrumentalities about suggestion outcome relationships. One can interpret this association in terms of
the model in Figure 1 in the following way: A consultant (antecedent--role variable) introduces the Scanlon Plan communicating (process) that suggestion making pays off (instrumentality). The individual either by communicating (process) with members of his group or by observing (process) their behavior infers the general group attitude toward the Plan and uses this inference to accept or reject the instrumentality suggested by the consultant. Mitchell and Nebeker (1973), in a study of academic effort and performance, indicate that expectation of peers contributed significantly to predictions of effort. Although expectations of others were not related to the VIE components we can infer that the effect on effort is related to how the expectations of peers affect these three components.

Lifter, Bass and Nussbaum (1971) examined differences in instrumentalties in terms of whether the role was primarily staff or line. The subordinates' perceptions of the instrumental relationship between effort expended and salary increases were similar for those in line or staff jobs. Their supervisors, however, did distinguish between the two kinds of roles. Supervisors of those in line (versus staff) jobs held that the levels of effort and salary were related for their subordinates. Inserting other supervisory level variables (e.g., confidence in superior) might clarify this discrepancy between superior and subordinate perceptions.

**Organization Factors**

Task Structure^[2]^[2]: The nature of a firm's task structure can affect the VIE components. In the Scanlon Plan study (Goodman and Moore, 1973) the

^[2] This topic might be included in the role section. In placing it as an organization factor we are primarily interested in the nature of the task activities versus how one role can affect the VIE components of a person in another role.
degree of job flexibility was related to stronger instrumental beliefs about the relationship between suggestion making and desired outcomes for the blue collar population. Six months after the Plan had been successfully installed the task variable was no longer associated with these instrumental beliefs. Following the model in Figure 1 it seems reasonable that at the initiation of the Plan people in highly programmed tasks generalized from their own restricted work situation to a belief that the connection between making suggestions and bonuses was tenuous. People in flexible jobs, on the other hand, did see a connection. Over time, however, those in programmed jobs saw the Plan pay off and others making suggestions which led to stronger beliefs about the suggestion making-bonus connection. The upward shift in the instrumental belief that suggestion making leads to a bonus reduced the variability in this dimension and thus reduced the association between task flexibility and the belief that suggestion making pays off. In the managerial group the reverse phenomenon occurred. Flexibility of tasks had little initial impact on instrumentalities. At the end of six months, those managers in more programmed tasks expressed a belief that suggestion making would less likely lead to bonuses. It seems that over time managers in tasks that are more programmed, at least relative to other managers, saw less opportunity to develop suggestions that would lead to bonuses.

Reward System: Some recent research (Yukl, Wexley and Seymore, 1972; Jorgenson, Dunnette and Pritchard, 1973; Schwab, 1973) demonstrates the impact of the structure of the pay system on expectancies and instrumentalities. Jorgenson et al. (1973) represents one of the best designed studies concerning the effects of objective reward systems and subjective perceptions of that system. Subjects worked both under a high pay-performance
contingency for three days and under a low contingency for three days. This design permitted examining how objective changes in the reward system changed perceived instrumentalities and how these instrumentalities changed over time. In general the results show that changes in the objective reward system do change instrumentalities.  

Schwab (1973) similarly indicated that the structure of the pay system (i.e., piece-rate versus hourly) significantly contributed to variance in instrumentalities.

**Department as a Sub System:** Another approach to the analysis of antecedent factors is to move from particular organization structures to department or sub units. In this case the question is how the unique structural characteristics of a department bear on the VIE components. In the Scanlon Plan study there were some significant differences among departments in instrumentalities about behavior-reward outcomes. The department (assembly) with the lowest instrumentalities about the suggestion making → bonus relationships was also the most programmed in terms of the distribution of tasks, and had the lowest status; it was where workers got started and less competent workers remained. The educational level, degree of understanding about the Plan, and level of trust were all low in the assembly department. The department with the highest instrumentalities was similar to assembly in that its tasks were fairly programmed and education and levels of understanding about the Plan were low. It differed in that the task structure gave department members more chance for interaction (i.e., they could learn more about the Plan and have a better view of the total organization). Members in this department also expressed greater feelings of trust and

---

3 This is probably the only study in this literature that directly tests one of the process variables (i.e., reinforcements)
more positive attitudes toward their supervisor. This contrast by departments or sub units indicates that departments have certain configurations of antecedent variables that are related to instrumentalities and expectancies. It also suggests there may be some tradeoffs among variables. That is, if there is a possible set of predictors it might be necessary for only one of these variables to reach a certain level (or some combination) before high instrumentalities or expectancies would occur.

**Organization as a Unit of Analysis:** A number of studies consider differences in expectancies and instrumentalities as a function of differences in organization. Dachler and Mobley (1973) reported noticeable differences in the support for VIE components when two different organizations were examined. In plant 1, where the model was supported, payment was by piece rate, jobs were more structured and there were fewer levels, fewer employees and less job mobility than in the other plant. Interpreting this finding with the concepts in Figure 1 we would assume the piece system and especially the reinforcement structure of that system would strengthen performance-outcome contingencies. The fewer organization levels and smaller size of the organization should facilitate communications about the appropriate behavior reward contingencies. Having fewer job moves increases the predictability of role demands and creates a stable learning situation for the expectancies and instrumentalities to be formed.

In a comparison of perceived instrumental behaviors for the salary increases, some important differences occur between the public utility and manufacturing firm discussed above (Goodman, 1973). The general non-achievement-oriented dimensions such as length of service and cost of living considerations were perceived as less important in the utility than
in the manufacturing firm. This might seem contrary to one's stereotype of public utilities. However, this firm was entering a major phase of competition. It was becoming very marketing oriented and its hard driving president was making attempts to "modernize" management practices. It also possessed one of the most refined pay performance systems I have seen. The manufacturing firm operated at a much slower pace. Its reward systems were more diffuse and its production was sold to one major supplier which had the major control over the firm's input-output cycle.

Other studies by Lawler (1966) and Schneider and Olson (1970) indicate that firm differences affect the VIE component.

DIRECTIONS FOR FUTURE RESEARCH

Discussions of the conceptual framework and the current research provide a basis for identifying directions for future research. This section is divided into two parts: design characteristics for future research on VIE components, and substantive issues for future research.

Design Characteristics

Four factors should characterize future research on the impact of antecedent factors on VIE components.

1. Multiple antecedent variables should be employed. It is clear from Figure 1 that many antecedent factors bear on the acquisition and modification of VIE components. Examining only one of the categories (e.g., individual factors) may be misleading. For example, research was cited that individuals tend to define the reward systems (specifically instrumentalities) in a way congruent with their own self interest. However, this definition process must be limited by the structural characteristics of the reward
It is difficult not to view performance as the critical dimension of a piece-rate system. The results concerning the Machiavellianism scale (i.e., non-achievement versus achievement factors were viewed as important in determining salary) may be very population (i.e., company) specific. Perhaps in an organization with a less well defined reward system, where greater levels of dissatisfaction are reported, the high "Mach" person might view other behaviors as instrumental for salary increases. The basic point is that the individual level variables must be considered in the context of other variables (e.g., characteristics of the organization). One implication of this position is that multiple organizations or at least organizational units need to be investigated in order to have variation in the organizational factors that we have discussed.

2. A design that traces through the effect of the antecedent variables on the components and of the VIE components on performance is important. Some studies have hypothesized this three-step relationship but have measured only the antecedent variable and some effort or performance criterion. By treating the process variables as intervening variables it is often difficult to trace the impact of the antecedents on the three components. The relationship between organizational structure and perception of that structure is complex. There are many examples where the intended nature of a reward system is different from the perceived structure of that system. Also, the relationships among the VIE components are complex. Therefore, one way to increase an understanding of and the ability to predict the effect of antecedents on VIE components would be to trace through the links among antecedent variables, process variables and VIE components.

3. The three components should be treated separately. There was a
tendency in some studies to combine instrumentalities and valence or instrumentalities and expectancies. These concepts are analytically distinct. We have found that different groups respond differently to the different components. Combining the VIE components confounds understanding the effect of antecedent variables on the VIE components.

4. Introducing the time dimension in future research would be important. The basic model is a dynamic one with many feedback connections. Jorgenson et al. (1973) is one of the few studies that incorporates time dimension. This type of analysis permits examining the effects of changes in reward systems, the rate of acquisition of expectancies under different reinforcement schedules, etc., which are important topics in elaborating this research area.

Substantive Issues

Individual Differences: We are just beginning to examine the effect of individual differences on VIE components. The only consistent body of evidence pertains to Rotter's IE scale (1966), and in this case we are only talking about data from three studies. Considering other dimensions such as delayed gratification (cf. work of Mischel 1966), tolerance for ambiguity, need achievement, etc., represents one way to increase our understanding. The finding on Machiavellianism was intriguing and should be pursued. The real contribution, however, from research on individual differences will not come from elaborating just on other personality dimensions but on how they interact with other structural aspects of the organization. For example, knowing that the internal control individuals more often see performance and pay related does not extend our understanding of how individual differences affect the acquisition or modification of this instrumentality.
The effect of individual differences is moderated by the social context of the organization. Our research focus should not be to replicate the IE-instrumentality finding but to identify organization characteristics in which the association holds as well as those where it does not hold. For example, in the latter situation one would expect under a very structured pay-performance system which affords frequent reinforcements (e.g., piece rate) that external and internal individuals would have the same view of the appropriate instrumentalities. In firms with more diffuse pay systems, individual characteristics such as internal control should lead to differences in perceiving the pay-performance relationship. The basic point is to identify that set of organizational dimensions (e.g., communications structure) and intrinsic characteristics of the reward system that differentiate the effects of individual factors on the interpretation cues concerning the operation of the organization's reward system.

Role Factors

As one might expect, the effect of the leader behavior on subordinates' VIE components has captured the attention of several researchers. The data would indicate this to be a fruitful path. However, a reorientation in the conceptualization of the leader's behavior is called for. The leadership literature generally views the leader's behavior in some global term such as Consideration or Initiation of Structure. This approach has clearly led to rather mixed results. Applying this same approach to studying acquisition or modification of VIE components may lead to problems similar to those that have characterized this literature. House (1971) clearly identifies the ways a leader can affect a subordinate's behavior by changing VIE components. For example, clarifying behavior reward paths, increasing
expectancy levels, and providing valued rewards are a few strategies available to the supervisor. Simply asserting that classes of behavior such as Consideration or Initiating Structure modify instrumentalities, expectancies or valences is not sufficient. If, for example, a superior exhibited high consideration behavior across the board (i.e., over all types of subordinate behavior) it is not clear why consideration would be related to the components. A critical concept in the theory is the notion of contingency—to be effective considerate behavior must be exhibited for certain subordinate behaviors but not for others. This kind of differentiation is not picked up by global measures since they are not constructed in the context of VIE theory.

We need a more specific delineation of leader behaviors directly affecting VIE components. How much a supervisor indicates the criteria for pay raises would be a specific behavior relevant to the instrumentality component. One strategy might be to develop an index of behaviors directly related to each of the components: the index could then be used to predict differences in VIE components. It also could be used as a dependent variable when trying to find what factors influence the behaviors included in the index—that is, why do some supervisors clarify means-end relationships while others do not? This strategy—first developing an index of leader behavior, then explaining differences in this behavior and relations between the behavior and the components—should be useful in understanding both VIE theory and leadership theory. This research line could then be extended to other role relationships.

Organizational Factors: The few studies in this area either focus on the effect of a reward system or on the effect of aggregate organizational
characteristics on the VIE components. Obviously, characteristics of the reward systems serve as major antecedent variables. For this reason, we must broaden our study of this variable. Virtually all studies deal with the salary reward system. Other reward systems such as promotion, recognition, and social approval need to be investigated.

Research at the aggregate organizational level has examined the effects of differences between organizations (e.g., government vs. industrial) on the VIE components. Although this path is promising, the research needs to be more differentiated to improve understanding of the impact of organization level factors. The nature of the technology, reward system, communication structure, and organization size are a few of the major organizational variables that can affect VIE components. An analysis at the organization level (i.e., plant 1 vs. plant 2) does not control for variations in these dimensions. We need to systematically measure these and other organizational structures rather than to examine gross differences between organizations. For example, we can look at how variations in the size of organizations (or sub-units) affect employee expectancies or instrumentalities of different types of reward systems. Similarly, we can see how variation in a task characteristic, such as the operationality of performance, affects the definition of the VIE component over different reward systems.

The Model as a Source of Research Problems: The organization learning model discussed in Figure 1 itself provides possible research avenues. The model indicates that antecedent variables affect various learning processes, which in turn affect the VIE components. We have discussed the model's parts
separately. However, interactions among these variables and processes will affect how an individual defines the VIE component.

In these interactions complex cues, which often conflict, may confront the individual. One important research problem is to examine how he deals with conflicting information about VIE components. For example, a supervisor might tell his subordinate that high effort expenditures lead to promotions (communication). The individual might see others (observation) who are hard workers get promoted but although he works hard on his job no promotion seems forthcoming. The research problem is how the individual resolves these pieces of information. Work in the attitude change literature, equity theory and attribution theory can all be brought to this problem. For example, if an "other" is in a department where promotions are quite frequent because of turnover, the reason for promotion may be attributed to characteristics of the department rather than to "other's" effort, eliminating the conflict between the cognitions of "other" and self. The basic strategy here should be to tie other relevant theoretical perspectives into the problem. The issue of resolving conflict among these cognitions depends in part on defining relevant others, assessing credibility of information sources, attributing reasons for self and other's behavior, determining the role of commitment in conflict resolution strategies, etc.

Another problem related to the way the individual deals with multiple cues is the process of assigning causal links--particularly for expectancies and instrumentalities. From available information the individual develops hypotheses about whether certain levels of effort lead to behavior and whether the behavior leads to a reward. Much of the current research on attribution processes looks at this issue and provides a useful point
of departure for investigating this problem. For example, let's assume a salesman is told he can make a particular quota and if he does he will be well rewarded. If he finds the source of information credible he might believe there is a link between what he does and whether he can meet his quota. However, reaching his quota is the strongest reinforcer for the effort-performance link. That is, the reinforcements from meeting the quota should bear on his perception of the causal links. But what if he fails to meet his quota? If he blames his failure on external forces (e.g., bad weather, change in the economy) then his initial belief about the effort-performance link would not substantially change. If he thinks he failed because his ability was too low or the task was too difficult, his expectancy about effort leading to performance should decrease. The attributed cause of behavior (i.e., ability or luck) moderates the effect of the reinforcement schedule and provides possible insights into the formation of expectancies and instrumentalities.

Another research problem from the model concerns the acquisition of new valences. To this point we have reviewed how antecedent variables affect the degree of valence for a particular outcome. The general proposition is that as the amount and frequency of rewards (e.g., pay) increase, the valence of that outcome (e.g., pay) decreases, holding constant the level of need satisfactions related to that outcome. Another issue concerns how new outcomes become valent for an individual. Breer and Locke (1965) have suggested a learning model where certain instrumental behaviors are identified and then, following a process of reinforcement, become defined as preferences and values. In a Scanlon Plan the process might be that an individual participates in the Plan because of the attractiveness
of the promised bonus. An important instrumental behavior in a Scanlon plan is cooperative behavior—it is an intrinsic part of the Plan. Breer and Locke would argue that by participating in the Plan cooperative behavior not only is cognitively identified as important but over time it becomes valued in itself and hence a new valent outcome develops or one is made more salient. Thinking about the Breer and Locke framework in the context of reward systems might be useful in exploring how new valued outcomes are developed.

CONCLUSION

The purpose of this paper is to focus attention on the antecedents of VIE components. Research in this area is not only important in expanding our knowledge of the expectancy model; it also provides an opportunity to tie this theoretical perspective to other theories in social psychology. It has been suggested that finding ties between this research problem and work in social learning theory, equity, attribution theory and other perspectives may lead to a more consistent body of research evidence.

This paper can serve several purposes. First, the problem area and more specifically the general model may stimulate refinements or other conceptualizations of the relationship among antecedent variables and VIE components. Second, the literature review, although selective, provides a picture of work to date and represents a bridging point for future research. Third, research topics that seem important have been identified, and some strategies for beginning research in these areas have been suggested.
Empirical coordinates of the model.

Vroom's Model (1964 p. 27)
Lawler's Model (1971 p. 108)

- Observed and personal experience in stimulus situation
- Equity of outcome
- Internal vs. external
- Ability
- Degree to which outcome is perceived to satisfy needs (see Chapter 2)
- Problem-solving approach
- Effort
- Performance
- Rewards
REFERENCES

Breer, P. and Locke, E.  
*Task experience as a source of attitudes*  

Dachler, H.P. and Mobley, W. "Construct validation of an instrumentality-expectancy - task goal model of work motivation and performance in two organizations."  

Evans, M.G. "The effects of supervisory behavior on the path-goal relationship."  


Gavin, J.  "Self esteem as a moderator of the relationship between expectancies and job performance."  

Goodman, P. and Moore, B. "Factors affecting beliefs about a new organizational reward system."  
Working paper 57-72-3.  
Graduate School of Industrial Administration, Carnegie-Mellon University, Pittsburgh, Pa., 1973.

Goodman, P. "Antecedents of expectancies and instrumentality." Preliminary working paper.  
Graduate School of Industrial Administration, Carnegie-Mellon University, Pittsburgh, Pa., 1973.

House, B. "A path goal theory of leader effectiveness."  

Jorgenson, D., Dunnette, M., and Pritchard, K., "Effects of the manipulation of a performance-reward contingency on behavior in a simulated work setting."  

Katz, D. and Kahn, R.  
*The Social Psychology of Organizations*.  

Lawler, E.  "Managers' attitudes toward how their pay is and should be determined."  

Lawler, E.  *Pay and organizational effectiveness*.  


Schneider, B., and Olson, L., "Effort as a correlate of organizational reward system and individual values." Personnel Psychology, 1970, 23, 313-326.


