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Bringing Some Clarity to Role Ambiguity Research¹

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Theoretical development of the concept of role ambiguity and empirical research on this concept have proceeded fairly independently of one another. Empirical work has confounded role ambiguity with both job dissatisfaction and formalization. A new model of ambiguity is offered, emphasizing unpredictability, rather than information deficiency. This model accords with expectancy theory.

Role ambiguity has been receiving increased attention from organizational behavior researchers. There is increased use of role ambiguity and its frequent companion, role conflict, as intervening variables between the structural characteristics of organizations and a variety of individual behavioral and affective outcomes.

Unfortunately, there is insufficient coherence to this growing body of research. As role ambiguity was introduced to organizational researchers by Kahn, Wolfe, Quinn, Snoek, and Rosenthal [1964], it was conceptually well developed and offered a multitude of testable hypotheses; yet only a small number of these hypotheses have been directly tested. Instead, empirical research on role ambiguity has developed in several directions, focusing on relationships between a multitude of variables.

Throughout its use in organizational research, role ambiguity has usually been examined alongside other role concepts—most notably role conflict. However, the very success of role conflict has tended to overshadow role ambiguity. In order to focus attention more fully on role ambiguity, I will analyze it in isolation from other role concepts. My discussion will also be shaped by the fact that theoretical development of the concept of role ambiguity and empirical research related to this concept have proceeded fairly independently of one

another, and by the fact that researchers have rarely used their findings to elaborate and test the original conceptualization of Kahn et al. Yet an understanding of both the theory of role ambiguity and its empirical support is necessary to a synthesis of our current knowledge of the concept. Therefore, this review begins with a summary of the theory of role ambiguity as set forth by Kahn et al., and concludes with a discussion of the empirical research on role ambiguity. These two topics are brought together in the subsequent analysis and synthesis, in the hope of providing clearer direction for future research.

Role Ambiguity: Theoretical Development

Kahn et al. visualized role ambiguity and role conflict as intervening variables between the structural characteristics of an individual's organizational position and personal, behavioral, and affective consequences. Their discussion of role ambiguity states that "the person must be able to anticipate with fair accuracy the consequences of his own actions.... He needs to have useable knowledge about means-ends connections in situations where he can produce or withhold the means" (p. 72). They use the term *ambiguity* to refer to the relative unpredictability of the outcomes of an individual's behavior, a usage similar to Goffman's [1963] *unanchored interaction* and Seligman's [1975]

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unpredictability.

Kahn et al. link role ambiguity with other concepts. Briefly, they hypothesize that certain organizational positions or jobs will be characterized by greater role *ambiguity and conflict*—those in which the incumbents must (1) cross boundaries, (2) produce innovative solutions to nonroutine problems, and (3) be responsible for the work of others.

Kahn et al. expect the consequences of experienced role ambiguity to be greater tension, job dissatisfaction, a sense of futility, and lower self-confidence. The relationship between experienced role ambiguity and affective outcomes is expected to be influenced by an individual's "need for clarity." That is, individuals experiencing role ambiguity who have a low need for clarity will not feel the aversive outcomes as powerfully as will those who have a greater need for clarity.

The original work by Kahn et al. has been expanded by Rizzo, House, and Lirtzman [1970], who further developed the definition of role ambiguity. In addition to the "unpredictability" of behavioral outcomes, Rizzo et al. added a second component to their definition: "[a lack of] the existence or clarity of behavioral requirements, often in terms of inputs from the environment which would serve to guide behavior, and provide knowledge that the behavior is appropriate" [pp. 155–156]. This alteration is especially important because the scale they developed is the role ambiguity operationalization in most empirical research. Because these two components of the concept are central to the subsequent analysis, the former will be called "unpredictability" and the latter "information deficiency."

Role Ambiguity: Empirical Research

Empirical research on role ambiguity has advanced in many directions; the complexity of the results is compounded by the fact that different studies examining a particular link between role ambiguity and another variable frequently produce contradictory results. Because a detailed examination of the many nuances of this body of empirical work is beyond the scope of my discussion, mixed results will merely be identified. (See Van Sell, Brief, and Schuler [in press] for a more comprehensive review of the empirical studies.) Role ambiguity has been linked with a great number of differ-

ent variables; this review will therefore be organized by studies of antecedents, consequences, and mediator analyses.

Structural Antecedents of Role Ambiguity

Although the original hypotheses of Kahn et al. concerning the structural antecedents of role ambiguity and role conflict have not been tested, several researchers have measured the associations between other structural antecedents and role ambiguity, allowing the data, rather than previous theory development, to indicate the antecedents. Rizzo et al. found moderate associations between such structural variables as "adequacy of communication" and "organizational emphasis on personal development," no significant relationships with several other structural variables, but a strong association between role ambiguity and "formalization" and "goal consensus and clarity." House and Rizzo [1972] found a negative relationship between "task-oriented leadership" and "formal practices" and role ambiguity. Rogers and Molnar [1976] found a moderate correlation between role ambiguity and an index of "formalization," mixed results for "intra-organizational contacts" and "administrative perceptions," and little or no associations with other variables. Morris, Steers, and Koch [1978] found moderate correlations between role ambiguity and "formalization" and "participation" but none for "supervisory span," "work group size," and "functional independence."

Two conclusions can be drawn about the antecedents of role ambiguity. First, these findings reveal a consistent result: in each study, formalization is negatively associated with role ambiguity. Second, most correlation coefficients for structural variables and role ambiguity are not significant. Since all of these researchers measured many antecedents (from six for Morris et al. to dozens for Rizzo et al. and for Rogers and Molnar), it could be argued that the few significant coefficients could be expected by chance alone. We can conclude that there is only weak evidence that certain organizational structural characteristics lead individuals to experience role ambiguity.

Although we can have little confidence in the scattering of other significant associations, the consistent negative association between role ambi-

guity and formalization cannot be ignored. Yet this association should not be surprising. In each of the above studies, the role ambiguity scale developed by Rizzo et al. was used, and with scale items such as "I know what my responsibilities are" and "clear planned goals and objectives for my job," its strong correlation with "the extent to which procedures and rules are written" —formalization—might be assumed. This redundancy will be fully explored in the analysis.

Individual Consequences of Role Ambiguity

The hypotheses offered by Kahn et al. concerning the affective consequences of experienced role ambiguity have been extensively tested. There is a wealth of support for the association between role ambiguity and stress [Brief & Aldag, 1976; Caplan & Jones, 1975; Hamner & Tosi, 1974; Kahn et al., 1964; Lyons, 1971; Miles, 1975, 1976; Rizzo et al., 1970]; only Tosi [1976] found a nonsignificant relationship. That experienced role ambiguity leads an individual to feel stress, anxiety, or tension receives additional support from research on the physiological effects of unpredictability [Seligman, 1975] and anecdotal support from Goffman [1963].

The researchers who have examined the relationship between role ambiguity and self-confidence have found evidence of a negative association [Beehr, 1976; Kahn et al., 1964]. Only Kahn et al. provide data supporting the hypothesis that experienced role ambiguity leads to lowered self-confidence and a sense of futility. Therefore, we have little substantial empirical evidence of an association between experienced role ambiguity and lowered self-confidence and a sense of futility.

In addition, several researchers have tested the relationship between experienced role ambiguity and lower job performance—a behavioral outcome. Unfortunately, the support for this hypothesis is mixed. Schuler [1975] and Szilagyi, Sims, and Keller [1976] found a significant negative association between role ambiguity and performance, but Schriesheim and Murphy [1976], Schuler, Aldag, and Brief [1977], and Schuler [1977] found no relationship. Because these tests were not based on the original conceptualization of Kahn et al., and because these authors do not provide extended discussion of the reasons why we should expect an

association, these mixed results are difficult to interpret theoretically.

The weak connection between the theoretical conceptualization of role ambiguity and empirical research using a role ambiguity measure leads to several problems and merits discussion. This literature aptly fits Torgerson's characterization of the social and behavioral sciences: "We have a wealth of observables and certainly no lack of constructs. There is, however, a rather serious shortage of important connections" [1967, p. 5]. The Kahn et al. model of role ambiguity has not been tested in its entirety, yet we have many studies reporting the association between one particular operational definition of ambiguity and a multitude of variables. Thus, in Torgerson's terms, the Kahn et al. conceptualization is "immune from rejection" on the basis of empirical evidence, while atheoretical studies accumulate.

The relationship between role ambiguity and job satisfaction has generated the most research. The research evidence tends to indicate a moderate negative association between role ambiguity and job satisfaction [Beehr, 1976; Beehr, Walsh, & Taber, 1976; Greene & Organ, 1973; Hamner & Tosi, 1974; Ivancevich & Donnelly, 1974; Kahn et al., 1964; Keller, 1975; Lyons, 1971; Miles, 1976; Rizzo et al., 1970; Schriesheim & Murphy, 1976; Schuler, 1975; Schuler et al., 1977; Szilagyi et al., 1976; Valenzi & Dessler, 1978]. Contradictory evidence comes from Tosi [1976] and Brief and Aldag [1976]. However, as with formalization, there is a redundancy in the measurement of the two variables of role ambiguity and job dissatisfaction. The argument to be developed in the following analysis is that, as they have been measured, role ambiguity and job dissatisfaction are indistinguishable.

Several conclusions about the consequences of experiencing role ambiguity are warranted. There is strong support for the hypothesis that role ambiguity causes an individual to experience stress, and weaker support for the hypothesis that those who experience role ambiguity will have less confidence in their ability to influence their environments (a sense of futility). No definitive conclusions can be drawn about the effect of role ambiguity on job performance, since the results are mixed. Finally, there is substantial evidence that role ambiguity is associated with job dissatisfaction, a relationship

that will be analyzed more fully with respect to how these variables have been measured.

Role Ambiguity in Mediator Analyses

Turning to the various studies in which mediator variables have been examined, we begin with those studies in which role ambiguity has been examined as a mediator of other relationships, followed by the studies concerned with mediators of the relationships between role ambiguity and affective consequences.

In his path/goal theory, House [1971] hypothesized that the responses of subordinates to leader "initiating structure" behaviors varied because role ambiguity acted as a mediator: for subordinates with unambiguous tasks, leader structuring behavior would be redundant and lead to less job satisfaction, whereas for subordinates experiencing role ambiguity, the structuring behavior would be valued and lead to greater satisfaction. House provides data supporting this hypothesis, but Schriesheim and Murphy [1976] found no significant mediating effects. Both House and Rizzo [1972] and Valenzi and Dessler [1978] found evidence of a significant mediating effect only for leader "consideration" behavior, not for structuring behavior. Valenzi and Dessler disagree with the path/goal hypothesis, since the consideration/satisfaction relationship has more empirical support. There is, then, at best mixed support for the path/goal hypothesis; although role ambiguity does consistently mediate the consideration/satisfaction relationship, no comprehensive theoretical explanation comparable to House's path/goal theory has been offered.

Many researchers have sought mediators that would increase the strength of the demonstrated association between role ambiguity and stress/dissatisfaction. A variety of variables have been tried, using the inductive approach, and the results have been mixed, so few firm conclusions can be drawn. On the whole, organizational level does not consistently mediate relationships between role ambiguity and other variables [Ivancevich & Donnelly, 1974; Miles, 1976; Schuler, 1975, 1977; Szilagyi et al., 1976]. Need for achievement [Johnson & Stinson, 1975; contradictory results from Morris & Snyder, 1979], need for clarity [Ivancevich &

Donnelly, 1974; Kahn et al., 1964; Lyons, 1971; Miles & Petty, 1976], and group cohesiveness [Beehr, 1976] do mediate most of the role ambiguity/affective consequences relationships, but the additional variance explained is not substantially greater than that explained in other studies omitting mediator variables.

Because chance findings may be interpreted as real when mixed results are obtained, the empirical support for most hypothesized relationships is weak; only three relationships have strong support. The first—greater role ambiguity increases stress—is the only one with solid support. The other two—formalization decreases role ambiguity, and role ambiguity creates job dissatisfaction—found correlational support; yet a careful examination of the conceptual and methodological bases of this research will reveal a confounding of the three variables of role ambiguity, formalization, and job dissatisfaction. We now turn to this examination.

Confounding with Job Dissatisfaction

Role ambiguity and job dissatisfaction, as they are currently conceptualized and measured, are confounded. The problems begin with the conceptualization of role ambiguity. Role ambiguity has been defined as a dual-component variable. Rizzo et al. include both the predictability and information-deficiency components explicitly, but Kahn et al. do so only implicitly; they use these components interchangeably, as can be seen by their use of deficiency-of-information examples of role ambiguity [pp. 73-74].

The information-deficiency component leads to conceptual difficulties. No doubt organizational positions differ in the degree to which they are explicitly detailed; the availability of information is not, however, synonymous with the predictability of the consequences of behavior. Information is often made available for reasons other than clarifying the consequences of individual action—e.g., job descriptions can be written solely to present a certain image to outsiders, to make a case for a pay raise, and so forth. We can imagine situations in which information availability is in the service of enhanced predictability, yet also imagine situations in which the proliferation of documents is asso-

ciated with very low predictability. The use of information availability as an indicator of role ambiguity has tended to confuse its meaning. For example, if role ambiguity is a global concept containing two components, Kahn et al. do not specify how these components fit together. Is the model additive, and therefore the components can compensate for one another? Or is it multiplicative, implying that both components are necessary parts of role ambiguity? The lack of attention to defining these two components has had serious effects on empirical research.

As it has been operationally defined, role ambiguity has come to be measured almost exclusively as its information-deficiency component. See the scales of Rizzo et al. [1970, pp. 155-161], Lyons [1971, p. 104], Greene and Organ [1973, p. 97], and Ivancevich and Donnelly [1974, pp. 30-32]; only Beehr's [1976, p. 36] scale is dominated by items clearly intended to measure unpredictability. Rizzo et al. noted that their scales needed further refinement, but subsequent researchers in this area have not built on their pioneering efforts. Unfortunately, the operationalization of role ambiguity as information deficiency has led to the confounding of role ambiguity and job dissatisfaction.

It is certainly not surprising that individuals who report that they are experiencing a deficiency of information also report that they are dissatisfied. Lawler [1971] and Locke [1976] consider a "discrepancy theory" as one conceptualization of job satisfaction, and Porter [1962] computed discrepancy scores for his operational definition of job satisfaction. There seems to be little theoretical or operational distinction between role ambiguity—as used in all but Beehr's empirical research—and job dissatisfaction. A test of the empirical distinctiveness or discriminant validity of role ambiguity and job dissatisfaction would have been possible if these studies had used more than one measurement source [Campbell & Fiske, 1959]. Yet until such a test is completed, we can only conclude that the variables of role ambiguity and job dissatisfaction are embarrassingly similar. This is not to question the reliability of the role ambiguity scale, which received support from Schuler et al. [1977], but rather its discriminant validity in relation to job dissatisfaction.

Accordingly, two recommendations present

themselves. First, unpredictability and information deficiency should be clearly distinguished. If they are studied jointly, their relationship to one another should be clearly delineated. Given the difficulties involved in assessing experienced deficiencies, and problems posed by discrepancy scores, empirical investigation using unpredictability alone—with attention only to information deficiency that fosters unpredictability—might prove most fruitful. Second, role ambiguity research might profitably avoid the job satisfaction variable. Ambiguity has been clearly linked with stress, and investigating the impact of stress on other outcomes such as self-confidence and turnover may well prove useful.

Confounding with Formalization

Only one structural antecedent—formalization—was found to be consistently, if moderately, associated with role ambiguity. In each of the reported studies, both role ambiguity and formalization were composed of items from the same questionnaire, in which role ambiguity items had no specific referent but the formalization items referred to "job descriptions" or "personnel policies."

Because this is the only antecedent with demonstrated support, solid empirical evidence indicating the exact nature of the effect of organizational structures on experienced role ambiguity is unavailable. One's concern over this lack is exacerbated by careful reading of the Kahn et al. description of the antecedents of role ambiguity; they state that these antecedents cause both ambiguity and conflict, but they present arguments and supporting data solely for experienced role conflict. For example, those holding "boundary positions" in organizations are said to experience conflicting expectations. But it is never specified how these conflicting expectations necessarily lead to ambiguous expectations—expectations can be conflicting and yet be quite clear.

The frequent pairing of role ambiguity and role conflict in theoretical and empirical work seems to have been a disservice to the concept of role ambiguity. Authors frequently confuse the two [Frank, 1959; Korman, 1971, p. 340; Wispe & Thayer, 1957, p. 41]. Much of the opacity in role ambiguity research can probably be traced to its pairing with role conflict.

Based on the results of both empirical research and the conceptual development of the antecedents of role ambiguity, two recommendations can be made. First, the antecedents of role ambiguity should be clearly delineated and their expected effects on experienced ambiguity carefully investigated. Second, this careful specification of the antecedents of role ambiguity will be easier if ambiguity alone is treated. Role conflict and role ambiguity are sufficiently different that a clearer understanding of both concepts would be easier to achieve if they were studied separately.

An Alternative Model of Ambiguity

A new model will now be introduced that incorporates the above suggestions. This model is sufficiently different from that of Kahn et al. that the concept of role ambiguity will be referred to hereafter simply as *ambiguity*.

Definition of Ambiguity

Ambiguity is defined solely as the unpredictability component of role ambiguity. One can expect a deficiency of information to lead to experienced unpredictability, but the separate effects of "experienced deficiency" will not be addressed.

Ambiguity is considered to be a condition in which the consequences of individuals' actions are unknown to them; in other words, organizational members experience unpredictability when they do not know what the effects of their own behavior will be. The alternative model of ambiguity is represented in Figure 1.

This model can be fit into an expectancy theory framework [Vroom, 1964]. It focuses on the expectancy that effort will lead to a certain level of performance—the relative predictability of performance being expressed as $p(E \rightarrow P)$.

Structural Antecedents

It is hypothesized that four structural characteristics of positions will lead an individual to experience ambiguity of behavioral consequences. Individuals in an unusual setting, those for whom job-related expectations are changing, those whose own performance is judged by the behavior of

others, and those who experience a delay or absence of relevant information or definitive feedback are expected to experience ambiguity. The model is additive: any one of the four characteristics is expected to lead to experienced ambiguity. The model also focuses on positions or role characteristics, not organizational-level variables; further work will be necessary to establish the organization/position links.

The first two structural characteristics are not accorded propositional statements because they amount to truisms, but were included for the sake of completeness. The phenomenon of unusual settings leading to experience ambiguity is addressed by those concerned with socialization. A large component of socialization is the learning of which behaviors lead to which consequences—establishing behavior/outcome predictability for a given setting. Similarly, when an organizational setting is changing, either because the individual members are changing or because the environmental demands on incumbents are changing, established behavior/outcome expectancies are questioned. Old behaviors don't produce the expected consequences, and new behaviors must be tried and evaluated. These ideas are not new, although few have considered socialization and change in terms of unpredictability.

The other two structural antecedents shown in the model merit extended discussion. A related proposition introduces the discussion of each of these antecedents.

- P1. Individuals who work through other people will find that the consequences of their behavior are more ambiguous than will individuals whose outcomes are not mediated by others.

One prominent characteristic of the tasks of educating and managing is that the results of a job holder's efforts are manifested in the behaviors of others. The behaviors of others are the *consequences* of the teacher's and manager's behavior. (Social work and psychotherapy share this characteristic.) Whenever the consequences of one's own behavior are the behaviors of others, these outcomes will be less predictable than consequences manifested directly in the nonhuman environment.

The response of others to one's own behavior is

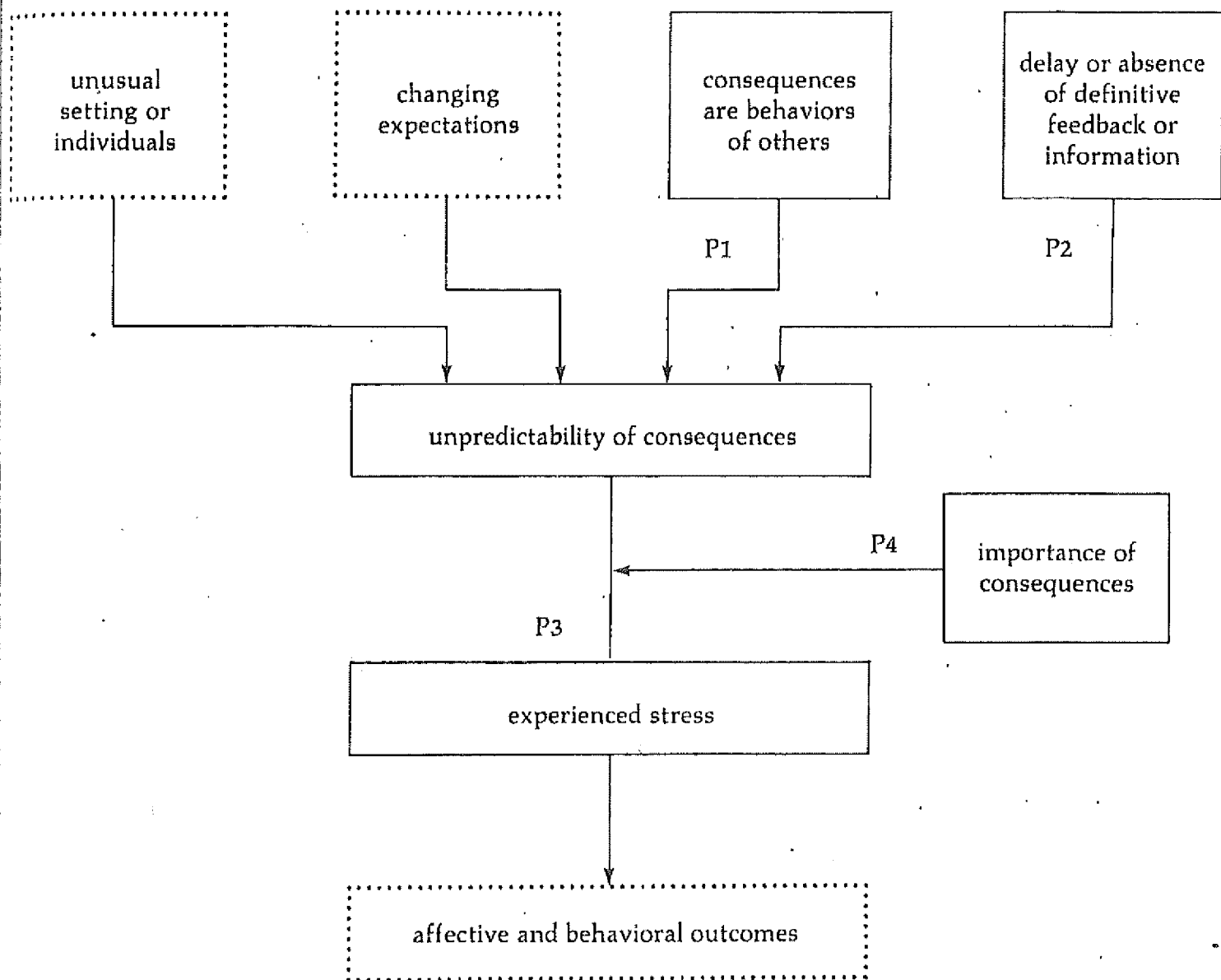


Figure 1
A Model of Ambiguity

problematic because humans base their reactions on the meaning of behavior (obviously, meaning is less relevant if severe physical harm is possible). The importance of the sense-making process in organizations is emphasized by organizational ethnomethodologists [Gephart, 1978] and attribution theorists (see Calder [1977] for an organizational application).

The interpretation of behavior becomes very important when people are interdependent. When-

ever organizational members perform tasks in which the consequences of their behavior are the behaviors of others, these members are dependent for organizational rewards on the meaning of their behavior to these others. In an organizational setting, two important meanings affect responses: the intention of the behavior and the intention of the responder.

The classic example of the problem posed by the attribution of the behavior's intention is provided

by Whyte [1975]. In this case the behavior was a manager. A piece-rate incentive system was intended by management to clearly link a valued reward (money) to greater productivity. However, the employees believed that if an employee was productive enough to earn more through increased productivity the rate would be readjusted, so all workers would have to produce more just to maintain their current pay level; therefore, they restricted their production. The problem with this plan was not the choice of reward—money was clearly valued by these employees—but their interpretation of the manager's behavior.

Unpredictability of consequences for those who work through others is also influenced by the intentions or goals of those others. People not only interpret their environment, they evaluate its favorability; an important meaning to be gained by people is the meaning of another's behavior for their own goals. Those who work through others encounter unpredictability in establishing a shared meaning, and also in anticipating others' preferences and the effect of one's own behavior on these preferences.

- P2. The delay or absence of definitive feedback and outcome information increases experienced ambiguity.

The delay or absence of performance information and feedback is likely to characterize the jobs of researchers, investors, and staff members who do not have face-to-face contact with their executive clients (e.g., financial analysts in large corporations). This proposition incorporates both the information that might be available through formalization and feedback, including formal documents and informal oral communications. The term *information* is used rather than *formalization* because, as noted above, not all formal position descriptions are in the service of clarifying expectations, and such information is often provided orally and informally by others. In addition, incumbents in positions without definitive feedback experience ambiguity not because they are dependent on others' interpretations of their behavior but because they have so few opportunities to test the effects of various behaviors. When feedback is delayed it is often confounded; because many factors have changed, it is not certain what the influ-

ence of the behavior alone was. For example, an investment may prove unprofitable, but if it takes several years to discover, it may not be clear whether the investor's strategy was at fault, or simply that environmental changes occurred that no one could have foreseen. Because feedback in these situations is equivocal, the consequences of behavior become unpredictable. This viewpoint is similar to the argument of Lawrence and Lorsch [1967], that the relatively greater uncertainty facing research development departments results, in part, from their longer "time span for definitive feedback."

Individual Consequences

The discussion of the effects of ambiguity on individual behavior and affective consequences will be restricted to a discussion of stress; a detailed examination of the effects of stress is provided by McGrath [1976] and Kasl [1978].

- P3. Individuals who find the consequences of their behavior unpredictable will experience more stress than those with more predictable behavioral consequences.

Data in support of this proposition are extensive. In addition to the role ambiguity studies cited above, it is supported by laboratory experiments demonstrating that the inability to predict the onset to aversive stimuli, in itself, leads to stress [Seligman, 1975]. Other outcomes, such as poor performance, would be expected to result directly from the stress, not the experience of ambiguity. The stress response is expected to be mediated by the importance of the unpredictable consequences to the individual.

- P4. Behavioral outcome unpredictability will lead to stress only for those outcomes individuals consider to be important.

We experience unpredictability in many facets of our lives, but only notice it when it involves consequences that are important to us. Seligman's [1975] research on the link between unpredictability and stress implicitly assumes this mediating effect; by focusing only on painful stimuli he has focused only on important stimuli.

The mediating variable of consequence importance includes the personality differences in

ambiguity thresholds described by Kahn et al. [1964, pp. 86-88; also Lyons, 1971], who found that individuals with a greater need for cognition or need for clarity were more stressed in ambiguous settings. This finding indicates that those with a strong need for clarity find job-related ambiguity to be more important than those with low clarity needs. Not only are relatively stable differences in the importance of ambiguity likely but also an individual's preferences for clarity of particular consequences probably differ. In addition, this importance variable accommodates the observation that certain people seek ambiguous jobs; for them, the outcome unpredictability is not important. This proposition is expected to incorporate individual differences that strongly influence experienced states.

Concluding Remarks

This empirical and theoretical review represents an attempt to advance the integration between theorizing and empirical research that is necessary to scientific progress. The initial theorizing of Kahn and Rizzo and their respective associates initiated a substantial empirical research effort. The results of this empirical effort indicated the need for a new round of conceptualizing. The model introduced in this article was developed in the hope that research and theory-building efforts—perhaps fueled by indignation—might be increased. Ambiguity is an exciting concept that promises to greatly enhance our understanding of organizational behavior.

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