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Consequences of Individual Feedback on Behavior in Organizations

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The literature on feedback to individuals was reviewed with respect to its effect on the behavior of individuals in performance-oriented organizations. Although contemporary views of individual behavior in organizations stress that feedback is necessary for effective role performance, little attention is given to the psychological processes affected by it. This review focuses upon the multidimensional nature of feedback as a stimulus and addresses the process by which feedback influences behavior. Emphasis is placed on those aspects of feedback that influence (a) the way it is perceived, (b) its acceptance by the recipient, and (c) the willingness of the recipient to respond to the feedback.

Feedback about the effectiveness of an individual's behavior has long been recognized as essential for learning and for motivation in performance-oriented organizations. Not surprisingly, considerable research has been conducted on the subject (see reviews of feedback by Adams, 1968; Ammons, 1956; Annett, 1969; Bilodeau, 1966; Locke, Cartledge, & Koeppel, 1968; Sassenrath, 1975). Yet, in spite of the large and varied literature, generalizations about the effects of feedback on individuals are few.

Several factors contribute to this state of affairs. First, feedback is not a simple stimulus. The diverse elements subsumed under the single rubric of feedback may share the property of conveying some degree of information about past behavior, but they share little else. As a result, many factors often are confounded with the feedback stimulus, which makes it difficult, if not impossible, to ascertain the effects of feedback per se on behavior.

Second, a well-developed set of theoretical statements rarely has been presented to relate specific characteristics of the feedback stimulus to psychological processes preceding the behavioral response in organizational settings (some notable exceptions are Annett, 1969; Bilodeau, 1966; Brehmer, 1974; Hammond & Summers, 1972). The result is a large body of experimental research relating one or two dimensions of feedback to a given response (or set of responses) with little concern for the intermediate psychological processes triggered by the feedback. Much of the early human performance literature could be viewed in this light, although the more recent information processing approach to human performance has introduced a strong theoretical orientation (see, for example, Hammond & Summers, 1972; Kantowitz, 1974; Brehmer, Note 1). The latter research is characterized by a high degree of rigorous experimental research on tasks that tend to be very abstract.

In contrast to the work in human performance with its base in experimental psychology are the concerns for feedback in organizational settings, which are social psychological in orientation. Here feedback is viewed as an es-

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sential feature of the interpersonal interactions necessary for role learning and for the influence of others such as is present in the leadership function (see, e.g., Katz & Kahn, 1978; Meyer, Kay, & French, 1965). It also is seen as a necessary component of task environments by those who emphasize the importance of higher order needs for self-esteem and self-actualization (Maslow, 1954). According to this view, performance feedback performs a motivational function by providing the proper environment for the recipient to meet higher order needs through task accomplishment (e.g., Deci, 1975; Hackman & Oldham, 1975, 1976).

At first glance, the motivational orientation has developed a more elaborate theoretical orientation toward feedback than typically has been found in the human performance literature. However, a close comparison shows that motivational theories tend to describe an undifferentiated feedback concept, which fails to explicate the specific characteristics of feedback and, thus, to consider the ramifications of different types of feedback on behavior (Herold & Greller, 1977).

Finally, the understanding of feedback effects in ongoing work organizations is hampered by a lack of communication between or integration of the human performance and the motivational orientations toward feedback. A notable exception to this is Locke's seminal work on goal setting (Locke, 1967, 1968; Locke & Bryan, 1969a, 1969b; Locke, Bryan, & Kendall, 1968; Locke, Cartledge, & Knerr, 1970; Locke, Cartledge, & Koeppel, 1968). Nevertheless, Locke's focus was primarily on goals, not feedback, and therefore concentrated exclusively on goal-relevant aspects of feedback. It is our purpose to place emphasis on all aspects of feedback.

The review that follows develops from a process-oriented concern for how feedback affects the behavior of individuals in organizations. It attempts to delineate the nature of feedback more specifically than other process models and to integrate human performance and information processing research on feedback into a more general process orientation. Before turning to the review, we will discuss the nature of feedback.

Nature of Feedback

We find it useful to conceive of feedback as a special case of the general communications process in which some sender (hereafter referred to as a *source*) conveys a *message* to a *recipient*. In the case of feedback, the message comprises information about the recipient. The recipient's perception of the feedback and response to it depends upon his or her personal characteristics, the nature of the message, and characteristics of the source of feedback.

Source

All feedback originates from some source. Technically, the source is not part of the feedback. However, it is often difficult to separate the effects of the feedback information itself from the effects of the source. Usually the two are confounded. To understand the effects of feedback upon behavior, it is necessary to identify the source and to ascertain the source's influence on the response.

Sources of feedback can be classified into three distinct sets. First, there are other individuals who have observed the recipient's behavior and are in a position to evaluate it. Most frequently considered in this category in work settings are supervisors, co-workers, subordinates, and others, such as a salesperson's customers, who are not actually members of the recipient's organization.

The task environment provides a second source of feedback. The importance of feedback from the task environment is well documented in the areas of human factors engineering (McCormick, 1970) and job enrichment (Hackman & Oldham, 1976; McGrath, 1976). At least two classes of task feedback emerge. First, the feedback may be inherent in working on the task itself. For example, in a tracking task it usually is apparent immediately when the individual is not on target. Second, additional feedback mechanisms, termed *augmented feedback* (Annett, 1969; Bilodeau, 1966; Bourne, 1966), may be built into tasks when the task-inherent feedback is not sufficient. For example, auditory feedback may be added to a visual tracking task. Another example is "quickened" feedback,

which reports the results of an action immediately after a response but before the actual result of the action has occurred (McCormick, 1970). Quickened feedback is particularly useful on man–machine systems in which the system is slow to react, such as the response of an oil tanker to attempts to turn it a given number of degrees.

Finally, individuals may be able to judge their own performance and therefore serve as their own source of feedback. The amount of past experience on the task, as well as general personal characteristics such as self-confidence, influence the extent to which individuals rely on their own judgments about their performance. This source of feedback will be referred to as the *self*.

Although this classification of sources is reasonable from the standpoint of creating mutually exclusive and exhaustive sets, the classification scheme is of little value for suggesting to what extent feedback from a source affects the recipient. To deal with the latter, two concepts from the communications and social influence literature are most helpful. The first is credibility. With regard to feedback messages, credibility should be a function of at least two factors. First, credible sources should be perceived by the recipients as sources possessing the expertise necessary to judge their behavior accurately. Expertise would include both familiarity with the task itself and with the recipient's own performance on the task. Second, to be credible the source must be perceived as trustworthy. These and other dimensions of credibility will be discussed later.

Sources also vary in their power over the rewards and sanctions received or anticipated by the recipient. Other things being equal, the higher the power of the source, the more likely is the recipient to attempt to respond in line with the feedback. Theoretically, power is independent of credibility, although we would hope that in many settings they covary.

For feedback from the task to be credible to the recipients, they must believe that the feedback refers to their own responses. As performance displayed in the feedback from the task is perceived to be a function of events unrelated to the recipients' behavior, the feedback should be seen as less credible and there should be little desire to change behavior in light of the feedback. Power, on the other hand, with reference to the task, has little or no meaning and will not be considered.

Message

Information value. At its most basic level, feedback is information received by an individual about his or her past behavior (Annett, 1969). It provides some information about the correctness, accuracy, or adequacy of the response (Bourne, 1966).

The usefulness of the feedback information to the recipient depends upon both the nature of the feedback stimulus and the recipient. Recipients must be able to convert or transform the feedback message to units that are meaningful to them (Annett, 1969; Bilodeau, 1966; Bourne, 1966). Thus, an observed nod of the head or pat on the back from a supervisor has little or no information value in and of itself. The recipient must interpret this by converting it to an estimate of the supervisor's evaluation.

The information value of feedback also depends upon the incremental increase in knowledge about performance that the feedback provides the recipient (Annett, 1969). According to cybernetic approaches, feedback is most efficient when it increases knowledge through a reduction in uncertainty by eliminating half of the alternative or competing explanations for behavior (Shannon & Weaver, 1949).

Thus, we conclude that feedback is information about appropriateness of past performance. However, the degree to which feedback provides information only can be judged subjectively—from the recipient's frame-of-reference. The amount of information it provides depends upon the incremental increase in information about the behavior over and above the information already possessed by the individual.

Functions of feedback. Feedback is often described in terms of the functions it performs for the recipient. Most frequently its functions are described as either directional or motivational (Locke et al., 1968; Payne & Hauty, 1955). Loosely speaking, directional charac-

teristics inform the recipient of the behaviors that should be accomplished. The directing function of feedback serves to clarify individuals' roles in organizations by making specific those behaviors that should be performed. On the other hand, feedback serves a motivational function when it provides information about outcomes associated with rewards. If feedback increases motivation by acting as a promise of future rewards, it functions as an incentive (Annett, 1969). It may also serve as a reward and/or punishment itself (more technically, as a secondary reinforcer), if, over time, the pairing of a given level of feedback with certain positive and/or negative outcomes leads the feedback to take on reinforcing properties in and of itself (Annett, 1969).

From his detailed review, Annett concludes that although feedback performs several functions, it is doubtful that the effects of each of these functions can be isolated. We agree. This is especially true in field settings. Therefore, rather than argue for a single functional view of feedback, we feel that it is more efficacious for those concerned with behavior in organizations to view feedback from a broader motivational framework. Within this framework, feedback can serve both to direct behavior and either to influence future performance goals (an incentive function) or to reward or punish (a reinforcement function).

Recipient

From our perspective the feedback recipient is a processor of information about his or her own past performance. From the recipient's perspective, the information is represented as a source-and-message couplet. As we have already seen, source and message characteristics interact with recipient characteristics to produce a reaction to feedback by the recipient.

The remainder of our discussion focuses upon the way in which the recipient processes feedback information. A large body of literature was reviewed in order to understand this process better. In order to organize this material, the model presented in Figure 1 was developed. Although it represents our interpretation of the major variables and relationships addressed by feedback research at the individual level, it is meant to serve primarily as a vehicle for organizing the discussion of feedback rather than to be a well-developed theory of feedback.

Elements of the Feedback Process

We have divided the individual's processing of feedback into four stages: *perception* of

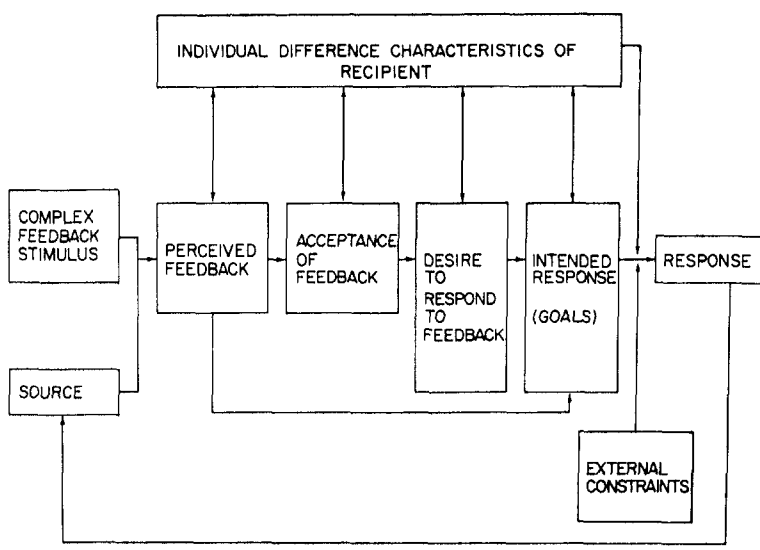

Figure 1. Model of the effects of feedback on recipients.

feedback, *acceptance* of feedback, *desire to respond* to feedback, and the *intended response*. Within this section of our review, we present a discussion of the first three stages along with those characteristics of the source, the feedback itself, and the recipient that have an impact on the outcome of each stage.

Perceived Feedback

Perceived feedback is concerned with how accurately the recipient perceives the feedback from any given source. As is the case with any perception, it is a function of properties of both the stimulus and the perceiver and involves receiving the feedback stimulus and then interpreting it. Several elements of both the stimulus (i.e., the source and message) and the recipient have been shown to affect perceptions of feedback.

Source. Greller and Herold's (1975) research indicates that individuals rely most upon sources close to themselves for feedback. The authors surveyed employees from a number of organizations with respect to the importance of five sources of feedback. The five were (a) formal performance appraisal, (b) the supervisor, (c) co-workers, (d) the task, and (e) the recipients' own feelings and ideas (self). The self was the source on which they relied most heavily. The task was next, followed by the supervisor, co-workers, and the organization.

It is reasonable to assume that individuals should be better attuned to feedback from sources closer to them than from those more distant in a psychological sense. Although it does not necessarily follow that the accuracy with which feedback is perceived also varies directly with the closeness of the source, it would seem likely that paying closer attention to a source should increase the accuracy with which feedback from that source is perceived. The data of Kanfer, Karoly, and Newman (1974) support this conclusion. They found that when feedback was administered by several sources and subjects were asked to recall the feedback at a later time, recall of feedback from self was greater than from any other agent.

Difficulties with generalizing from the effects of the closeness of the source on perceived feedback arise from the impreciseness of the closeness concept. Certainly, closeness is not equivalent to physical proximity in spite of the fact that the two are often correlated. Closeness in a psychological sense is more appropriate; yet in the case of Greller and Herold's (1975) data, it would be difficult to predict that supervisors would be more important sources than co-workers strictly on the basis of psychological closeness.

We suggest that the concepts of credibility and power may be useful for understanding source effects on feedback perceptions. Other things being equal, it would seem that the more credible a source had been in the past, the more likely that future feedback from that source would be perceived accurately. Power, on the other hand, is more complex. Although individuals often may desire to perceive feedback from powerful sources accurately, the organizational communications literature has demonstrated that difficulties in perceptions of work problems are encountered when communications take place across hierarchical levels in the organization (Maier, Hoffman, & Read, 1963; Porter & Roberts, 1976). Specifically for feedback, there also is little agreement between superiors and subordinates on the amount and type of feedback available to subordinates (Hackman & Lawler, 1971). Therefore, while we are aware of no research investigating the effects of the source's power on feedback perceptions, such investigations appear to be needed to understand feedback–behavior relationships.

Message. The review identified three dimensions of the feedback stimulus that affected perceptions of feedback. Each is discussed in turn below.

1. Timing. Timing refers to the interval between the individual's behavior and the receipt of the feedback about the behavior. If the feedback is to be perceived as related to the behavior in question, the feedback must somehow be paired with the appropriate response for the feedback to be meaningful. Much research has focused upon the effects of timing upon the individual's ability to link feedback with the appropriate behaviors. Ammons (1956) concluded from his review that

the longer the delay in the receipt of feedback the less the effect of feedback on performance.

The work in concept formation, however, brought into question Ammon's generalization. Bilodeau (1966) pointed out that behavior is more accurately portrayed as a series of responses $R_1 \ldots R_n$ than as a single response to a stimulus. Feedback that occurs after response R_n and before R_{n+1} establishes two time intervals: *feedback delay,* which is the time period between R_n and the feedback, and the *postfeedback interval,* which is the interval between the feedback and the next response.

Separating the feedback delay from the postfeedback interval, Bourne and Bunderson (1963) found that only the postfeedback interval affected concept learning. This research, along with other data, led Bourne (1966) to conclude that if the time period between the response and the feedback is not filled with interfering activities, then the learning is not affected by the delay time.

Bourne's generalization depends on a lack of interfering activities and/or stimuli during the delay. In many or most work settings, feedback is often delayed for extensive periods of time, allowing for many activities that may interfere with the connection between the response and the feedback.

The data Buchwals and Meager (1974) gathered to investigate the effect of delayed feedback on performance showed that delayed feedback actually improved performance but only if the subject remembered the original response. This suggests that if the activities that occur during the feedback delay time do not interfere with the individual's ability to accurately recall the behavior and associate the feedback with it, the length of the time delayed should have no detrimental effect on the feedback perceptions.

There is some indication that the delay in feedback may affect learning differently for errors versus correct responses (Kulhavy & Anderson, 1972; Surber & Anderson, 1975). Kulhavy and Anderson (1972) found that learning of the correct response on a multiple choice test was better if negative feedback was delayed rather than immediate. The same was not true for positive. They argued that this occurred because the selection of any particular response to an item on a test strengthens the tendency to give that response. For incorrect responses, the strengthened tendency to make the response interferes with the feedback about the correct response (proactive interference). However, over time all response tendencies weaken, so that delayed negative feedback is affected by less proactive interference. Positive feedback, on the other hand, is not affected by the interference when given immediately after the response or later, so the delay is less of an issue.

2. Sign. The discussion of feedback perception to this point has assumed that the recipient "received" or somehow acknowledged the feedback and was faced with the task of pairing the feedback with the behavior to which it referred. Yet, the problem with the nature of the feedback perceived may occur at an even earlier juncture—at the point where the feedback source administers the feedback. The link between giving the feedback and its reception by the intended target often breaks down. There are several reasons for this. One of the most important reasons may be the sign of the feedback.

Generally, positive feedback is perceived and recalled more accurately than is negative feedback (Feather, 1968; Ilgen, 1971; Ilgen & Hamstra, 1972; Shrauger & Rosenberg, 1970). The most reasonable explanation for this relies upon a defense mechanism interpretation, in which the positive feedback is more pleasant and may enhance one's self-image. As a result, positive feedback tends to be perceived accurately. Negative feedback, on the other hand, may be denied by the recipient because of an unwillingness to accept such knowledge about himself or herself. Exceptions to the greater impact of positive feedback tend to be related primarily to individual differences in self-concept. (These will be discussed below in this section.) However, in spite of possible moderating effects, the general conclusion that positive feedback is more readily and accurately perceived than negative feedback seems justified.

3. Frequency. It is generally accepted that the more frequent the feedback, the better

(Anderson, Kulhavy, & Andre, 1971; Cook, 1968; Ivancevich, Donnelly, & Lyon, 1970). From this we might infer that the accuracy is greater when the individual is presented with feedback from a source more frequently.

There is at least one notable exception to the above generalization. This exception requires a distinction between the sensing of feedback and the interpretation of it. Frequency influences the extent to which the recipient is able to apply the correct transformation rule to the feedback. This issue has been most apparent in research requiring subjects to learn the functional relationship between a predictor and a criterion by estimating criterion values from predictor values and then receiving feedback about the accuracy of their judgment. When the predictors and criteria are not themselves perfectly related, feedback after each trial can be very misleading and detrimental to learning the functional relationship (Hammond & Summers, 1972; Steinman, 1976). Therefore, one must be cautioned against blindly advocating an increase in feedback, particularly in cases where individuals must interpret complex feedback.

Recipient. Turning from characteristics of the stimuli to those of the perceiver, there are several factors that have been demonstrated to affect both sensing and interpreting feedback. All are related to the perceptual set with which the recipient addresses the performance setting. Ammons (1956) considered the set as a collection of hypotheses held by the performer about his or her performance. Through past experience with the task, the performer has some ideas (expectations) about performance and expects to hear feedback that is consistent with these expectations. Given such a set, the recipient should tend not to perceive feedback that is inconsistent with his or her expectations and also should tend to seek out feedback that is consistent with what is expected.

Research relating feedback to personality variables in general supports the notion that the feedback perceived is related to the individual recipient's frame of reference. Baron and his associates (Baron, Cowan, & Ganz, 1974; Baron, Cowan, Ganz, & McDonald, 1974; Baron & Ganz, 1972) looked at the effects of locus of control on responses to feedback. Subjects with internal locus of control performed better than externals when self-discovery (task-supplied) feedback was the only type of feedback available. On the other hand, externals outperformed internals when feedback was available only from an experimenter. These results were replicated on lower-class black and white children as well as college students, indicating the effect is a stable one.

Although Baron and his colleagues interpreted the data from a motivational point of view—arguing that internals were motivated by performance feedback that provided the opportunity for feelings of accomplishment, while externals were more motivated by feedback indicating support from a powerful other (an external agent)—the results are equally supportive of a set or frame-of-reference interpretation. That is, internals may have cued more on task feedback than externals and therefore have been more aware of (sensed) the feedback from the task; externals may have tended to ignore the task feedback. The reverse may have occurred for feedback given by the experimenter.

Additional indirect support for the set idea is available from research on self-esteem. Weiss (1977) reported that subordinates with high self-esteem, when compared with those low in self-esteem, relied less on their job environments and more on their own self-perceptions to guide their task-related behavior. Presumably their high self-esteem led them to be more confident of their ability to do well in the job setting, in this case as lower level managers. Consequently, they felt less need to explore their environment for cues about how to perform. In Weiss' research, workers with high self-esteem modeled the behavior of their supervisors less. Extrapolating from this, we suggest that they also may be less likely to sense feedback from external sources.

Shrauger and Rosenberg (1970) found that differences in responses to positive and negative feedback were related to self-esteem. When a sample was split on self-esteem, it was found that subjects with high self-esteem raised their self-competence evaluations more

after success and lowered them less after failure than did subjects with low self-esteem. Although perceptions of feedback were not measured directly in this research, the results are consistent with the interpretation that persons with high self-esteem did not perceive negative feedback as clearly as positive. As a result, they responded less to the negative. Other research on attribution theory also supports the conclusion that persons with high and low self-esteem interpret information about task success or failure differently (Laydon & Ickes, Note 2).

Smith and Sarason (1975) looked at social anxiety as a personality orientation and administered the same social feedback to all subjects. They found that subjects high in social anxiousness expected to be evaluated more negatively than those low in social anxiousness, but, more important, subjects high and moderately high in social anxiousness perceived the feedback as more negative than those low in the variable. Since all received the same feedback, the differences in perceptions of the level of feedback were influenced by the perceptual set of the individuals.

We are left with the conclusion that perceptual sets or frames-of-reference do influence the perception of performance feedback. Direct support with social anxiety as well as indirect support with personality variables typically explored in performance settings—those of locus of control and self-esteem—clearly suggest that the recipient selectively senses and interprets the feedback stimulus in a fashion consistent with his or her self-orientation.

In summary, the link between the feedback stimulus and the perceived feedback depends upon characteristics of the source, the feedback stimulus, and the recipient. First, assuming that the feedback is accurately sensed, the recipient must pair the feedback with the behavior for which it was intended. The length of the postfeedback interval, the frequency of feedback itself, and the nature of the intervening activity between the behaviors and the feedback all interact to influence perceived feedback.

For the case in which the feedback is not taken as a given, properties of both the person and the stimulus also influence the nature of the perceived feedback. On the stimulus side, the sign of the feedback and the source that administers it are of primary importance. In general, the more positive the stimulus and the greater the power and credibility of the source, the more accurately the individual senses the feedback sent by the source. As far as the recipient is concerned, the set or frame-of-reference with which he or she addresses the performance setting is the major variable affecting perception. This set has been indexed by past experience and by personality variables generally evoked to explain behavior in performance settings.

Acceptance of Feedback

According to the model of Figure 1, once the recipient has formed some perception of the feedback and is aware of the source from whom the feedback was received, the acceptance of the feedback becomes an issue. Acceptance refers to the recipient's belief that the feedback is an accurate portrayal of his or her performance. Whether or not this belief is itself correct is inconsequential to acceptance.

Source. In many cases, the source of feedback may be the most important influence on the extent to which recipients accept their feedback. This seems to be due to the degree of credibility recipients attribute to the sources. Therefore, an understanding of the source's influence on acceptance necessitates a better understanding of source credibility.

From a review of numerous studies on source credibility, Giffin (1967) identified five dimensions of it—expertise, reliability, intentions toward the listener, dynamism (boldness, energy), and personal attraction. Although there has been some disagreement with these dimensions (Cronkite & Liska, 1976), several appear to be important for determining the credibility of sources and the effect of credibility on feedback acceptance.

Since a primary function of a feedback source is to give information, perceptions of the source's *expertise* should strongly influence the recipient's acceptance of the feedback. In this regard, Tuckman and Oliver (1968) found that feedback from students improved

teacher performance but feedback from supervisors actually decreased performance. Since the setting was one in which the supervisors had little or no opportunity to observe the teacher's classroom performance, the authors attributed the ineffectiveness of supervisory feedback to the tendency on the part of the teachers not to see the supervisors' feedback as credible. On the other hand, they suggested that teachers saw student feedback as very relevant for student evaluations and consequently responded in line with the students. In a similar vein, Klein, Kraut, and Wolfson (1971) found that employees tended to be satisfied with various forms of feedback from a company-wide attitude survey if they felt the person giving the feedback was very familiar with the job or unit in question. If the individual was quite far removed from the receiving unit (such as a member of the regional personnel office), the recipients were much less satisfied with the feedback process. Satisfaction, in this case, should have reflected their acceptance of the feedback and of the individuals giving it.

Halperin, Snyder, Shenkel, and Houston (1976) presented subjects with personality feedback that purportedly originated from one of three sources who varied in their expertise (a PhD clinical psychologist, an experienced graduate student, or an undergraduate with a mental health technician's degree from a junior college). The first two sources were significantly more credible than was the third.

A second dimension of credibility relevant in the feedback setting is the source's intentions toward the recipient or, more precisely, the recipient's *trust* in the source's motives. For example, Huse (1967) and others who have discussed performance appraisals and performance appraisal systems, such as Management-by-Objectives, advocate the use of the latter because they encourage frequent contact of a nonthreatening but task-oriented nature between supervisors and their subordinates. This helps to establish a climate of mutual trust in which the superior can act as a helper rather than a judge (Huse, 1967). Performance feedback given by supervisors who are trusted should be more readily accepted than feedback from those who are not.

The trustworthiness of a source also may be affected by the extent to which the feedback given appears to be consistent with the role held. Hogan, Fisher, and Morrison (1974) found that feedback from opponents in a Prisoner's Dilemma game was effective only if it was consistent with the opponent's role. Confederates trained as opponents were instructed to be either competitive or cooperative. Regardless of their orientation toward the game, these same confederates provided feedback to the subject about his or her performance. Subjects responded to the feedback only if their opponent was employing a cooperative strategy. Apparently, competitive behavior in the opponent was not consistent with the giving of feedback according to the way the recipient defined the opponent's role. As a result, feedback given by such an opponent was not accepted.

The reliability of the source was a dimension of credibility identified by Giffin (1967) that would appear to be relevant for feedback sources but has received little or no research attention. Yet reliability is important because it could refer to the task as a source as well as to interpersonal sources. The extent to which it influences feedback acceptance remains to be explored.

Message. The most important message characteristic that influences acceptance is the sign of the feedback. Almost without exception positive feedback is accepted more than negative. Jacobs, Jacobs, Feldman, and Cavior (1973) found this to be even more pronounced when the feedback was emotionally oriented. In the Halperin et al. (1976) study mentioned above, there was also an effect for the sign of feedback such that positive feedback was more readily accepted from any source, but negative feedback was accepted only if it came from a high status source. Most likely, positive feedback tends to be accepted more readily because it fits with the person's self-image; thus, the individual is less likely to question it than negative feedback.

The acceptance of positive and the rejection of negative feedback was interestingly demonstrated with group feedback on a tracking task by Johnson and Nawrocki (1967). Two subjects were assigned a tracking task

wherein feedback was based upon group performance. In general, subjects tended to accept credit for good team performance but blame their partner for poor performance.

The only report that did find negative feedback accepted more than positive was partially consistent with a self-image interpretation. Kennedy and Wilcutt (1964) reviewed the effects of praise and blame as incentives and found that blame tended to inhibit performance for all but underachievers and very bright adolescents. The result for underachievers is consistent with a self-image interpretation; the result for the adolescent is not. The underachievers may have possessed poor self-concepts and accepted negative feedback because of its consistency with their self-concept. Korman's (1970, 1976) consistency theory of self-esteem would predict an effect such as this.

A second major characteristic of the feedback message that influences its credibility is its consistency. Consistency refers to the extent to which all or most of the feedback received from a source tends to be either positive or negative. In an interesting study with fourth-grade children, Nichols (1975) found that performance attributions for consistent feedback over several trials were to ability, whereas inconsistent feedback led to attributions of performance to luck. Apparently the subjects assumed that if they were in control of performance, then the performance and feedback from it should be stable over time. In the absence of observed consistency, the individual attributed performance to facts outside himself or herself. Such an interpretation is in line with attribution theory predictions (Jones & Davis, 1965; Kelley, 1973).

Finally, it has long been believed that feedback acceptance is strengthened by specific support for the feedback (Leskovec, 1967). Thus, it has been recommended that specific critical incidents should be included in a performance appraisal to allow the recipient to understand the basis for the evaluation. In fact, the widespread acceptance of the need for such documentation is rarely questioned and, to our knowledge, has not been researched.

Recipient. Although individual differences have been shown to affect responses to feedback, their effects on acceptance must be inferred from data collected to demonstrate other issues. Feather (1968) reported that subjects with internal locus of control made more typical changes in performance expectations than externals. Typical changes were defined as increases in expectations after success feedback and decreases after failure. Apparently internals, who, according to the general description (Rotter, 1966), hold beliefs that events that happen to them tend to be due to their own behavior, see the feedback as more applicable to their own behavior and respond more to it than do externals. This suggests that they are more likely to accept or believe feedback given to them than externals.

The age of the recipient also appears to influence the degree to which feedback is accepted. Meyer and Walker (1961) found that older persons used feedback less than younger ones. This may be due to the fact that age is positively correlated with experience in most job settings. The greater the experience, the more the individual may tend to use his or her own past experience as a source of feedback and the more likely he or she should be to reject the feedback from others. As a result, in job settings with considerable ranges in the age of employees, age (or perhaps more precisely experience or tenure) should be inversely correlated with willingness to accept feedback.

In summary, the acceptance of feedback clearly depends on the nature of the feedback message, the source, and the recipient. First, most source characteristics that affect acceptance do so by affecting the perceived credibility of the source. In general, the more the recipient believes in the source's credibility the more likely it is that the recipient of the information will accept the feedback. This effect was observed for two dimensions of credibility—expertise and trust—and suggested for reliability. It remains to be demonstrated whether or not reliability influences acceptance, as was hypothesized.

Consideration of credibility as it affects acceptance in terms of expertise and trust allows for differences in acceptance among classes of

sources. Interpersonal sources may vary on both expertise and trust, as stated above. Impersonal sources, such as the task or augmented feedback, do not vary in terms of expertise and trust but they do differ in reliability. Expertise really has little meaning for impersonal sources, although it could be argued that persons may find direct feedback from the task more legitimate (a property similar to "expert") than augmented feedback. Finally, the self as a source would be perceived as highly trustworthy but varying in expertise. Expertise should tend to vary with perceived experience and, we have argued, it often covaries with age. Given the fact that feedback to self, intrinsic feedback, should be trusted and that individuals usually overestimate their own ability (i.e., degree of expertise), feedback from self should be the most accepted. This is consistent with Greller and Herold's (1975) findings. Furthermore, since acceptance of feedback from the task depends primarily upon its perceived reliability, it should be next most easily accepted, and feedback from another should be the least likely to be accepted because of possible variation in perceived trust and expertise. To our knowledge, the relationship between sources in terms of acceptance has not been explored.

Second, in addition to the source, it was pointed out that the sign, consistency, and specificity of the message all influenced acceptance. It seems reasonable to assume that individuals would be less likely to question positive feedback than negative. In a very real sense, they may see positive feedback as more believable than negative because it fits what most people want to hear and already believe. Likewise, feedback that is both consistent over time or with the source's role and backed up by specific example should be more believable to the recipients. Thus, regardless of the source, those characteristics of the message that lead recipients to find such communications believable should increase the extent to which the feedback is accepted.

Desire to Respond

Neither perception nor acceptance of feedback addresses the issue of whether the individual will want to respond in line with the feedback. In this section we shall turn to those factors that influence the willingness to respond to feedback.

Source. To our knowledge little or no work has looked explicitly at the effects of sources upon the willingness to respond to feedback. Yet, several factors related to sources are relevant here. First, whereas the credibility of interpersonal sources was the primary source characteristic influencing feedback acceptance, power would seem to be a more important factor affecting the willingness to respond. Here power refers to the extent to which the recipient believes the source influences the contingency between the recipient's behavior and his or her receipt of valued outcomes. We would predict that the more the source is seen to control valued outcomes, the more likely is the recipient to try to respond to feedback from that source. Increased power should increase compliance from the recipient even in the absence of feedback acceptance.

The desire to respond to feedback from the task itself is most closely related to intrinsic motivation. In this case, the task as source interacts with individual characteristics of the recipients. Specifically, task feedback provides a basis on which the individuals judge their competency and their degree of personal control over their behavior (Deci, 1972, 1975). Since most of the factors associated with these two concepts are not related to sources, our discussion of intrinsic motivation will be deferred until later.

Message. From the review of the literature, three dimensions of the feedback message emerged as important influences of the recipient's desire to respond to feedback. These were the timing, the frequency, and the sign of the feedback. The three often interacted and were seldom treated separately. Therefore, the following discussion is organized around the terminology most typically used in feedback research, and the feedback attributes are discussed within these topics.

Feedback as a reinforcer. Reinforcing properties often are attributed to feedback per se (Anderson et al., 1971; Chapanis, 1964; Gibbs & Brown, 1955; Hundel, 1969). It is assumed that feedback becomes a secondary

reinforcer through pairing with primary reinforcers over time (Annett, 1969). If it serves as a secondary reinforcer, the frequency of feedback should be positively correlated with the frequency of correct responses on a performance task by direct application of Thorndike's Law of Effect. Some support has been claimed for this position (Anderson et al., 1971; Cook, 1968; Hundel, 1969; Ivancevich et al., 1970). For example, Hundel (1969) provided various amounts of feedback to workers grinding metallic pieces. Feedback was provided by the task and varied across groups from low or none to almost continuous feedback. He found that performance was directly related to the amount of feedback received.

In spite of the general support for the positive effects of frequent feedback, both theoretical and empirical reasons exist for exploring this conclusion a bit further. Theoretically, to assume that feedback per se is a positive reinforcer ignores the fact that feedback varies along some positive-to-negative continuum. It is well established in the operant conditioning literature that positive reinforcers have different effects on responses than does punishment (Reynolds, 1968). It is difficult to conceive of negative feedback serving as a positive reinforcer in many settings. Yet, much of the research on the frequency of feedback fails to deal with the sign of the feedback, either by leaving it up to the recipient to evaluate the feedback (e.g., Cook, 1968) or by failing to report the frequency of positive or negative feedback. In the former case, the feedback could portray either positive or negative information about performance depending upon the recipient's frame-of-reference. Under conditions in which recipients must infer the evaluative nature of the feedback, feedback is inefficient at best; at worst it can inhibit performance (e.g., Hammond & Summers, 1972).

The most plausible explanation for the fact that the frequency per se is associated with improved performance is that feedback frequency often is confounded with its sign. This may occur for several reasons. First, recipients often have the opportunity to change performance in response to the feedback. If feedback occurs for a series of responses, over time the individual should tend to receive more positive feedback than negative, assuming that he or she takes some corrective action after the negative feedback and maintains similar behaviors after positive.

Another possibility for the positive correlation between frequency and performance relates to supervisory responses. Meyer (Note 3) pointed out that the presentation of negative feedback to subordinates is an unpleasant task and one that supervisors tend to avoid. As a result, giving positive feedback would occur more frequently than giving negative. We would surmise that this tendency of supervisors to favor positive feedback would be more pronounced when they are dealing with subordinates who are very likely to remain in the work unit, i.e., those who have performed most of their duties adequately although not excellently or those who, for some reason, cannot be dropped from the work unit even though their performance has been marginal.

When periodic performance reviews are not required, the tendency to avoid giving negative feedback may increase the delay between the supervisor's observation of poor subordinate behavior and the administration of negative feedback. The results would be that poor performers would tend to receive less feedback than high performers. A corollary of this is that more observations would be required before negative feedback was administered as compared to positive feedback.

Although it seems likely that feedback functions as a positive reinforcer when the feedback itself is positive and that the sign and frequency tend to be confounded, there are some intriguing empirical exceptions to the conclusion that positive feedback increases the tendency to respond. Wade (1974) administered five types of feedback on a task allowing subjects to monitor their own performance. The five types of feedback were accumulative positive feedback, which involved a running total of the number of correct responses; accumulative negative; positive feedback after correct trials but without accumulation; negative without accumulation; and no feedback. He found better perform-

ance under both accumulative positive and accumulative negative feedback than under any of the other conditions. However, over time, performance dropped off more with the accumulative positive than accumulative negative feedback. This suggests that subjects on this rather mundane task became complacent in the presence of only positive feedback. If we assume the positive feedback served as a secondary reinforcer, the drop in performance is difficult to explain without an unlikely inference about some drop in the level of the drive or need served by the secondary reinforcer.

In the area of performance appraisal, French, Kay, and Meyer (1966) stressed the detrimental effects of the use of criticism and suggested that positive feedback is superior when it is paired with the setting of specific goals. However, they cautioned that nonspecific positive feedback is of little value. Presumably the positive feedback should be detailed enough to allow for setting specific goals, as specific goals consistently have been found superior to general goals (Steers & Porter, 1974). Here again it is implied that positive feedback, serving solely as a reinforcer, is not sufficient.

Chapanis (1964) raised another issue that although it is unrelated to the sign of the feedback, questioned the conclusion that feedback per se is a reinforcer. By placing subjects on an extremely boring paper-tape punching task and having the experimenter convey a mood that she really cared little about performance on the task, he found no performance differences among groups varying in the amount of feedback they received. If feedback per se were a reinforcer the groups should have differed in performance.

To summarize our discussion of the reinforcing properties of feedback, it seems clear that a blanket generalization that feedback per se has a positive effect on the recipient's desire to respond is much too simplistic. Although we would not dismiss the possibility that positive feedback may serve as a positive reinforcer, it seems unlikely that it functions as such very frequently. The informational value of feedback, either to indicate goal accomplishment (Steers & Porter, 1974) or to indicate the concern of others about performance (Chapanis, 1964), seems to be a more important influence on recipients' desires to respond. Obviously the emphasis on information value is a more cognitive view than is the reinforcement position.

Feedback as an incentive. An incentive is in many ways a promise of a reward which affects behavior before the reward is given (Annett, 1969). The temporal location of the reward with respect to the behavior is opposite to that of a reinforcer: it comes before, not after. Feedback acts as an incentive to the extent that it conveys to its recipient some information related to the probability and nature of a reward to follow at some time in the future as a result of the individual's behavior.

In work organizations, the function of feedback as an incentive is extremely important. Even under the most contingent reward systems in which desirable outcomes are tied directly to performance (i.e., piece-rate pay systems), the reward(s) cannot be administered to the individual at the completion of each unit. In the absence of continued rewards, feedback provides information about the amount of the reward that can be anticipated. Since most rewards are not tied as directly to every behavior, the effectiveness of feedback depends upon the extent to which it functions to lead the individual to anticipate a reward—the extent to which it serves as an incentive.

Expectancy theory of work motivation (Lawler, 1971; Porter & Lawler, 1968; Vroom, 1964) has made explicit what Annett (1969) called a "promise of reward." According to the theory, individuals form cognitions about the degree of association between a behavior (e.g., performance level) and the attainment of each of a set of rewards. The stronger the perceived association between behaviors and rewards (termed an instrumentality in most cases), the more the individual believes that receipt of the reward in question depends upon behavior.

Feedback obviously plays a major role in the establishment and maintenance of beliefs about behavior–reward contingencies. Descriptive information about past behavior clarifies

the individual's perception of his or her own performance so that, when rewards are administered for that performance, the individual can establish a contingency between the performance and the reward. In the absence of explicit information about performance, the individual often is left to infer what is the desirable behavior from the outcomes (positive or negative) that are administered. That is, the outcomes become feedback for behavior. In the latter case, the process is identical with that of operant conditioning, although the focus is upon the cognition or belief about the contingencies termed instrumentalities. However, because of the complexities of the behaviors emitted and the inconsistent scheduling of most rewards in organizations, the learning of instrumentalities through a shaping process often is extremely difficult. More specific feedback about the behavior emitted should aid the learning of instrumentalities by providing individuals with a clearer perception of the behaviors with which the source of outcomes is concerned.

Once the instrumentality is established, feedback allows the individual to anticipate rewards on the basis of the perceived instrumentality, even though the reward may be delayed for an extended period of time. In the latter case, feedback serves Annett's (1969) function of a promise of the reward in direct proportion to the strength of the instrumentality for the reward in question.

Belief in response capability. Both reinforcement and incentive functions of feedback focus upon the consequences of behavior. The individual's ability, either actual or self-perceived, to elicit the behaviors in question is taken as given. Several motivational theories assume that beliefs about response capabilities are often less than certain.

Expectancy theory (see Campbell & Pritchard, 1976, and Mitchell, 1974, for reviews of the theory) in particular relies heavily upon beliefs about response capabilities as prerequisites of responses in performance situations. According to the theory, the motivational force experienced by an individual to perform some behavior or act is directly proportional to the strength of his or her belief that increases in effort will lead to increases in performance. This belief is termed *an expectancy.* Feedback should play a vital role in establishing a recipient's belief in the effort–performance relationship, which in turn should influence his or her desire to respond to the feedback. Feedback influences the effort–performance relationship by providing information that can then be paired with the recipient's perception of the effort expended to reach that performance level.

Intrinsic motivation. Perceptions about one's response capability are closely associated with a psychological state of the organism frequently described as a feeling of competence. This psychological state is central to what has been termed *intrinsic motivation* (Deci, 1975). According to the theory and its associated research (Deci, 1972), individuals seek a sense of competence on a task, and a sense of competence is a powerful reward for the individual (White, 1959).

In order to feel a sense of competence, the individual must be able to judge his or her own performance. Feedback usually is necessary. Cues, both from the task itself (internal cues) and from others (external cues), provide the information needed to make a judgment about competence. Hackman and Oldham (1976) therefore suggest that the greater the amount of feedback provided on a job, the greater will be the motivating potential of the job.

A second condition necessary for intrinsic motivation is personal control (Deci, 1975). Personal control refers to the extent to which the individual feels he or she has chosen freely to undertake some behavior or set of behaviors. Personal control is highest when the individual engages in a behavior solely because he or she likes to do the behavior.

While some feedback appears necessary for the recipient to experience a sense of competence, feedback from either others or the task may connote control over the recipient. In order to provide feedback contingent on behavior, the source must monitor, observe, or in some fashion gather data on the individual's performance. Therefore, as the frequency of contingent feedback increases, the degree to which the recipient is controlled by the source also may increase. This, in turn, may decrease

the recipient's desire to respond because of a perceived loss of personal control. Some evidence for this interpretation appears in the leadership literature, where House (1971) found structuring behavior by the leader led to satisfaction only when subordinates lacked structure. If such behavior was redundant, it was seen as controlling and led to dissatisfaction.

To the extent that the controlling aspects of feedback do exist, the role of feedback in intrinsic motivation may be more complex than previously assumed. We have, on the one hand, the well-accepted position that the amount of feedback is positively correlated with the motivational potential of the task—specifically, its capability for providing conditions necessary to experience a feeling of competence. On the other hand, feedback may at times decrease the amount of personal control the recipient feels over the task. Recent research by Fisher (1978a) indicates that *both* feelings of personal control *and* feelings of competence must be high in order to have intrinsic motivation on the job, and so it appears that feedback must be designed so as to make possible feelings of accomplishment and yet not imply external control by the source.

To reconcile these incompatibilities it seems necessary to qualify the nature of the feedback necessary to enhance the recipient's desire to respond in line with the feedback. First of all, the frequency of feedback should enhance motivation on the task to the extent that it increases the recipient's perceptions of competence. To do this, the feedback in general needs to be positive.

The feedback also should add an increment of information to the recipient over and above the information he or she already has. If the information about performance is redundant to that which is already possessed, no increase in the desire to respond due to competence should occur.

At the same time, the feedback from others or the task should not connote control over the employee. In many settings this would mean that the frequency of feedback must be limited. However, this conclusion should be qualified immediately. It assumes that the increasing feedback does not influence feelings of competence sufficiently to override the control features. Where is the point at which such conditions occur? How much is too much? To what extent does the source of feedback influence the amount of feedback that leads to feelings of being controlled? These are obviously empirical questions that cannot be answered without consideration of the performance setting and the individuals in it. However, a consideration of these two interacting and competing feedback components (competence and control) stresses the need to question the simple conclusion that increased feedback leads to increased motivation.

Recipient. Four studies investigated the effects of feedback on individuals described by various personality measures. The most complete work in this area was conducted by Baron and his associates (Baron, Cowan, & Ganz, 1974; Baron & Ganz, 1972) and was described above under the discussion of perceptions of feedback. Recall that they found that internals, as defined by Rotter's (1966) Internal–External Locus of Control Scale, responded more to feedback from the task itself while externals reacted more strongly to feedback from others. These results were consistent with the theoretical assumptions about the motivational orientations of internals and externals. Specifically, internals should desire to respond to feedback that meets their needs for a sense of accomplishment and self-discovery. Feedback from the task should be better able to meet such needs than feedback from others. Externals, on the other hand, should be more concerned about approval from others. The results of Baron and his colleagues supported this interpretation.

Steers (1975) found a positive correlation between the amount of feedback received and performance for those individuals high in need for achievement. In this case, feedback was administered by an individual rather than through the task itself. The external agent provided information about competence which met the subject's achievement needs.

Shrauger and Rosenberg (1970) found that the consistency of shifts in performance following feedback depended upon the self-

esteem of the individual. High self-esteems improved their performance more than low self-esteems following positive feedback, and the performance of low self-esteems decreased more following negative feedback. These results are consistent with Korman's (1970, 1976) concept of self-esteem, which assumes that individuals are motivated to behave in line with their own self-concept. Therefore, they should have a greater desire to respond to feedback that agrees with their self-concept.

Considering the personality variable research as a whole, a rather consistent pattern emerges. Recall that we have stressed that the motivational value of feedback is influenced by the extent to which it conveys to the individual a sense of (a) competence, (b) control over the task, and (c) the degree to which extrinsic rewards will follow. The personality research sheds some light on which of these functions will influence which people. In general, it was found that those high in personal needs that can be fulfilled through performance of the task itself (e.g., internals, high self-esteem, high needs for achievement or independence) need feedback that conveys the first two types of information in order to satisfy their needs. Those oriented toward needs best satisfied by factors external to the task (externals, and those high in need for affiliation) will focus upon the feedback's information about extrinsic rewards. In other words, there are measurable individual differences that index the need states of the individuals and provide some cues to the nature of the feedback required to meet those needs.

To sum up the effects of feedback on the recipient's desire to respond to the feedback, we conclude that feedback portrays three types of information to the individual. These are (a) a sense of competence, (b) a sense of personal control, and (c) the distribution of extrinsic reward. To experience a sense of competence, the individual must receive some feedback from other individuals or from the job. In the case of the job, it only provides the conditions under which the job incumbent can judge performance for himself or herself. Technically, the feedback is provided by the individual; the quality of the performance judgment depends upon individual characteristics such as past experience with the job.

It was suggested that the extent to which feedback affects feelings of being controlled by the source of the feedback varies directly with the redundancy of the feedback information. If the feedback adds little to what the recipient already knows about his or her performance, feelings of being controlled are likely to be higher than if the feedback information provides new information about performance.

Finally, extrinsic rewards associated with feedback increase the individual's desire to behave in line with the feedback in one of two ways. First, through the pairing of feedback with extrinsic rewards, the feedback itself may take on reinforcing properties. Second, the feedback may serve an incentive function by indicating the receipt of rewards (or punishment) at some point in the future. In either case, the pairing of extrinsic rewards with feedback can lead to substantial effects of feedback on behavior.

Intended Response

According to Figure 1, the desire to respond to feedback leads to the formation of beliefs about the response the recipient intends to make. This step was included in the model in recognition of the sizable body of research and theory on goal setting that demonstrates that goals do affect performance in a variety of settings from the laboratory (Locke, 1967; Locke & Bryan, 1969a, 1969b; Locke, Cartledge, & Koeppel, 1968) and field simulations (Umstot, Bell, & Mitchell, 1976) to the field (Latham & Baldes, 1975; Latham & Kinne, 1974; Latham & Yukl, 1975). In all cases feedback plays an essential role in the goal process. In fact, it has been suggested that goals without feedback have little or no effect on performance (Becker, 1978; Erez, 1977). Therefore, in the remainder of this section, the relationship between feedback and goals will be addressed.

Recent reviews of the goal setting literature by Locke (1975), Steers and Porter (1974), and Latham and Yukl (1975) document the positive effects of goals on performance and identify three major goal-related concepts as important for goal effectiveness. The first is *specificity*. In general, specific goals are bet-

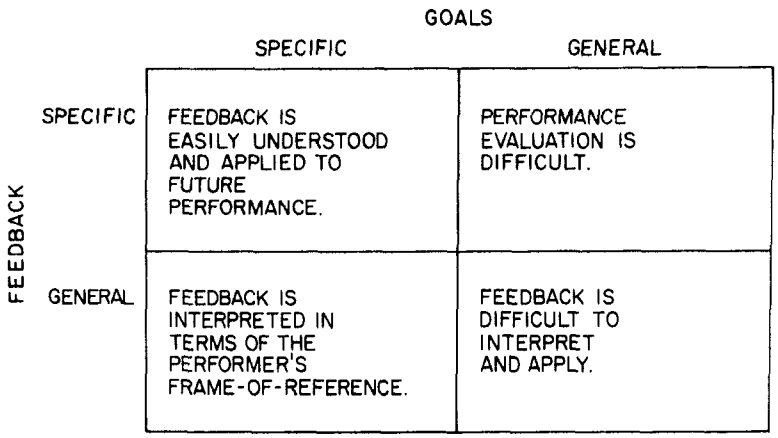

Figure 2. Interaction of goal and feedback specificity.

ter than general ones (Locke, 1968). Second, *difficult goals* lead to higher levels of performance than easy ones (Locke, 1968). Third, in general, the greater the *degree of control* the individual has over the goals set, the better will be the performance (Steers & Porter, 1974). Most frequently, the control issue is construed as participation in setting one's own goals. One qualification must be added, however. Control increases the possibility of setting lower (easier) goals. Therefore, control effects must be considered in conjunction with difficulty effects. Since goal specificity and difficulty, along with control over set goals, appear to be the major dimensions of goals affecting performance, the impact of feedback on each of these three must be explored.

The directional function of feedback should be most relevant for influencing the specificity of the goals. The data make it quite clear that specific goals are more effective than general ones (Locke, 1967, Steers & Porter, 1974). Therefore, the more specific the performance feedback, the more information it should provide for being able to set specific goals. Whether the recipient uses the specific feedback to set specific goals is another matter.

The effect of feedback specificity on established goals, to our knowledge, has not been investigated. Most likely the specificity of the feedback interacts with the specificity of the goal held by the performer. Figure 2 suggests that the best condition combines specific goals with specific feedback. In this case, the recipient receives information that allows for a clear evaluation of his or her performance with respect to the goal. This, of course, assumes that the specific feedback is meaningful to the recipient rather than confusing (Hammond & Summers, 1972).

When goals are general and feedback is specific, the performer may have some difficulty evaluating performance. He or she will know specifically what was done on the task, but comparison of the specific information to the general goal may lead to an uncertain evaluation of performance. The result should be some degree of ambiguity on the part of the recipient in the judgment of whether or not the goal was met. It seems likely that this ambiguous state would lead the recipient, over time, to redefine the goals in more specific terms; this would result in a shift to the upper left-hand cell of Figure 2.

At first glance it would appear that individuals having specific goals who receive general feedback may have difficulty interpreting the feedback. However, this may not be the case given the nature of general feedback. General feedback, for the most part, represents a point along an evaluation continuum; the source communicates something about goodness or badness of the performer's behavior. If the performer has some specific goal, it seems likely that the recipient of general feedback will interpret the source's general feedback in terms of how well he or she is meeting the specific goals. That is, the recipient transforms the general feedback into

specific units and, in a sense, receives specific feedback from his or her point of view.

Finally, general feedback administered to one who has general goals should be of little value to the recipient. Presumably, the recipient would continue to perform in the same manner if the general feedback were positive and would attempt to change his or her behavior if it were negative. Unfortunately, in the latter case, few guides exist for directing the change.

The relationship of feedback to the remaining two goal concepts is less direct. Theoretically and practically, goal difficulty and feedback are very different and independent factors. For perceived control, we have already mentioned that the manner in which feedback is administered can affect the degree to which the individual perceives that performance is under his or her own control. Goal setting simply adds an intermediate step whereby the feedback leads to a goal and then to performance. Feedback connotes a loss of control on the part of the recipient over his or her own actions. The extent to which goals are general or specific is not expected to moderate the effect of perceived control or the desire to respond to feedback.

Constraints

The two arrows intersecting the line from the desire to respond and the response in Figure 1 merely reflect the fact that this individual may not be able to do what he or she wants to do. Behavior may be limited by factors external to the individual, such as a lack of proper equipment or an inadequate staff. Internal factors such as limiting levels of skill or ability also may serve to moderate the link. Neither set of constraints is closely affected by feedback but both were included in the model to emphasize that the desire to respond does not equal a response.

Discussion

From this process-oriented review of the effects of feedback on recipients, it is possible to draw several conclusions. First, the review identified several deficiencies in our present knowledge about feedback. These suggest areas in which future research is needed. Second, several generalizations can be made from the literature with regard to the way feedback should be structured in work settings. We address each of these two topics below.

Future Research

One of the most critical deficiencies of our understanding is in the area of perceptions of feedback. Feedback must be accurately perceived by the recipient if it is to affect responses as it is indended to; yet it is frequently misperceived. This is true particularly for negative feedback. Since negative feedback is extremely important for directing behavior, considerable research is needed on factors affecting the accuracy with which negative feedback is perceived.

The review also indicated that accuracy may be affected by the nature of the source. Although previous research has tended to neglect the source's influence on the accuracy of feedback perceptions, the research of Greller and Herold (1975) as well as Kanfer, Karoly, and Newman (1974) indicated that sources do influence perceptions. We suggested that the accuracy of perceptions should vary directly with the source credibility, but that the source's power may lead either to more accurate or less accurate perceptions. More work is needed on the characteristics of sources as they affect the accuracy of feedback perceptions.

On several occasions we questioned the generally accepted notion that more feedback is always better. However, in several instances our reservations about increasing feedback frequency was based upon indirect extrapolations from research and theory rather than reports of research that found high levels of feedback detrimental. This was particularly true for the hypothesized increase in felt external control that may accompany increases in feedback. Research is needed that investigates the effect of the frequency of feedback on perceived control and subsequently on intrinsic motivation. If we assume that it is desirable to shift control over behavior from external agents (such as the supervisor or

control systems within the job structure) to the individual in many organizational settings, then the issue of the frequency of feedback is extremely important. It seems likely that to accomplish such a shift in the locus of control will require changing the frequency of external feedback to allow the individual to take over the task of monitoring his or her own performance.

Another issue raised was the relationship between goals and feedback with regard to the specificity of each. The literature clearly indicates that feedback is an important component of the goal setting process. However, little is known about the nature of feedback as it relates to goals. Our discussion concentrated on the interaction between the specificity of goals and that of feedback. Research is needed to address these distinctions as well as other feedback issues related to goals.

Finally, we alluded to the fact that interpersonal sources of feedback may delay giving negative feedback because of the unpleasant nature of relaying such information to others. Similarly Fisher (1978b) found that supervisors tended to distort negative information when required to give feedback to subordinates. All this points to a need to better understand how feedback is given by individuals. The need appears most critical with regard to negative feedback. Although the focus of this review was on the recipient and not the source, it does point up a need to devote more time in the future to understanding the way in which interpersonal sources deal with feedback.

Implications for Feedback in Work Environments

The literature review summarized by the model in Figure 1 identifies at least three major issues that have implications for the practice of providing useful feedback to job incumbents. First, it was stressed that feedback is often either misperceived or not accepted by the recipient. In general, discussions of feedback have tended to take perceptions and acceptance as givens. Our review clearly indicates that this assumption is not warranted and points to two foci for influencing these variables. The first and most frequently ignored is the source. Since feedback is not judged independently of its source, it is imperative that the nature of the source be taken into account. For interpersonal sources, this means that the individual must work to establish credibility as a source through development of his or her expertise and/or the creation of a climate of interpersonal trust with the recipient. The source also must take into account the power relationship between himself or herself and the recipient, although the exact nature of this effect is somewhat unclear at this time. For feedback from the task, the recipient must believe that it is in response to his or her own actions, not that of the technology or others on the job. Overall, the lack of attention given in the past to the influence of the source of feedback should not be allowed to continue.

The accuracy of perceptions and the acceptance of feedback are also influenced by the nature of the feedback message. Most important, it must be realized that negative feedback is very likely to be misperceived and not accepted. The fact that specific feedback tends to leave less room for distortion and also may be harder to deny offers one frequently recommended way to deal with this issue.

A second major implication from the review is the identification of several instances where increasing feedback frequency may not only fail to improve performance but actually may be detrimental to it. For those in the position of giving feedback, it is necessary that they realize that very frequent feedback may connote a loss of personal control to the recipient, and also that frequent feedback from others may lead recipients to rely on external sources and not develop their own skill at judging their performance. Neither state is desirable. However, one caveat must be interjected: While employees should be aware of the fact that upper limits on the frequency of feedback exist, in most work settings feedback tends to be much too infrequent. This fact is well documented by McCall and DeVries' (Note 4) description of the obtuse methods often used by employees to find out about their performances. Therefore, while we feel it is necessary to be aware of the frequency

effect, in most situations more frequent feedback would be beneficial.

Finally, the review clearly pointed to a need to take into account individual differences in reactions to feedback. The individual differences of most importance appeared to be those that dealt with higher order needs for a sense of competence, those that reflected a sense of self-confidence due to past experience, those that influenced the individual's sensitivity to external feedback, and those related to the needs met by rewards and sanctions associated with feedback. In all cases, there is a need to modify the nature of feedback to fit the individuals for whom it is intended. Most discussions of feedback ignore such individual differences. One exception to this is a paper by Cummings (Note 5).

Cummings suggested that individuals be classified on the basis of their past performance in an organization along with an estimate of the individual's future potential. Once classified on these two dimensions, performance goals and performance feedback should be tailored to fit the person. Three types of persons were identified. These were (a) high performers with potential for growth; (b) adequate performers, who had settled into the job and would probably go no further; and (c) low performers, who should be removed from the work group if their performance did not improve. Appraisal strategies were described to deal with each type of employee. According to Cummings, feedback for the first type should be frequent enough to provide corrective action on the part of the employee but not enough to be controlling and detract from initiative. For the second type very little feedback is needed because this average performer has displayed reliable and steady behavior in the past, knows the task, and knows what is needed. Finally, poor performers should be monitored closely and given very specific feedback, and the connection between feedback and negative sanctions such as termination should be made explicit.

Although Cummings provided no empirical data testing his assumptions, the modes of feedback he suggests are quite consistent with the view we have suggested here, if it is assumed that the high performers are those with growth-oriented needs. Our model would suggest that high performers need feedback that emphasizes competency and personal control, whereas average and low performers need the emphasis to be placed on extrinsic rewards resulting from performance.

In conclusion, it should be emphasized that our concentration upon the feedback process should not cause one to lose sight of the fact that the final phase—that of behavior—is the criterion against which feedback effectiveness is evaluated. At some point one must look at the effects of feedback on behaviors. It is our intention to emphasize that to relate feedback directly to behavior usually is very confusing. Results are contradictory and seldom straightforward. Through a systematic analysis of what goes on between the administration of the feedback and the subject's selection of a response, the effects of feedback can be better understood and predicted.

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