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FUNCTIONS OF GROUP GOALS: POSSIBLE GENERALIZATIONS FROM INDIVIDUALS TO GROUPS

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Performance goals frequently facilitate the performance of individuals. There is also some evidence that goals have beneficial effects on groups or teams. However, much less is known about the latter than about the former. This report briefly reviews the goal setting literature for individuals and groups/teams. It follows this review with suggestions about ways to better understand and implement goals in groups or teams in order to benefit team performance and group members.

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EXECUTIVE SUMMARY

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The first section of the report discusses the nature of goals and the ways they work to affect performance and other important outcomes. In general, research at the individual level has found that specific and difficult (but attainable) goals lead to better performance than general, easy and/or no goals. This effect, however, is dependent on certain conditions such as acceptance of the goals, commitment to them over time, and the availability of performance feedback.

The goal setting process is discussed in this report from a control systems theory perspective. According to control theory, individuals monitor goal progress then compare how they think they are performing to their goals. They respond to discrepancies resulting from these comparisons by either changing their goals or altering how hard they work.

Goals serve several functions. In addition to facilitating performance, it is suggested that goals clarify work roles, help people make sense out of their jobs and job settings, and aid in the development of strategies for successfully accomplishing the demands of the job. They may also affect important attitudes and beliefs. It is concluded in the first section of the report that satisfaction, feelings of self competency, and learning should all benefit from implementing well designed goal setting practices.

The second part of this report addresses the effects of goals on groups. In groups, multiple goals exist - goals for the group and for each individual in the group. Each group member is potentially concerned about his or her own goal, the goals for other group members, and the goal, or goals, for the group as a whole.

As is the case for individual goals, goals in groups are discussed in terms of their functions. It is suggested that goals in groups serve to affect performance, guide the development of work strategies, and impact on group members' satisfaction, motivation, learning, and performance. However, it is pointed out that groups create complications in the impact of goals that make it difficult to generalize from the literature generated at the

individual level. For example, such factors as competition among group members, social pressure and other group phenomena are likely to moderate the effects of goals.

The discussion of goal effects in groups leads to the conclusion that goals are likely to have a number of beneficial effects for both groups as a whole and their members. However, unlike conclusions about individual goals, group goal conclusions are much more tentative due to limited research. Therefore, the latter parts of the report discuss suggestions for future research and also suggest ways that skills needed for individuals to use goals in groups may be incorporated into training programs.

OVERVIEW

Performance goals affect task performance. Few statements regarding human performance can be made with more confidence and fewer qualifications than this one. The most comprehensive recent review of the goal setting literature by Locke, Shaw, Saari, and Latham (1981) concludes that, when individuals hold specific performance goals on a wide variety of tasks, performance tends to be higher than when such goals are absent. This also holds across a wide range of situations, varying from the laboratory to many different field settings (Locke, 1986).

Although, to conclude that goals enhance performance is certainly justifiable, it is both an overgeneralization and an underestimate of the importance of performance goals. It is an overgeneralization because there are a number of conditions that require qualifying this conclusion. For example, it will be shown later in this report that tasks influence the extent to which goals affect performance. On the other hand, by focusing solely on performance-based conclusions, the importance of goals may be underestimated due to a failure to examine many potential benefits of them. For example, performance goals often structure performance situations making it possible for persons to receive meaningful feedback about their performance (Ilgen, Fisher, & Taylor, 1979). Feedback, in turn, may serve as a source of a sense of achievement or accomplishment and create other effects that are normally interpreted as beneficial. Goals may also provide a way of structuring the task and, as such, may reduce feelings of role ambiguity. The tendency to focus almost exclusively on individual performance effects in order to draw inferences about the value of goals to the individual, organization, or both has meant that a number of potential benefits of goals have been neglected.

OBJECTIVES

The objective of this report is three-fold: (1) to review the literature on the effects of goal setting on performance, (2) to expand the discussion and issues in goal setting to group performance, and (3) to provide, based on (1) and (2), some insights and recommendations for team training. All three purposes are intended to extend goal setting research and practice in some way. The first issue addressed is that of the effects of goal setting on individuals. Goal setting is defined and the literature briefly reviewed as it pertains to individuals. Although this literature addresses, almost exclusively, the effects of goals on performance, other possible dependent variables, such as individual beliefs, attitudes, values and behaviors, is introduced and defended in terms of their importance and the likely affect of goals on them. With the foundation of goal setting effects on individuals, the next section of the report discusses the effects of goals on

groups. Shifting to groups requires a careful consideration of the definition of goals in terms of the similarities and differences between the meaning of a goal at the individual and group level. After addressing definitional issues, the current literature on group goals is introduced along with an attempt to translate some individual goal effects to the group level. The latter necessitates assumptions about conditions likely to make individual-level results more or less transferable to groups. As was the case with the discussion at the individual level, the concern is be with the functions served by goals where functions are broadened from simply performance to include motivational variables believed to be important in groups.

The overall conclusion drawn from the first two purposes is that performance goals serve important functions for individuals and for groups. Therefore, given the value of goals, it is desirable to facilitate the development and implementation of individual and group goals. It is assumed that training can be used to increase the probability that groups or teams will develop and use team goals and that individuals within these groups will do the same. The final section of the report addresses the role of training in goal setting particularly as it relates to persons working in teams. This section is speculative because very little research is focused on this issue. However, given the support for the high potential of performance goals to positively influence several valued individual- and team-level outcomes, a consideration of training possibilities seems justifiable.

GOAL EFFECTS AT THE INDIVIDUAL LEVEL

NATURE OF GOALS

Goal Attributes

Before turning to the effects of goals at the individual level, it is first necessary to discuss the goal construct in more detail. A goal, according to Locke et al. (1981) is, "what an individual is trying to accomplish; it is the object or aim of an action" (p. 126). Most frequently goals are expressed in some type of performance units where the units are described with reference to identifiable tasks. Thus, goals for a runner of 100 meter dashes may be expressed in seconds while those for a night club comedian may be the number of consecutive nights invited to perform.

Although the simple definition above captures what most people mean by goals, its simplicity is deceiving (Naylor & Ilgen, 1984). To understand the nature of goals and the impact of goals on individuals, it is necessary to describe the attributes of goals. There are two attributes or dimensions of goals - content and intensity (Rand, 1967 as quoted in Locke et al., 1981).

One content dimension is specificity. Goal specificity is usually expressed in quantity units frequently bounded in time - for example, words per minute, miles per hour, or pages read per week. Specificity increases as goals are expressed in more precise content units (improving the health of the community versus reducing the number of accidents by 30% over the next six months) or by using more precise quantitative units (a goal of fewer accidents versus a goal of 30% fewer accidents per time period). Typically, studies of goal setting have used a goal of "do your best" as the nonspecific goal condition although Naylor and Ilgen (1984) suggested that varying either the content, the quantitative units, or both would manipulate goal specificity in ways more consistent with the definition of specificity.

The second content attribute of a goal is its difficulty. If goals can be defined for tasks in units per time period or some other unit appropriate to the task, then it is also possible to scale these units in some manner that reflects the cost to the individual of performing at that level. Cost may reflect the amount of time or effort required to meet the goal or it may reflect the amount of skill or ability needed to accomplish the task.

The difficulty of a goal should not be confused with the difficulty of the task itself although the two are often used interchangeably (Locke et al., 1981). It is possible to set very difficult goals on easy tasks if, for example, large numbers of

units are expected to be produced in short time periods even if the production of any one unit requires very little skill and ability. Similarly, quite simple goals can be set on very complex tasks. For purpose of this report goal difficulty will refer only to the goal, independent on the difficulty of the task.

According to Locke et al. (1981), the second primary attribute of a goal, its intensity, encompasses the whole process of setting a goal and selecting a means or strategy for goal accomplishment. While it is agreed that such a process is extremely important and that goals cannot be understood without some understanding of these processes, it is not agreed that a process is an attribute of the goal itself. For this purpose, attributes will be limited to descriptive characteristics of goals that represent the structural characteristics of them. Then, given the attributes, various processes operating on goals with such attributes will be addressed. The discussion reflects this distinction.

Necessary Conditions

Although the attributes of goal content, specificity and difficulty are sufficient to describe goals, they are not sufficient to predict the effects of goals on behavior. There are a number of other conditions frequently associated with goals and their effects on behavior. Many of these are discussed later. However, two do deserve special mention. The first of these is motivational and involves the focal person's commitment to the goal. It is assumed that in order for goals to affect the individual in any way, there must be some acknowledgment of the goal by the person and a willingness to devote time and effort at a level greater than zero toward accomplishing the goal. Some authors have separated this commitment into two parts chronologically (Hollenbeck & Klein, 1987). The initial commitment, labeled acceptance, occurs before the individual begins to work on the task. As typically defined, acceptance refers to the extent to which the individual believes that the goal is a reasonable one for him or her to address (Naylor & Ilgen, 1984). Once the goal is accepted and the person begins to invest time and effort in the task, goal commitment is reflected in the extent to which the person persists in working on the task and the level of effort that is devoted to the task while working on it. The discussion will ignore at this time some of the difficult and ambiguous questions of how goals may become seen as "reasonable" and how persistence and effort might be observed and measured. The discussion will only stress that commitment to the goal is a necessary condition for goal effects whether or not the construct itself can be tied down well in all situations. It should be noted that in much of research by Locke and Latham, the two persons who have dominated the goal setting research literature for over a decade, initial goal commitment was held constant by exploring the effects of goals only on those persons who have accepted the goals.

A second condition necessary for goals to affect performance is performance feedback (Ilgen et al., 1979). Performance feedback refers to information from any of a number of sources, including the person who is performing the task, that can be used by that person to assess progress toward the goal. In the absence of any such information, the person cannot judge how well he or she is doing with respect to the task and the goal will have no affect on the person beyond that which is provided at the time that the goal is presented and accepted. The following discussion of the goal process illustrates the importance of feedback and commitment.

The Goal Process

Goal attributes and necessary conditions for goal effects are descriptive characteristics essential for goals to affect individuals, but these descriptions offer little in terms of understanding how goals may function to create effects on individuals. Control theory offers a very useful model for addressing ways that goals may serve to influence individuals' performance. Campion and Lord (1982) offered an excellent interpretation of goals in the control theory framework. Figure 1 illustrates the motivational role of goals in the control theory framework as presented by Campion and Lord.

Consistent with Locke's (1968) model of goal setting, goals are the immediate *precursors of behavior*. This is illustrated in the upper left-hand corner of Figure 1. The model describes the influence of goals on behavior, assuming that the person is committed to attempting to accomplish the goal. Once the person behaves, it is assumed that there exists some way for the person to receive feedback about his or her performance. This feedback is perceived by the person and represented by the "sensor" box of Figure 1. Whether these perceptions are accurate or inaccurate portrayals of the nature or effect of behavior really is irrelevant to the process. The degree of accuracy may very likely affect the quality of the person's future actions, but accuracy does not affect the process suggested by control theory for driving future actions.

The control theory model introduces decision processes into the goal sequence at the point of the comparator mechanism (see Figure 1). Here the person's goal is compared to his or her perception of behavior. It is assumed that that comparison leads to a judgment on the degree of match between the goal and the behavior. A discrepancy may be either positive (the behavior exceeds the level of the goal) or negative (the behavior falls short of that expected if the goal level were accomplished). Although it is recognized that the discrepancy can be either positive or negative, the more common, and in many respects the more interesting, case is when the difference is negative.

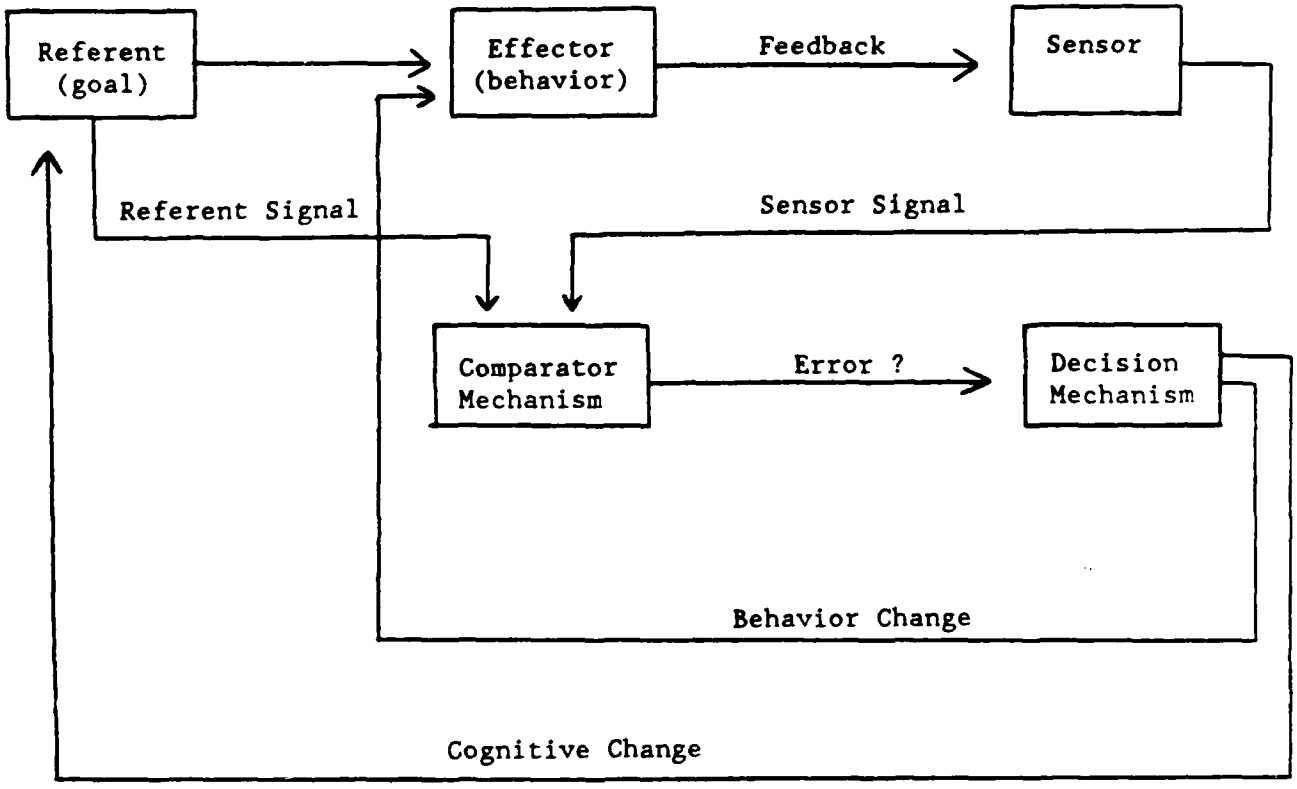

Figure 1. The Control Theory Process and the Role of Goals Adapted from Figure 1 Campion and Lord (1982), p. 267.

The result of the comparison process and judgment serves as an input into decisions in two domains: cognitive and behavioral. Cognitively, the person must decide whether or not to alter the goal as a result of his or her evaluation of the discrepancy between the goal and behavior. Behaviorally, the decision involves maintaining the same behavioral commitment to the task or altering it in some fashion such as (1) increasing/decreasing time and effort devoted to the task or (2) redirecting the behavioral commitment. It should be noted that changes in the behavioral or cognitive domain are not mutually exclusive. If changes are made in the goal, these changes are assumed to be taken into account in the comparator mechanism when the referent/goal serves as a standard for subsequent behavior. This mapping of goals into the comparator is illustrated by the referent signal line in Figure 1. The sequence is temporally completed when changes in the referent are considered; the system recycles as new behaviors are initiated presumably in response to the goals that are held at the time that this new behavior is undertaken.

Functions of Goals

Previous research and theory has focused almost exclusively on the effects of goals on performance. As was illustrated in Figure 1, goals are seen as the immediate precursors of actions taken on tasks, and the actions of interest usually are those related to task performance. Considerable attention is given to goals as they relate to performance. However, goals may serve a number of other functions, many of which have been ignored in the goal setting literature.

First, as is clear from Figure 1, goals serve to alter beliefs about performance. In Figure 1, two "basic" beliefs are suggested. The first of these is a belief about the level of performance that is desired. This is the referent or goal. The other basic belief is the belief about one's own performance on the immediate past cycle of the task. This belief is represented by the sensor signal originating from an interpretation of performance feedback in the sensor box. These basic beliefs are then processed by the person to produce three secondary beliefs, beliefs about the nature of the comparison, beliefs about changes in behavior, and beliefs about changes in cognitions.

All of the beliefs in Figure 1 address <u>what</u> level of performance is or should be displayed; none addresses how that performance should be accomplished. Recently, there has been a growing concern for how performance is accomplished, and this work has focused on performance strategies (e.g., Earley & Perry, 1986; Huber, 1985; Locke, Frederick, Lee, & Bobko, 1984). Strategy refers to a whole sequence of behavior involving, not only the level of anticipated performance, but the series of activities and the means of

accomplishing those activities. These strategies may be quite complex, encompassing a great deal of time and coordination with other persons.

Goals may also serve to help people make sense out of their task environment. When people are placed in new situations, they attempt to understand those situations and decide what they are expected to do (Louis, 1980). Goals play an important role in the sense making process. In particular, goals provide a basis for communicating expectations about performance and for structuring behavior. By making sense, it is not implied that the person necessarily approves of the setting as he or she sees it but only that the person has some particular world view of it. Performance goals can both aid in the structuring of a particular view and can become part of that view.

The construct of sense making shares much in common with role theory. A role is typically defined as a set of expected behaviors (Ilgen & Oldham, 1987). It has frequently been demonstrated that when roles are ill-defined people experience a great deal of ambiguity about what should and should not be done in a particular role. Negative affective states commonly result. Rarely, if ever, has it been found that people with high role ambiguity are more satisfied than those with low ambiguity, other things being equal (Katz & Kahn, 1978). From this we would expect that goals have affective consequences through the extent to which they structure performance situations.

In sum, it is suggested that the range of functions served by roles should be expanded well beyond the limited focus on task performance. This extended position should include beliefs about conditions in the task environment and sequences of behaviors that are appropriate on the job. It should also include affective responses to the job, particularly those feelings related to what has frequently been labeled role ambiguity in the organizational literature. In the remainder of this report, broader role is assumed for the functions of goals both at the individual and the group level.

EFFECTS OF GOALS

Performance

Although it is intended to show that goals affect a number of important cognitive, affective, and behavioral variables, the research to date has been overwhelmingly concerned with their affects on only performance. The most robust finding has been that specific and challenging goals lead to higher performance when performance is defined by the amount of output than do vague goals

such as "do your best" and/or goals that are not very challenging. In an extensive review of the literature from 1969 to 1980, Locke et al. (1981) identified 110 studies conducted in a wide variety of settings that investigated the effects of goal specificity and goal difficulty. Ninety-nine of these in which both specificity and difficulty varied reported that persons with specific challenging goals out-performed others. When difficulty and specificity were not coupled, there was still strong support for a positive effect of both when goals are assigned and the performers possess sufficient ability to reach the difficult goal levels.

Nothing that has appeared since 1980 would lead to questioning the conclusions about goal specificity; specific goals are preferred over no goals, general goals, or goals of "do your best." At the conceptual level, Naylor and Ilgen (1984) did suggest that equating "do your best" goals with low specificity was misleading. They argued that a low specificity meant that the goal covered a range of possible performance levels. Being told to do one's best does not necessarily capture the range notion. For example, it is quite possible that a person told to do his or her best may actually set a very specific goal and behave to accomplish it. Thus, the manipulation may only be non- specific from the standpoint of the supervisor/experimenter and not to the person performing the task. Nevertheless, regardless of the nature of the "do your best" manipulation, specific goals are unambiguous and are superior to those that are not specific.

Goal difficulty is proving to be a more complex issue, primarily because of the frequently occurring confound between goal and task difficulty in organizations. Theoretically, goal difficulty and task difficulty are not the same. For any given task (that is to say, holding task difficulty constant) goal difficulty increases as the goal level increases. Typically, goal level has been defined in quantitative units, and difficult goals are those requiring persons to produce more of the units than easy goals. In contrast to goal difficulty, task difficulty refers to the nature of skills and abilities demanded for task accomplishment. Difficult tasks, in contrast to easy ones, require the use of more complex skills and abilities than easy tasks.

When tasks are relatively simple, shifting performance expectations (goals) along a quantitative performance dimension is straight forward and is usually accomplished without affecting task difficulty. With complex tasks, raising goals may also increase task difficulty. Doing more of the same thing may not be sufficient to reach higher goals on complex tasks; it may be necessary to shift the nature of the task itself thus making it difficult to keep goals and task complexity independent.

There is also evidence that the effects of goal difficulty on performance may be moderated by task complexity (Campbell, 1982; Huber, 1985; Shapiro, 1986; Wood, 1986; Wood, Mento, & Locke, 1986). Huber (1985) predicted that for simple tasks, increasing goal difficulty would increase task performance as is typically suggested--through increased effort devoted to working on the task. However, for complex tasks, she suggested that difficult goals interfere with task accomplishment. Specifically, if a task already requires the utilization of a number of skills and abilities, high goals may lead to increased stress and to the selection of task strategies that actually hinder task accomplishment. Her data supported the hypotheses for complex tasks but not for simple ones. Subjects working on complex tasks under difficult goal conditions spent a disproportionate amount of time seeking information that was not very useful for meeting their goals and performed more poorly than those with lower goals. The detrimental effect of high goals on complex tasks was also found by Shapiro (1986). On the other hand, the failure of Huber to find the predicted difficulty effect with simple tasks is not easily explained given the fact that the effect has been frequently observed in the past (see Locke et al., 1981).

Although goal specificity and difficulty frequently affect performance, it is generally assumed that goals must be accepted before they can influence performance. In some cases, researchers have eliminated subjects who have been identified as not accepting goals before the impact of goals on performance was investigated. In other cases, conditions are established in which it is assumed that the goals were accepted by all.

Acceptance was treated as a moderator of the relationship between goal difficulty and performance by Erez and Zidon (1984). Using a memory/recognition task, they found goal difficulty positively related to performance when goals were accepted and negatively related to performance when the goals were not accepted.

Direct investigation of the role of goal acceptance has generally varied some condition in the performance setting, measured acceptance, and hypothesized that acceptance mediates the relationship between the condition and performance. Perhaps the most frequently researched condition accompanying the use and effects of goals and goal acceptance is that of performer involvement in the setting of goals. Performance goals can either be set by some agent external to the person performing the task or that person can be involved to some degree in the selection of a goal. This degree of involvement can vary along a continuum from simply asking for some inputs to allowing the person total control over the selection of a performance goal. Erez, Earley, and Hulin (1985) hypothesized that participation in goal setting affected

performance through its effect on goal acceptance. Using step wise regression in two studies, one in which subjects were constructing class schedules of the type used for college registration and another in which they observed and recorded the behavior of animals, the investigators found that, when goal acceptance was held constant, the effect of participation in goal setting on performance was removed. Operating under a similar mediator assumption, Earley and Kanfer (1985) found goal acceptance to be affected by participation and role model behavior, and, in turn, to mediate the relationship between participation and performance. Oldham (1975) found that the people were more likely to accept goals assigned by supervisors who were viewed positively than those who were not. However, he failed to find the expected relationship between goal acceptance and performance.

Participation is assumed to affect performance in goal setting situations through its effect on goal acceptance and commitment to the goal. Presumably, persons who set their own goals accept them and are more likely to be committed to devoting time and effort to goal accomplishment than those who have not been involved in setting their own goals (Erez & Kanfer, 1983). However, as compelling as is the logic for the participation effect, much of the data are not very supportive (Latham & Marshall, 1982). Locke et al. (1981) reported only one study that found participation to affect performance through its effect on acceptance. Erez and Kanfer (1983) argued that the lack of effect for participation on acceptance may have been due to the fact that often acceptance was high in all cases thus precluding the observation of an effect. In addition, there have been problems with self-report acceptance measures. The measures are quite transparent and are likely to create a demand characteristic making it unlikely that persons will report that they do not accept the goal (Latham & Saari, 1979). As a result, although there has not been strong support for the contention that participation increases goal commitment and acceptance, the research has not been so compelling as to discount the possibility of the operation of such a mechanism.

Another complex situational condition typically associated with goals is the nature of incentives for performance. Initially, Locke (1968) argued that goals were the immediate precursors of performance and that incentives only influenced performance through their effects on goals. Incentives were assumed to influence a person's commitment to the goals and thus increase the likelihood that he or she would strive to accomplish the goal. Pritchard and Curts (1973) and Terborg (1986) did not question the fact that incentives worked through goals to affect performance, but they also suggested that incentives may also have an independent effect on performance. In addition, it was pointed out that all support for Locke's position had been in laboratory research where the size of

the incentives was considerably smaller than typically encountered in work settings. Using larger rewards, Pritchard and Curts (1973) and Terborg (1986) found rewards affected performance both through goals and independently. Latham, Mitchell, and Dossett (1978) found the same in a sample of scientists and engineers.

In a theoretical paper, Naylor and Ilgen (1984) developed models for linking goals and rewards. They assumed that, independent of goals, functions can be developed for the relationship between levels of performance and levels of rewards. Goals change the shape of these functions depending primarily upon the extent to which rewards are attached to goal accomplishment. Therefore, the exact nature of the goals and rewards cannot be stated, a priori, but once one knows the types of rewards associated with goals, it should be possible to show the change in the reward to performance level function and predict the nature of the reward and goal effects on performance.

All the effects described thus far have addressed characteristics in the performance setting in which goals are used. Another source of influence on the goal-to-performance relationship is the performer. The effects of individual differences on goal properties and the goal-performance relationship have been explored under a number of conditions. In an early survey of 141 service technicians in a single company, Ivancevich and McMahon (1977) looked at the correlation between several demographic measures, goal-task attributes, self-reported effort, and objective indices of performance. Older workers reported having clearer goals and were found to perform better on cost related variables. Those with longer tenure were more involved in goal setting, and persons scoring higher on a scale of higher order need strength reported devoting a greater amount of effort toward goal accomplishment than those scoring lower on a measure of higher order need strength.

Earley, Hanson, and Lee (1986) suggested that impulsivity, as reflected in measures of Type A behavior, may interact with goal setting through its affect on planning. In particular, for those high on Type A behavior, goals are likely to stimulate planning and organizing in ways that should facilitate goal accomplishment. A survey of 347 employees working in 18 West Coast firms produced correlational data consistent with this interpretation.

Two studies found individuals' self-esteem interacted with goals to affect performance. Yukl and Latham (1978) had 41 typists in a large corporation set weekly goals, themselves, or work under goals set by their supervisors. A comparison of those with high self-esteem to those with low self-esteem showed that goal setting led to greater overall improvement in performance for the former than the latter. Laboratory research with subjects solving arithmetic

problems also found that goals had a greater impact for high self-esteem subjects than for low self-esteem subjects. Specifically, high self-esteem subjects who received feedback on their performance reached their goals more frequently than low self-esteem subjects also receiving feedback (Dossett, Latham, & Mitchell, 1979).

Most of the research discussed so far investigated the effects of individual differences on performance when goals were assigned. Another line of research has treated goal level as a dependent variable exploring the effect of individual differences on the goal level chosen in performance situations under the well-supported assumption that those who set higher goals will perform better. Campbell (1982), in an extensive review of the literature, found indirect support for the conclusion that personality variables typically clustered under the rubric of higher order needs (e.g., higher order need strength, self-assurance, and maturity) were positively associated with the choice of goal difficulty in performance settings.

In general, the research with individual differences and goals suggests that those individual difference constructs that reflect achievement and accomplishment types of dimensions interact with goals in ways that are relatively consistent with the personality constructs themselves. When working under difficult goals, those who are high on achievement/competence types of needs strive harder to accomplish the task and benefit from their efforts. Likewise, if the task is complex, requiring the development of effective strategies to perform the task, these types of people are more likely to do so. Finally, if no goals have been set on the task, the same persons are more likely to set goals that are more challenging than those whose personal orientations are less achievement/ competence oriented.

Strategy Development

Work strategies are plans of action. They represent chains or sequences of action that are linked together to accomplish some end. With respect to task performance, strategies typically refer to plans of action for accomplishing the task. Goals have been discussed in terms of their direct effects on the development of task strategies and their interactive effect with task difficulty. Each will be discussed below.

The most simple model relating goals to strategy development assumes that goals activate plans of action (strategies). The plans of action may be old in the sense that they have frequently been used before, may be modifications of old plans, or may be completely new ones (Wood, 1986). Both laboratory and field data have been reported that are consistent with the conclusion that goals

stimulate individuals to develop strategies for task accomplishment. In a survey of 347 employees of 18 companies, Earley et al. (1986) found those who reported having more specific goals also described more elaborate plans for the accomplishment of their jobs than those with less specific goals. In the laboratory, the presence of goals increased the amount of planning behavior (Earley & Perry, 1986). Also, the combination of goals with information that primed particular strategies led to the highest level of performance on tasks for which some strategies were judged, a priori, to be better than others by the experimenter (Earley & Perry, 1986).

Rather than goals affecting strategy selection directly, it has been suggested that task complexity interacts with goals to affect the selection of strategy (Campbell, 1986; Wood, 1986). Campbell (1986) suggested that on simple tasks goals affect performance by influencing the amount of effort that is devoted to the task. Since the tasks are simple and straightforward, the way in which the task is accomplished should be obvious almost by definition of a simple task. On the other hand, for complex tasks, planning is not irrelevant. In particular, individuals with better strategies should out perform those with poorer ones, and difficult, specific goals on complex tasks should stimulate and guide the development of effective task strategies (Campbell, 1986; Wood, 1986). Data of Shapiro (1986) raised some question about this general conclusion. He found that difficult goals assigned to persons working on tasks that were already very difficult interfered with performance, presumably through increased stress for high performance. These data indicate that, for difficult tasks, it may be necessary to qualify the typical assumption that difficult goals aid performance. For difficult tasks, challenging goals may trigger ineffective task strategies rather than effective ones. More research is needed to explore more closely the interaction of goal and task difficulty on task strategy selection and performance.

Attitudes and Perceptions

In addition to functions that are tied directly to performance, goals serve social-emotional and informational functions. These involve the task performer's perceptions as well as attitudes and perceptions of conditions in the work setting.

The attitudinal construct of job satisfaction was found to covary with the nature of performance goals in a sample of skilled technicians (Ivancevich, 1977). Those whose supervisors received goal setting training reported having more specific goals than those whose supervisors were not trained. Furthermore, specific goals were associated with higher levels of satisfaction with work and with supervision as measured by the Job Description Index, than were general goals (Ivancevich, 1977).

If it is assumed that some tasks are themselves intrinsically interesting, then we might expect that such tasks would benefit less from the goal setting effect just described than would less interesting tasks. In general, the data of Mossholder (1980) are consistent with this point of view. Using a laboratory task, he found that performance goals reduced the intrinsic interest in enjoyable tasks but enhanced it for routine ones.

Defining satisfaction more narrowly, Locke, Cartledge, and Knerr (1970) found that goals contributed to the level of satisfaction with performance. They argued that performance satisfaction, for the most part, is a function of the instrumentality of performance for attaining valued outcomes. Assuming that the outcomes are associated with performance and not necessarily with goal accomplishment, such satisfaction should result from performance regardless of goals. However, goals may provide standards against which to compare performance, and, through this comparison process, task performers may experience feelings of success or failure. These feelings represent levels of satisfaction resulting from performing with previously set standards of performance, that is, goals. In five laboratory studies, Locke et al. (1970) found predictable variance in satisfaction with performance due to the discrepancy between goals and performance after the effects of performance-contingent outcomes had been removed. These data support the conclusion that goals have a direct and independent influence on task performance satisfaction.

Goals may also serve an important function in influencing individual's self-efficacy. Self-efficacy, a central construct in Bandura's social learning theory (Bandura, 1977), is an individual's personal evaluation of his or her likelihood of successfully accomplishing a particular course of action. It is a self-concept of one's ability to perform a particular task. Locke et al. (1984) argued that self-efficacy influenced the selection of a performance level for a goal when individuals were allowed to choose goals; those with higher self-efficacy for working on the task would set higher goals. Their data supported this position (Locke et al., 1984).

There is also evidence that the causal link between self-efficacy and goals is reversed. In this other sense, task performance under goal conditions may create levels of self-efficacy. Working with school children who were having difficulty with mathematics, Bandura and Shrunk (1981) set either immediate goals for task performance or distal ones. Examples of immediate goals would be ones focused on each problem or page of a mathematics worksheet whereas distal goals deal with a unit in the course that took several days or weeks to complete. They found that those with immediate goals developed greater feelings of

self-efficacy for working with mathematical concepts as a result of performing under conditions of immediate goals. Manderlink and Harackiewicz (1984) replicated the effect of immediate goals on the performance of an intrinsically interesting task performed by college students.

Extending the general efficacy notion from a single event to a life time of activity, Hall and Foster (1977) argued that goals play a central role in career development. Hall (1976) proposed a model of career development in which perceptions of psychological success were seen as major contributors to the internalization of career roles. The experiencing of success on the job would increase the probability that the person would begin to commit himself or herself to the work that that job represented. In turn, he or she would begin to identify with that career, that is, begin to think of himself or herself as an accountant, sheet metal worker, market analyst, or carpenter. Hall and Foster (1977), in a simulated management exercise, explored the role of performance goals in a performance cycle that included psychological success. In particular they tested the following model:

Goals → Effort → Performance → Psychological Success →

Self-Esteem → Involvement → Later Goals

General business students worked on an Executive Game that represented a two year (eight academic quarters) time period. The participants made decisions at the beginning of each quarter and received information about the performance of the business at the end of the quarter. This performance was based, in part, on the inputs at the beginning of the quarter, on the performance of competitors, and on other external conditions.

Although they did not find that goals related to effort on the initial trial, they did find it on later trials. The revised model based on a path analysis is illustrated below:

Involvement

Goals → Effort → Performance → Psychological Success

Self-Esteem

The revised model has two mediator variables between psychological success, involvement and self-esteem, but, nevertheless, posits an important role for goals in the establishment of effectively oriented motivational constructs in performance settings. Although the short time frame of the simulation did not allow Hall and Foster (1977) to relate the

effects of goals to career development, to the extent that the Hall (1976) model holds with respect to the effect of psychological success on career development, the results imply that specific task-focused goals may, in the long run, influence career orientations.

In a much more elaborate vein, Dweck (1986) recently imbedded goals in a motivational model linking motivation to learning. Adopting a motivational perspective consistent with achievement motivation, she viewed motivation as dealing with the causes of goal-oriented activity. Then, classifying goals as either performance goals or learning goals, she argued that the interaction of the nature of the goal interacted with attributions about the nature of intelligence to produce either adaptive or maladaptive behavior in performance settings requiring learning and mastery. Table 1 describes her model.

Briefly, Dweck argued that people possess one of two general views of intelligence. One view is that intelligence is fixed and unchanging. The other view is that intelligence can be modified somewhat through experience. In addition, goals for tasks can be either performance oriented or learning oriented. In the former case, emphasis is placed almost exclusively on winning or being successful and competition is stressed. The latter focuses more on personal improvement and developing skills and abilities rather than stressing only goal accomplishment. According to Dweck, implicit to the use of performance goals is an assumption of relatively fixed intelligence and the need to simply stimulate those that have the ability to display it. Implicit in the learning position is the belief that personal improvement can be made and that this is one of the rewards that is gained from the performance experience. The implicit views of intelligence influence not only those who set goals for others. They also impact on the performer in one of two ways. First, if the performer set his or her own goals, the nature is affected by beliefs about his or her own performance. Second, when responding to goals set by others, the person's beliefs about his or her own performance influence the effects of the goals and the reactions to feedback.

The final variable affecting responses, according to Dweck's model is the degree of confidence the person has in his or her ability. When confidence is high, performance under either performance or learning goals is similar. However, when confidence

Table 1

Dweck's Model of Intelligence Attributions, Goals, and Confidence as they Affect Achievement Behavior (Dweck, 1986, Table 1, p. 1041)

Table 1
Achievement Goals and Achievement Behavior

Theory of intelligence	Goal orientation	Confidence in present ability	Behavior pattern
Entity theory (Intelligence is fixed)	**Performance goal** (Goal is to gain positive judgments/avoid negative judgments of competence)	**If high**	**Mastery-oriented** Seek challenge High persistence
		but	
		If low	**Helpless** Avoid challenge Low persistence
Incremental theory (Intelligence is malleable)	**Learning goal** (Goal is to increase competence)	**If high** or **low**	**Mastery-oriented** Seek challenge (that fosters learning) High persistence

is low, performance goals lead to maladaptive responses and learning goals lead to adaptive ones (see the last column of Table 1). Dweck reviews considerable research, primarily with school children working on academic tasks, that is consistent with her model.

Here, the importance of Dweck's model is its consistency with other views implying that performance goals influence the development of performance related self concepts. Other views presented earlier suggested that goals operated directly on these personal constructs. Dweck's work suggests that the relationship is more complex than this. In particular, the performers' attributions about the degree to which their own skills and abilities are subject to change will influence the nature of responses to goals and the self-concept impact of goal-directed behavior.

All of the research reported thus far addresses the impact of goals on individuals' attitudes and their beliefs about issues related to their own performance or performance strategies. One study also found that individuals' goals affected perceptions about the work group. Schnake and Cochran (1985) surveyed nearly 9,000 nonsupervisory employees of a large utility. Part of the survey asked for a description of the nature of performance goals. Also requested were perceptions of the working relationships among members of the work team and between the employee's own work team and other teams in the organization. These latter perceptions were used to create variables of intra- and intergroup conflict. The authors reported that higher levels of goal difficulty and goal clarity were correlated with lower perceptions of both intra- and intergroup conflict. These data are interesting because they imply that there exists some generalization from individual goals to group members' perceptions of group level conditions.

Conclusions About Functions of Goals for Individuals

Viewing performance goals from a functional perspective is interesting both from what has been learned and from what is implied for future investigation. The extensive work with goals as they relate to performance has clearly demonstrated that they can have a positive impact on performance. Motivationally, goals can (1) stir the person to action (influence the person's willingness to invest time and effort into attempting to accomplish the task) and (2) direct that time and energy in a particular direction.

Beyond this simple statement, there are many interesting qualifications that must be considered. The most important qualification relates to the complexity of the task. Simple tasks, by definition, require the use of only limited skills and abilities and the methods by which the tasks are accomplished are straightforward. Therefore, if goals function to energize and to

direct effort, the former is much more important on such tasks (Campbell, 1982; Shapiro, 1986; Wood, 1986). Direction of effort is unimportant on simple tasks because what is to be done is obvious. On complex tasks, both arousal and direction are important. Ideally, goals would encourage working on the task and would guide the person toward successful action by implying successful strategies for task accomplishment. In the absence of cues about how to perform the task, difficult goals have been shown to increase arousal, but that arousal is stressful and detrimental to performance (Huber, 1985; Shapiro, 1986). Thus, it appears that on complex tasks with difficult goals, either supplemental information should be made available to the task performer to aid in the selection of courses of action, or the goals themselves should provide cues about how to accomplish the task.

In addition to the performance implications of goals for structuring the nature of responses on jobs, goals also serve social-emotional functions through their relationship with role clarity. The concept of role clarity normally is construed as the role performer's perceptions of the degree to which he or she is aware of what is to be done in that role. Almost without exception, when individuals feel they know what it is they are supposed to do in their roles or on their job, they are more satisfied with it than when they are unsure. Role ambiguity is stressful and is a state that most people attempt to avoid. Although Locke et al.'s (1981) comprehensive review of the goal literature uncovered little research related to role clarity, the link of goals to stress and dissatisfaction with the job through role clarity would appear to be an important area for further investigation especially at this time when the importance of roles for influencing performance strategies is being recognized. In particular, if goals are valuable for developing important strategies for working on the task then we would assume that the existence of such strategies would provide structure to the role which would produce perceptions of role clarity.

Beyond performance, goals were shown to impact on attitudes and perceptions. Three issues stand out in this area. The first of these is that goals do affect satisfaction, and the effect operates through two mechanisms. First, satisfaction is positively related to goals if goal accomplishment is instrumental for attaining valued outcomes. Second, goal accomplishment may be a valued state in-and-of itself. This is demonstrated when satisfaction covaries with goal accomplishment in the absence of obvious rewards associated with that accomplishment and when goal accomplishment predicts variance in satisfaction over-and-above that predicted by the attainment of valued outcomes for goal accomplishment. Therefore, attention should be paid to the nature of goals when interest is in influencing employee attitudes.

More involved, and potentially more important is the accumulating evidence for the interaction between goals and relatively enduring self-perceptions of personal competence. The nature of this interaction stresses the need for a longitudinal perspective on goals. Task performance, particularly task performance in work settings, is best modeled not by a singular event but by a continual series of cycles that often have unclear beginnings and unknown end points. The control theory model of Figure 1 illustrates this. According to the model, goals initiate action. The action is then fed back to the goals for comparison purposes. This, in turn, leads to decisions about the evaluation of the action and the nature of the goals that will guide future action. In other words, goal directed behavior is not viewed as a single event but a stream of events occurring over time.

The stream analogy is an important one for drawing conclusions about the relationship between goals and self-directed perceptions about competence. The literature indicated that goals and self-efficacy interact in a reciprocal causal manner such that self-efficacy perceptions may influence either the level of goals set when the performer is free to set his or her own goals or will influence beliefs about the probability of performing successfully on the task when the goals are set for the performer. In addition, goal conditions will serve as inputs into perceptions of self-efficacy on the task.

Finally, the combination of the work of Dweck (1986), with a control theory perspective on the goal process, stresses the need to view goals as changeable and constantly open to modification. Dweck (1986) suggests that the extent to which goals change is a function of the success and failure experience of the person in interaction with his or her personal view of the stability of skills and abilities. It is likely that there are several other variables involved in this. Regardless, recognizing the continuous cycling of goals and performance over time stresses the need to treat the performance cycle as dynamic and to look for change in performance and goals as expected and as desirable. Table 2 provides a recapitulation of the above summary and conclusions.

Table 2

Summary and Conclusions: Individual Level Goals and the Goal Process

FUNCTIONS OF GOALS

Motivation/performance

-- Goals stir people to action (influence willingness to invest time and effort into attempting to accomplish the task.
-- Goals direct time and energy in a particular direction.

Qualifications

-- Task Complexity

-- On a simple task, task methods are straightforward and the "energizing" function of goals is most important. Difficult goals are most beneficial for this type of task.
-- On a complex task, task methods are ambiguous and difficult goals may hinder performance unless they are accompanied by or provide information on task strategy.

Social-Emotional

-- Goals may decrease role ambiguity by driving task structure.

Attitudes and Perceptions

-- Satisfaction is positively related to goals when goal accomplishment results in a valued state.
-- Goals serve as inputs to self-efficacy.

Process

-- Both a control systems theory and a learning perspective of goals show that goals are continually changing as a function of performance. This continuous cycle is expected and desirable.

GOAL EFFECTS AT THE GROUP LEVEL

GROUP GOALS

Goals are standards for behavior. When operating at the individual level, there is no need to ask for whom the standards exist; they exist for the individual of concern.

At the group level, the question of for whom goals apply is less clear. There are a number of target persons for whom the goals may be directed. First of all, there is the goal for the group. Such a goal is defined in terms of standards that are relevant at the aggregate level. It should be evaluated in the units that are used to assess group output. Whether or not these units are the same as the units used to evaluate the performance of individuals in the group may matter with respect to the impact of the group goal, but does not matter for definitional purposes. For example, a group goal could be defined in terms of the number of units of Product X produced per hour or it could be defined in terms of the percent of the group members who were present the last five working days. In the former case, both the group and the individual members could have goals in the same units. In the latter, they could not; percent of group attendance is not a meaningful metric at the individual level.

Goals in group settings add three levels of complexity to those for individuals. First, there is the issue of goals for multiple actors. At the very minimum, two sets of goals exist. There are goals for the group and there are goals for the individuals who make up the group. The sources of goals are more complex. At the individual level, goals could originate from the individual, or they could be established by some other agent. For groups, the same two general classes exist; goals can be imposed on the group by nonmembers of the group, or they can be generated by the group members. However, unlike at the individual level, the group members may not all share the same goals for the group. Therefore, it is possible to have internal conflict and disagreement among group members that does not have an analogue at the individual level.

Finally, there are multiple interdependencies that exist between group and individual goals as well as among individual members' goals. Almost without exception, group goals are accomplished when members of the groups perform their roles effectively. Therefore, group goal accomplishment is typically dependent upon the extent to which individual members accomplish their own goals. This fact creates an obvious dependence between individual and group goals if one assumes that individual performance is affected by individual goals. In addition, there frequently exists interdependencies among individuals within groups. This is particularly true when the group

task requires coordination and cooperation among the members. In these cases, successful performance by one group member may be dependent upon the extent to which one or more other group members successfully accomplish their own goals.

In the remainder of the discussion of group goals, the functions of goals at the group level are explored. In doing this, it is assumed that within groups, goals exist at both the individual and group level. Furthermore, multiple sources exist for these goals such that consensus among the sources will vary across groups. That is to say, the members of a group may or may not agree on what should be the group's goal and also on the goals for particular members of the group. The discussion of the functions of goals in groups will address the complexities just mentioned and will consider the impact of these goals on both individual and group outcomes.

EFFECTS OF GOALS IN GROUPS

In groups, goals impact on both individual and group level phenomena. At the individual level, goal effects take several forms. First, whether working alone or in groups individuals are influenced by their own individual goals. These goal effects may be the same or very similar to those described in the previous section. However, it is also possible that there are important modifications of goal effects that are unique to group membership. Such factors as social pressure, group characteristics (i.e., size), competition, and others that are absent in individual settings may come into play when people are working in groups.

The behavioral and motivational responses resulting from goals of members of groups include those observed when individuals are working alone (e.g., performance, satisfaction). They may also include other reactions, unique to group settings. The latter is a second kind of goal effect for individual goals of group members. Individual constructs exist for group members that do not exist for individuals who are not in groups. These include individual attitudes towards the group, social roles, cooperativeness, as well as others. Individual goals, combined with group and individual characteristics may affect these constructs.

A third type of goal effect for individuals in groups is that due to group level goals. Group level goals may be motivating for individuals. As will be seen, the effects of group level goals on individuals is moderated by task type and an individual's position in the group as well as by group goal characteristics, such as specificity and difficulty.

Finally, goals may affect group level phenomena. Up to now only the effects of being in a goal-oriented work team on the behavior of individuals on that team have been considered . However, when

considered in the aggregate, there are issues of group level events. For example, group level dimensions, such as group performance, composition, and cohesiveness are affected by goal characteristics. However, little research has been done that examines goal effects at the group level. Undoubtedly, this is at least in part due to the difficulty involved in obtaining and measuring relevant group level constructs (Dyer, 1984; Hall & Rizzo, 1975).

The following sections of this report discusses in greater detail the types of goal effects described above. A dimension, such as performance, is introduced. It will be discussed first at the individual level, then at the group level, where appropriate.

Performance

Performance is a dimension that is important and often easily measured at both the group and the individual level. Individual level goals affect the performance of group members in ways similar to individual level effects of people not in groups. That is, goals stimulate and direct effort expenditure, and influence persistence. These effects are influenced primarily by the difficulty and specificity of the goal and are moderated by factors described earlier.

Individuals in teams, however, may perceive their individual goal differently than individuals working alone because of the presence of the group goal. These perceptions, in turn, affect performance (Matsui, Imaizumi, Onglatco & Kakuyama, 1987). A recent laboratory experiment by Matsui, Imaizumi, Onglatco, and Kakuyama (1987) demonstrated this using a perceptual, additive task. An additive task is one in which the group's output is the sum of each person's efforts (Steiner, 1972, p. 17). Subjects in the Matsui, Imaizumi, Onglatco, and Kakuyama (1987) experiment worked alone, under one of two experimental conditions. In one condition, each subject had an individual goal as well as a group goal to be attained with an assigned partner. Under the second condition, subjects had only an individual goal. Individuals set their goals for their own performance and pairs of individuals jointly set group goals. Results indicated that individuals in groups performed better than individuals who were not in groups but who had similar goals. The authors explained this result in terms of individual conceptualization of the goals. Specifically, they argued that individuals with group goals perceived their individual goal as one step toward attaining the group goal. Although the group goal was unattainable for any individual, subjects still strove to work toward it, even after achieving their individual goal. For subjects with only an individual goal, however, the goal worked as a

motivator only until it was attained. After this point, the individual's goal was actually a constraint because individual goal only subjects did not try to work past the goal, as the group goal subjects did (Matsui, Imaizumi, Onglatco & Kakuyama, 1987).

Another interesting result of the Matsui, Imaizumi, Onglatco, and Kakuyama (1987) study was that subjects in groups set group goals that were greater than the sum of individual goals in the group. The authors concluded that when groups set their own group goals, the goals will be difficult because of the effect of participation. As previously discussed, this difficulty will lead to better performance.

Attitudes and Affect

In addition to performance, group goals affect individuals' attitudes and feelings. These, in turn, can influence the goal setting process. Attitudes and feelings are generally measured at the individual level but may be directed at both individual and group level constructs.

Individuals have attitudes and emotions targeted at their groups, at themselves, at their individual goals, and at their group goals. These attitudes and emotions are affected by group performance. Zander, Forward, and Albert (1969), examined group member attitudes and affect as a function of the success of groups of United Fund workers. The authors found that members of ineffective groups had less pride in their organization than workers who had succeeded in meeting their goals. Also, members of ineffective groups were likely to attribute the group's failure to external causes, such as too few volunteers. Members of ineffective groups attached less importance to goal achievement as a measure of team success than did members of successful groups. Finally, viewed over several years, ineffective groups continually set goals higher than their previous year's performance indicated they should.

Zander et al. (1969) concluded that the ineffective groups continued to set difficult goals because their members were more influenced than those of succeeding groups by external pressures to set high goals. Members of ineffective groups may have believed that failure to attain a difficult goal was less embarrassing than failure to attain an easy one. Furthermore, these members believed that high goals would bring higher donations from givers.

A group member's attitude is also a function of his or her position in the group. An individual may have a central or a peripheral role in the group. Zander et al. (1969) defined a central group member as one whose duties contribute most to attaining group outcomes. Peripheral members were those who had more marginal roles. In the study discussed above, the authors

found that central members of successful groups attained greater satisfaction from the successful group outcome than peripheral members. Also, central members believed that it was very important to set reasonable goals. In the failing groups, on the other hand, central members felt outside pressure to maintain a high goal. They did not believe that lowering the goal would help performance.

In a laboratory experiment examining similar conditions, Zander and Medow (1963) found differences on several variables among individuals in failing groups, individuals in successful groups, and individuals not in groups. Group and individual goals were all self set in this experiment. At the individual level, team members of failing groups judged their performance less harshly than failing individuals who were not in groups. The authors concluded that this was because team members had several rationalizations available to them that were not available to individuals not in groups. Group members could exonerate themselves of responsibility for failure or they could find social support for giving themselves favorable judgments. Furthermore, members of teams were more likely to react to poor performance by derogating the importance of doing well or of the ability requirements of the task. Individuals in teams who had personal aspirations for the group that were higher than the group goal set by the group were most likely to react this way. These two studies raise some interesting questions. Will the social structure of groups, in some cases, cause individuals to make inaccurate attributions about performance that will act to reinforce poor performance?

Group membership gives individuals the opportunity to rely on cues from other group members to provide performance feedback. These cues may include positive feedback to individuals, in spite of poor performance because this type of behavior maintains group cohesion and friendly relationships. Also, derogation of task importance (Zander & Medow, 1963), or group failure to acknowledge poor performance may occur. These behaviors may be dysfunctional to performance because individuals and, perhaps, entire groups may not acknowledge feedback from the task or from sources outside the group. We need to understand more about the extent to which these and other negative outcomes result from performance goals in groups and then ask how such factors might be avoided. Unfounded encouragement and social loafing may vary as a function of group level dimensions, such as cohesion and structure, or of group and individual characteristics in groups such as central versus peripheral membership, individual tenure, and individual task and goal.

On the other hand, groups may harbor role models and provide the work norms necessary for effective performance. A laboratory experiment by Earley and Kanfer (1985) demonstrated that subjects who were given role models were influenced by the models' behavior.

Subjects exposed to high performing role models performed better and had higher levels of goal acceptance and satisfaction than did subjects exposed to low performing role models. However, the subjects had no interpersonal exchanges with the role model, making this result difficult to generalize to a team situation. In addition, a no-role model condition was not included in the research design. Therefore, it can not be predicted from this study if a high performing role model will influence group members to increase performance, if a low performing role model will decrease in performance, or if both conditions will have similar but opposite effects on performance, satisfaction, and goal acceptance.

Social Loafing and Free-Riding

Two behaviors often observed in groups are social loafing and free-riding. Social loafing is the tendency of individuals to work less when they are in groups than when they are working alone (Latane, 1986, p. 278). An individual free-rides when he or she permits other group members to carry a disproportionate amount of the work load. Individuals will tend to free-ride more when their partners are more capable of performing the task (Kerr & MacCoun, 1985). Also, research has shown that partners of free-riders are more likely to assume the additional work load if they are aware that their partner is less capable than they. However, if the free-riding individual is equally capable of performing the task, the other partner will become less motivated to work hard as a result of the free-riding (Kerr, 1983).

Is it possible that goal setting can work to decrease or to eliminate social loafing and free riding? Matsui, Kakuyama and Onglatco (1987) hypothesized that when groups have both an additive task and a group goal which can only be attained if all group members work hard then motivation loss due to free-riding will be less likely to occur. Unlike the study by Kerr (1983), Matsui, Kakuyama, and Onglatco (1987) had subjects set specific individual and group goals. Also, the task was additive, whereas in the Kerr study, it was disjunctive. On a disjunctive task performance is determined by the group's best performer (Steiner, 1972). Results showed no motivation loss due to free riding by group members. It is not clear, however, whether this result is due to the effects of goal setting or to the task type. Future research is needed to clarify this issue.

Latane (1986, p. 300) suggested that social loafing may also occur at the group level, although this has not been empirically examined. Although Latane describes this effect in terms of social loafing, we believe it is more specifically described as free-riding. There may actually be a diffusion of responsibility among interrelated organizational subgroups. Latane suggests that some kinds of groups, such as newly formed groups, groups with

internal conflict, or groups with a history of past failure may be more likely to loaf than other groups. Perhaps setting specific group level goals would work to decrease group level free- riding in the same way individual level goals may decrease individual free-riding.

Feedback

As seen at the individual level, performance feedback is an integral part of any goal setting model. This is true also at the group level, both for groups and for individuals in groups. Because individuals in groups have several different types of goals to be aware of, they must deal with just as many different types of feedback. Feedback may be available for individual goals, coworkers goals, group goals, and other groups' goals.

It is possible that group and individual feedback interact to affect performance. Matsui, Kakuyama, and Onglatco (1987) described this interaction in terms of control theory. Specifically, they suggest that, on an additive task, individuals will first assess goal progress by using individual level feedback. If no negative discrepancy exists between their achievement and their individual goal then a comparison process will take place for the group level feedback. Matsui, Kakuyama, and Onglatco (1987) conclude that it is important for individuals to receive both individual and group feedback. Specifically, if people who are below their individual goal level receive only group level feedback, they may not attempt to improve their performance if the group is succeeding. Additionally, if individuals who are performing satisfactorily with respect to their individual goals receive only individual level feedback, they will not improve performance if their group is failing. While these arguments seem very reasonable and interesting, they require empirical verification.

Although much of the literature addresses the effects of feedback on group performance, few studies include goal setting dimensions. Nadler (1979) describes three major factors upon which the effectiveness of feedback is contingent. These are (1) the desired impact of the feedback on affective, cognitive, or behavioral variables, (2) the nature of the group task, and (3) the characteristics of the group members (individual differences). It is possible that goal characteristics, such as difficulty and specificity, can be manipulated across levels to moderate the relationship between feedback effects and these three contingencies in order to maximize feedback and goal effects.

For example, a high degree of goal specificity will facilitate more specific feedback, which in turn will affect performance. This effect may be moderated by the nature of the task, the nature of the

individual, and the desired impact of the feedback. Furthermore, the level at which the goal is set (group versus individual) may also moderate the goal/feedback/performance relationship.

Strategy Development

As discussed previously, goal setting has varying effects on strategy development at the individual level. Likewise, goal setting may provoke similar responses at the group level. Although this is an underresearched area, tentative hypotheses can be drawn from individual level research as well as from group level research in similar areas.

At the group level, tasks frequently are more complex than at the individual level, due to the degree of interdependency among team members. It is an accepted fact that group processes and performance are affected by the nature and requirements of the task (Hackman, 1968; Driskell, Hogan & Salas, 1987). According to Steiner (1972) group process is described by the following three dimensions; (a) how the group is permitted to divide the task into subtasks and what pattern of subtasks is permitted, (b) how individuals are matched with subtasks, and (c) how subtasks should be sequenced. From the perspective of this report important questions deal with the ability of goals to inhibit or facilitate the three processes, and subsequently, performance.

As at the individual level, task complexity strongly influences the degree to which strategy development is necessary (c.f., Driskell et al., 1987). Hackman, Brousseau, and Weiss (1976) found that group discussion of strategy, prior to task work, improved performance only when the task required coordination of group activities and sharing of information. On a simple, repetitious task, pre-task discussion of strategy did not improve performance and may have actually decreased productivity by wasting time.

Given the complexity of team tasks, it may be more beneficial to groups to have preliminary strategy development discussions. Groups may use this time to develop goals and the means by which to achieve them or to determine how to attain extrinsically set goals. Once set, however, goals may actually hinder strategy development that may need to occur during the course of the task.

Extrapolation of research by Shure, Rogers, Larsen, and Tassone (1962) and Gersick (1985) suggests that when strategy development is necessary throughout the task, difficult individual goals may actually hinder effective performance. Shure et al. (1962) hypothesized that under pressing group task requirements (such as difficult group goals), groups, like individuals, focus on short range attainments while overlooking the potential that extra-task planning and cooperation might bring. Shure et al. (1962) used a

highly interdependent task to test this hypothesis. Results supported the hypothesis. Rather than manipulating goal difficulty, the authors manipulated the availability of group planning time. Furthermore, there were no individual level goals set (the task did not lend itself to individual level goals).

Future research may indicate that, in groups, difficult individual level goals may actually act to decrease cooperation or planning because they are perceived as having more immediate work requirements. Additionally, this behavior may be moderated by group level goal difficulty and task complexity.

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TRAINING ISSUES

Given the preceding review, the next issues to be addressed are: (a) where does goal setting fit in training and (b) how will it ultimately improve team performance. Team training is a critical topic of interest in the military. Over the past 40 years, team training research has been the focus of hundreds of research and development efforts (Dickinson, Salas, Converse & Tannenbaum, 1986; Salas, 1987); however, many practical problems remain in support of training and performance of teams (Salas, Blaiwes, Reynolds, Glickman & Morgan, 1985). It is concluded that goal setting can offer some of the much needed practical guidance for enhancing team performance through training. Therefore, what follows is a brief discussion on how goal setting can facilitate the development of teamwork skills during team training.

TEAM SKILLS AND GOAL SETTING

Two recent team research efforts offer some insights as to how goals setting may fit in training design. The first effort is the innovative work of Morgan, Glickman, Woodard, Blaiwes, & Salas (1986). These researchers are gaining a better understanding of the processes, behaviors, skills, and conditions of Team Evolution and Maturation (TEAM) in operational Navy environments. This research has a developmental focus, with the assumption that effective team training will, indeed, produce changes in team behaviors that will ultimately enhance teamwork. They created a TEAM model (see Morgan et al., 1986 for details) which indicates that task-oriented groups should evolve through a series of developmental stages. Further, the model suggests that two distinguishable types of team activities are developed around the stages of evolution and maturation. One type of activity is devoted to the development of operational skills (e.g., discovering rules, roles and requirements; task understanding) while the other is devoted to acquiring generic skills (e.g., understanding of interactions, relationships, coordinations). Both of these activities are essential requirements for enhancing teamwork skills. The TEAM model and its theoretical foundations are discussed in detail by Morgan et al. (1986).

The second effort is the work of Davis, Gaddy & Turney (1985) who suggest a generalized system approach to team skills training. This approach follows the instructional systems development (ISD) methodology widely used in military training environments. The model, reproduced in Figure 2, shows that this approach has five phases: (1) team skills objective development, (2) basic team skills training, (3) team task training, (4) team skills evaluation, and (5) team training program evaluation. This approach was developed, modified and adapted into existing training programs for control room operating crews.

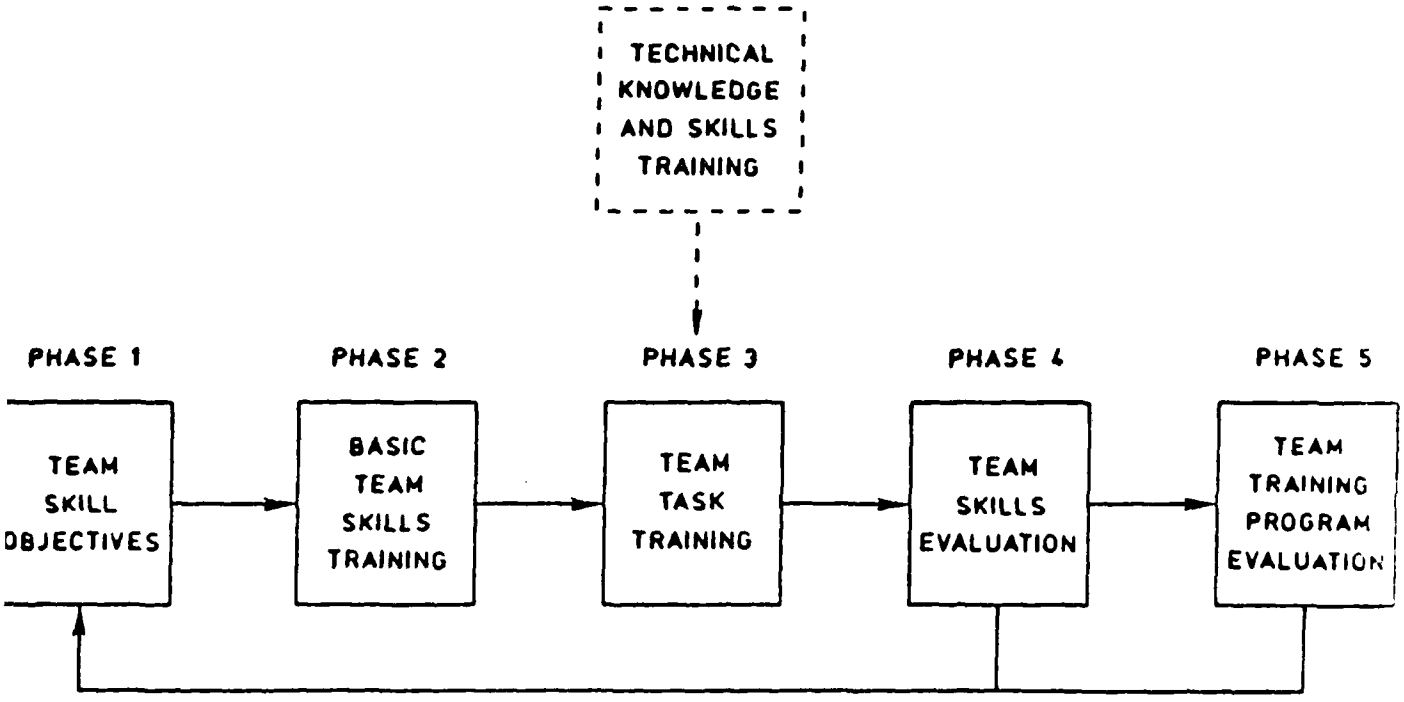

Figure 2. An Approach to Team Skills Training (from Davis, Gaddy, & Turney, 1985).

With these two team training efforts as background one can begin to formulate two implications for the role of goal setting in training. Additional implications should be derived as empirical work is conducted and training prescriptions emerge. First, at the instructional level, goals can (as discussed throughout this report) serve as a tool or "training aid" for instructor and trainee to focus on activities and behaviors that enhance teamwork skills. That is, goals can direct attention and prolong the effort of trainees as they mature, as well as "aid" the instructor in cueing or debriefing the trainee. This instructional aid, that could take many forms (e.g., checklists; computer-aided), may serve to provide specific feedback (in near real time) as to how trainees are performing in relation to the goals set. For example, in the context of the TEAM model, during the forming stage, team members (and instructor) can set goals as they learn about the task and each other. The team members use the goals to develop their plan of action (i.e., performance strategies), therefore, stimulating team effectiveness. Additionally, the instructor uses this information to guide the instructional process and remediate performance and, subsequently, provide behaviorally-based timing prescriptions at both the individual and group levels.

The second issue, at the general level, is that goals, as they have been defined here, complement the ISD methodology. In this methodology during the design phase terminal and enabling objectives are set. These are global in nature even though conditions and standards are outlined. The type of goals and their characteristics that we are discussing provide instructional enhancement to team training systems. As goals are set by team members (given the instructional objectives) these can be used for strategy development and execution. That is, team members, through goal setting during the formative stage, could develop the event-by-event activity needed for successful performance. Once these strategies are defined, they can serve to refine, validate, or change the instructional objectives. In the Davis et al. (1985) approach, these could emerge in the second phase (phase one would provide the instructional objectives) and help through phase four evaluation.

As stated before, empirical work in the area of team training and performance using goal setting as an instructional intervention should provide specific guidance and should assess for their utility, relevance, and validity. This is an area that the military training community should investigate on a wider scale.

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SUMMARY AND CONCLUSION

Consideration of performance goals in the context of groups introduces a level of complexity that is not present when such goals are addressed only with individuals working alone or at least under conditions where the interpersonal context is ignored. For example, the complexity arises immediately with the expansion of the frame-of-reference for the goals. For individuals working alone, the reference is that individual's performance; in a group, it is the individual group member's performance and/or the performance of the total group or some subset of it.

Regardless of the level of complexity, it has been argued that performance goals can be addressed from the standpoint of the functions that they serve for members of the group and the group as a whole. These functions were classified into those that were performance related and those that affected social-emotional types of outcomes. In group settings, the critical issues involve addressing the extent to which group goals in the (a) modify well documented findings related to the impact of individual goals on individual performance and affective/motivational outcomes when individuals work alone rather than in groups, (b) influence individuals in ways that were not previously considered in the individual goal literature, and (c) operate to affect group level performance and motivational outcomes. In the paragraphs that follow, we shall draw conclusions about the contributions as well as the shortcomings of the literature just reviewed with respect to each of the three areas just described.

MODIFICATIONS OF INDIVIDUAL LEVEL CONCLUSIONS

At the individual level, the most well documented conclusion is that; if there is some necessary level of commitment to goals, and if feedback exists for the performer to evaluate his or her performance, then goals that are relatively specific and difficult but not impossible will impact positively on performance. The major qualifier of this generalization involves the task. In particular, the above conditions hold across tasks except when the tasks are quite complex. In the latter case, there is evidence that difficult goals may interfere with the individual's ability to develop effective strategies for working on the task (Shapiro, 1986).

In large part, there is little evidence from the group performance literature to decrease our confidence in the above generalization about the effects of goal commitment, specificity, difficulty, and task complexity. There is indirect evidence to suggest that group goal setting may provide contexts that strengthen effects found at the individual level. In this regard, is the finding that individuals working alone who participate in setting goals set higher goals than those not allowed to participate when

rewards are not tied directly to goal accomplishment (Yukl & Latham, 1978). At the group level, if the participation is public (observed by others in the group) and if there is a norm for high performance, it is likely that the participation effect may be even stronger in groups than with individuals working alone.

Another way in which group settings may strengthen individual level effects is in the area of commitment. We know from the early work of the field theorists that public commitment to a position increases the likelihood of change (Lewin, 1951). Therefore, it is likely that commitment to goals may be higher when these goals are expressed publicly in groups. This is especially true if there is group level approval of the goals and if the individual desires to be accepted by the group.

Finally, groups provide and expanded base for performance feedback. It is well documented that performance feedback is a necessary condition for goals to impact on performance (Locke et al., 1981). In group settings, talking to peers and observing others are just two of the ways in which individuals can obtain feedback about the effectiveness of their own behavior or can make inferences about the possible effectiveness of some courses of action. The group setting simply increases the pool of possible sources for such feedback over-and-above the sources normally available if the person does not work in a group.

The conditions mentioned above are just a few of the possible factors in groups that affect the standard goal setting processes at the individual level. The important issue at this point is not that the most basic goal findings are likely to transfer to groups, but that there appears to be a great deal of potential for exploring group-related constructs that strengthen the basic goal setting processes already discovered. More thoroughly delineated theoretical and empirical work in the future should, systematically address the development of goal commitment and feedback in group settings. It should be expected that these group-related variables will expand the sources for commitment and feedback rather than alter the nature of the process links between commitment and feedback in the functions of goals that have already been observed with individuals working alone.

EFFECTS UNIQUE IN GROUPS

Three effects of goals in group settings were reported that were not simply elaborations of findings from the individual goal literature. The first of these was the incremental effect of a group goal on individual performance over-and-above the effect of an individual goal. Matsui, Imaizumi, Onglatco, and Kakuyama (1987) found that individuals who had both individual and group goals performed better than those with only individual goals. Their

interesting explanation for this was that people in a group may perceive their personal goals as ways to accomplish the group goal. Therefore, when they do accomplish their individual goals and yet realize that the group has not yet met its goal, they continue to perform in order to reach the group goal. In contrast, people working alone with only individual goals cease work or at least decrease effort expenditure when they have met their personal goal.

A second group level effect observed in the literature was the tendency of groups that failed to reach a group goal to put forth a great deal of effort to attribute the failure to external sources (Zander et al., 1969; Zander & Medow, 1963). Such a practice has both positive and negative implications. On the positive side, groups may be able to buffer the negative effects of failure more so than would be the case with individual goals. This relative level of effect is an empirical question. On the negative side, to the extent that individuals learn to correct their behavior on the basis of negative feedback, this correcting tendency may be lessened in groups.

Finally, groups are not undifferentiated collections of individuals but clusters of persons ordered on the basis of roles. Zander et al. (1969) looked at one basis for order, the degree to which a person was or was not central to the group's functioning. The greater the degree of centrality, the more the individual felt responsible for group success and failure and the greater was the affective impact on the person of the team's success or failure.

GROUP GOALS

For the two topic areas just discussed groups were treated as environments in which individuals interacted and performed tasks. Another way to address groups and goals is to remain at the group level of analysis. Some of the research discussed did this, and several interesting findings were observed. Matsui and his colleagues (Matsui, Imaizumi, Onglatco, & Kakuyama, 1987; Matsui, Kakuyama, & Onglatco, 1987) found that the difficulty level of the group goal when members set that goal was higher than would have been predicted simply from the combination of all of the individual goals. Apparently, some process led people to set goals at a higher level than could be accomplished if each of the individuals accomplished his or her own subgoal. Although we find this interesting, we also find it unfortunate that the study offers little basis for understanding why this should occur. Perhaps, this may have been due to the public nature of group goal setting and the need felt to be supportive of high effort in the group's behalf.

A second group level phenomenon often reported is that responses to failure in groups tend to be opposite to those usually found with individuals. In particular, after failure, groups often raise their

goal for subsequent trials, whereas individuals lower theirs. This finding was observed by Zander et al. (1969) in United Fund teams. After failing to meet a funding goal, community United Fund Drive teams often raised their goal for the following year rather than lower it.

Although this finding is different from that usually found at the individual level, caution should be exercised in generalizing from United Fund teams to other groups. The fund raising teams have goals that are very visible to outside persons, and may be responding to implicit theories of fund raising rather than to performance goal demands in the typical fashion. Replication with other types of groups is needed.

Within group constructs of social loafing and free-riding were introduced in this report as events occurring in groups that might be affected by goals. It was reported that, for disjunctive tasks in which each individual is responsible for a specific subtask and others are made aware of each person's assignment, less free-riding occurred. It was speculated that goals also may make free-riding and social loafing less likely. This remains to be demonstrated.

Taking the group goal setting literature as a whole, two characteristics stand out. First of all, it provides a demonstration that goal phenomena in groups impact on important individual and group variables that can be roughly classified as performance related and social-emotional in character. These variables have long been considered important for effective functioning of both individuals and groups.

Second, one is struck by the fact that a review of this literature provides little more than a demonstration that individual and group goals present in group settings can influence variables of interest. Lacking is a systematic series of studies or an overarching model for looking at goals in team settings. The findings that do exist are interesting but isolated; they do not hang together into a comfortable, recognizable whole. The research offered little in terms of a general model from which to operate. The review helped some, but only went part way. The presentation was assuring around a progressive advancement from what is currently accepted "fact" about the nature and impact of goals at the individual level, through possible modifications of that view, to group level characteristics. This organization helped to put the current group literature in perspective with the individual one. However, what is now needed is some guide for future research. Quite frankly, no tight system emerges from the literature. However, in the section that follows, a very general roadmap is offering in which the details remain to be added at some later date when more research based on data systematically collected will be available.

Before turning to the conclusion, it should be pointed out that, although the research provides a very incomplete picture of the way in which goals function in groups, at the same time, there is a great deal of support for the fact that such goals do serve very valuable performance related and social-emotional functions. As a result, it is not at all premature to address ways of training and developing groups to set and use individual and team goals in spite of the fact that our understanding of the process has some major gaps. Clearly, goals are beneficial in many respects. Therefore, at this point it would be very beneficial to explore ways to implement goals in teams.

Figure 3 provides a framework for exploring the effects of goals on individual and team effectiveness as defined by performance and social-emotional variables. As diagramed, the interaction of the task and social systems will play a major role in determining the nature of individual and group goals. These goals, once set, will possess a certain degree of compatibility represented by the overlap of the two goal systems. Compatibility represents the extent to which the goals of individuals can be accomplished in conjunction with the goals of the group. It does not mean that the goals of each have to be identical or even have to be in the same units of measurement. Additionally, the goals are seen as impacting on group member effectiveness, and, through member effectiveness, on the performance of the group. No direct arrows go from goals to the group because it is assumed that only the members of the team can accomplish the group's objectives. This is not to say that the team's effectiveness is limited entirely to the sum of each individual's outcome. The latter can be affected by such things as technology and the coordination among team members that is not easily captured by looking only at each individual.

The two ovals, or filters, representing group process effects indicate that variables other than goals impact on individual and team effectiveness. They are dotted not to indicate that these effects are small or unimportant. They are this way because goals are the central concern; it is the variance in effectiveness at the individual and team level due to goals that should be explored and thus, have emphasized.

The model of Figure 3 is by necessity sketchy. Yet, it identifies a set of conditions that are. The ones with which an investigation of goal effects should begin. In particular, it suggests that the nature of the goals, themselves and, at the compatibility between individual and group goals should be explored. The literature reviewed here is a start at untangling some of the relationships along the paths of Figure 3. Additional data will fill in more of the detail.

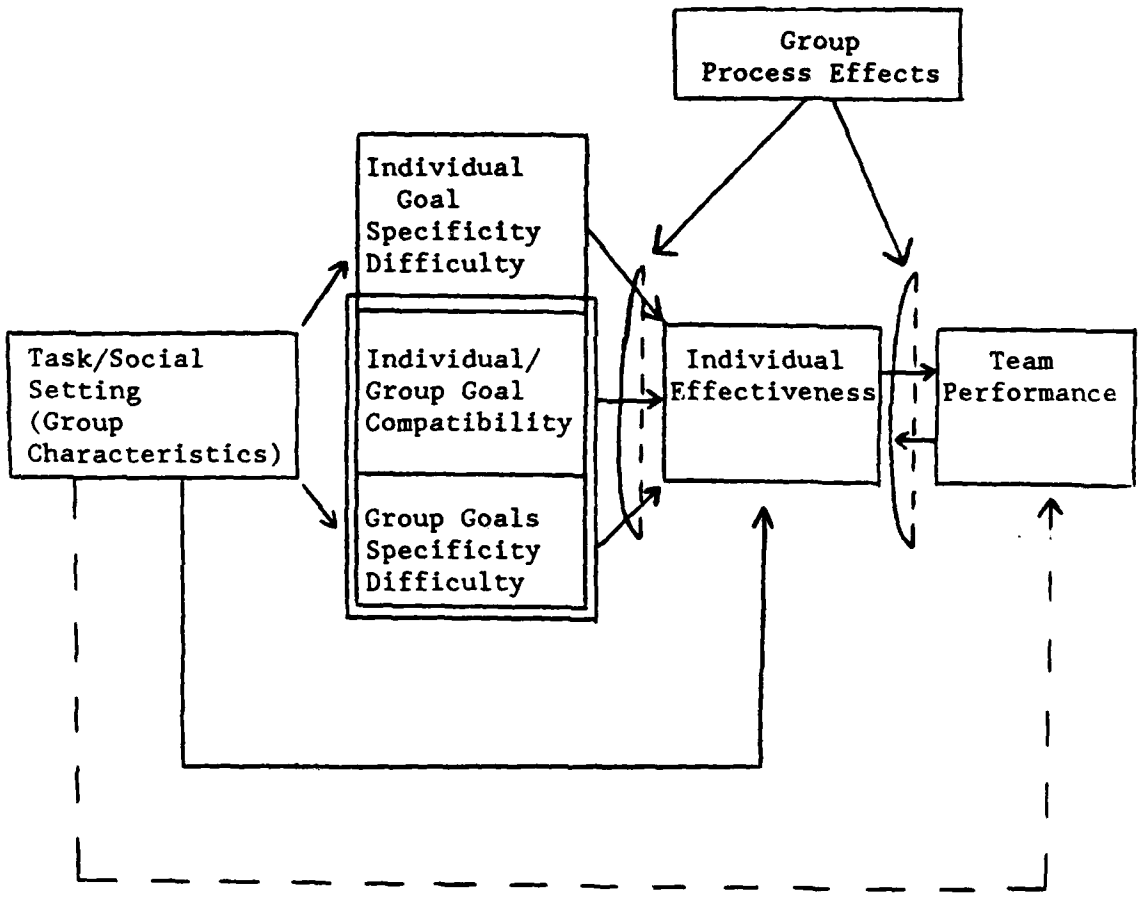

Figure 3. A Framework for Integrating the Effects of Goals on Team Performance.

The role of goal setting in training also needs to be more closely examined. Group level goal setting can contribute to team training, primarily, by helping instructors and trainees to focus on activities that enhance teamwork skills and to develop and execute strategy. Some recent research provides background and ideas as to the more specific role of goal setting in training. Morgan et al. (1986) described a developmental model of team training. Part of the model proposes that teams develop operational and generic skills during the course of training. Team training can benefit from goal setting if the goals are used, at the team level, to focus on development of these skills. Additionally, research by Davis et al. (1985) suggested a generalized systems approach to team skills training. Incorporated in this model is a phase of training where global objectives are determined. Goal setting can be used in team training to develop strategy and to facilitate feedback.

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