The Ideal Participative State: A Prelude to Work Group Effectiveness

Brett M. Wright, University of Western Australia
James R. Barker, US Air Force Academy
John L. Cordery, University of Western Australia
Brian E. Maue, US Air Force Academy

In the present paper, we describe the ideal participative state in the context of a process-orientated model of work group effectiveness and argue that the ideal participative state functions as a primary antecedent of, or precursor to, work group effectiveness. We explore the five constitutive dimensions of the ideal participative state and explain how our model fits within current input-process-output models of work group effectiveness. Finally, we outline the future research implications of our model and describe the practical implications of framing group process in terms of an ideal participative state.

The last decade has witnessed nothing short of an explosion in our use of work teams as we have struggled to cope with increasingly dynamic, global, technological, and competitive work environments. These days we generally consider teams and group work to be an effective response to the fluid environments that mark contemporary work life, a point clearly evident in the work of Lawler and his colleagues who in 1993 (Lawler, Mohrman, & Ledford, 1995) found that 68% of U.S. companies used self-managing teams compared with 47% in 1990 (Lawler, Mohrman, & Ledford, 1992) and 28% in 1987 (Lawler, Ledford, & Mohrman, 1989). But for every team and work group success story, we also find accounts in which team interventions did not work out so well, such as King's (1998) description of Levi Strauss's difficulty in making teams work for them. Clearly we need work groups, but just how do we make them "work" effectively? We have pursued that question since management scholars first began studying groups and teams.

Recently, scholarly studies of teams and work group effectiveness have been moving from the analysis of the structural characteristics of groups more toward the consideration of the cognitive and interpersonal dynamics of team design (e.g., Edmondson, 1999). We are now seeing more and more process models of teamwork that seek to account for both the task effectiveness and social requirements of worker participation (Barker, 1999). This move is indicative of our need to understand the "environment" of group work in organizations. Such an environment accounts for both the task structuring of teams and the social context in which the team members interact together. Such an environment must be conducive for teams to be effective in doing what ever they need to do, and must reflect the conditions that unleash the "positive" potential of teamwork. In other words, that environment must represent an ideal state in which participation can occur.

Our desire in the present paper is to articulate a beginning model of "the ideal participative state." From our perspective a model of the "ideal state" for participation will help us to integrate better task and social attributes among teams and to understand better how the "state" within which participative work occurs will function as a "prelude" for team effectiveness. That is, we will argue that through the creation of an ideal participative state, we can create the necessary conditions a team needs to do well at whatever it is that particular team does.

A PROCESS ORIENTATION TOWARD WORK GROUP EFFECTIVENESS

The use of groups and teams to achieve work outcomes has been long standing. In organizational contexts, we commonly define groups as consisting "of two or more people interacting (i.e., responding to or having the capacity to influence each other's behavior) for the purpose of accomplishing some goal" (Herold, 1980, p. 96). Such a definition is extremely broad and encompasses the various forms of work groups in organizations, which include project teams, autonomous, or self-managing work groups and quality circles.

A common method for describing organizational group work is the transformation of "some inputs (raw materials, ideas, concepts or objects) into an identifiable group product (an object, a decision, a report, or some detectable environmental change)" (Herold, 1980, p. 96). Goodman (1986) provided a more concise definition of groups in organizations, which he identified by three attributes: (1) they must function within an organization, that is, within an organizational context; (2) they must produce something; and finally (3) there must be some degree of interdependence between members.

The prevalence of group or team-based work in organizations has been steadily increasing as management has identified work groups and teams as an effective mechanism to address the increasingly dynamic nature of competitive markets and the unceasing growth of knowledge work. Evidence supporting this trend is evident from the periodic surveys of Lawler and colleagues (Lawler et al., 1995), Osterman (1994, 2000), as well as a survey by McDonough (2000) suggesting that 97% of firms are using cross-functional teams as for the key strategic decisions of creating new products. Today's use of, and powerful trend towards more group or team based-work creates a need to develop a greater understanding of the factors that determine their effectiveness and of the mechanisms underlying their operation.

Group Process and Effectiveness Models

An early significant influence on our thinking about both group effectiveness and the fluid character of group work was McGrath's systems-based thinking about groups (McGrath, 1964). In this work, McGrath developed an input-process-output orientation for the study of group effectiveness in which the input "variables are manifested in the group interaction process" (McGrath, 1964, p. 113). McGrath's influence has dominated many of our recent models of work group effectiveness (e.g., Steiner, 1972; Herold, 1980; Gladstein, 1984; Hackman, 1987; Sundstrom, De Meuse, & Futrell, 1990; Tannenbaum, Beard, & Salas, 1992). The high level structures of these models follow, in general terms, the input-process-output framework.

The input, process and output components of these models show marked similarities. Individual characteristics, group characteristics, and organizational context serve as inputs in most models. Further, group interaction is associated with process, and effectiveness varies from narrow definitions of group task effectiveness (Shea & Guzzo, 1984) to broader more encompassing definitions including satisfaction and longevity of the group (Hackman, 1987). In essence, the differences in the models tend to be subtle rather than marked.

If we sharpen our analysis to the core of the input-process-output relationship, process, we find that this body of research explicitly acknowledges that process has a key role to play in determining effectiveness in work groups. Group process occurs in the "group interaction processes" in groups or teams, or "the intragroup and intergroup actions that transform resources into a product (Gladstein, 1984, p. 500). "Process" incorporates aspects such as communication, co-ordination, and commitment within the work group. Hackman (1987) identified the interaction process in work groups as critical to effectiveness by:

- minimizing social loafing and instead promoting a shared commitment among members to the work group and its work;
- avoiding inappropriate weighting of members' contributions and instead fostering sharing of expertise and collective learning;
- minimizing slippage when performance plans are executed and instead prompting creative new ideas about ways to proceed with the work;
- developing and enforcing group norms that support explicit assessment of the performance situation and active consideration of alternative ways of proceeding with the work.

Further support for the relationship between process variables and effectiveness dimensions extends from studies of problems occurring during group interaction such as groupthink (Manz & Sims, 1982) and social loafing (Karau & Williams, 1993), which depict these factors as being detrimental to work group effectiveness. In contrast, co-operation, information exchange, and similar attributes (Burningham & West, 1995) facilitate work group effectiveness. Similarly, Pearce and Ravlin (1987, p. 772) identify group process as important in self-managing team effectiveness.

Problems in Modeling Group Process and Effectiveness

Despite the clarity on the inclusion of group process as a key intermediate variable, its relationship with other variables remains an area of inconsistency. The models discussed above tend to vary from group interaction as mediating the entire input-output relationship (Herold, 1980; Kolodny & Kiggundu, 1980; Shea & Guzzo, 1984), to mediating some of the effect of the inputs (Hackman & Morris, 1975; Gladstein, 1984; Tannenbaum et al., 1992). Some models show inputs directly impacting on outputs and some have "process" performing a form of moderating role (Hackman, 1987) in which group interaction tunes the impact of the inputs. Empirical support for these various propositions is also not clear. A set of correlational studies by Campion, Medsker, and Higgs (1993), Campion, Papper, and Medsker (1996) and Wanous, Reichers, Cooper, and Rao (1994) demonstrated a relationship between process and effectiveness. A study by Saavedra, Earley, and Van Dyne (1993)

provided some support for elements of process partially mediating the effects of inputs on performance. Thus, despite support for the inclusion of process in models of work group effectiveness, the character of process's role remains unresolved as does a full understanding of the relationship between inputs and outputs.

Compounding this lack of clarity of the role of process is the corresponding lack of clarity in defining process in these models. "Process" varies across the models, with some scholars providing explicit descriptions of the components of process, such as McGrath (1964), Gladstein (1984), and Tannenbaum et al. (1992). In contrast, other models keep to general descriptions such as defining "task related interaction" as behaviors and exchanges between group members in task accomplishment (Shea & Guzzo, 1984), and as the group interacting in ways to create synergy gains or reduce process losses (Hackman, 1987).

Goodman and colleagues (Goodman, Ravlin, & Argote, 1986; Goodman, 1986; Goodman, Ravlin, & Schminke, 1987) described the prevailing limitations of these process models and called for more "finer-grained models" of group process and interaction. These authors viewed the heuristic level at which current models reside as an impediment to extending our understanding of groups. They argued that the ability to discern specific relationships among group interaction is difficult, as too is the ability to test the models.

A more finer-grained approach would offer a number of advantages for our thinking about process and effectiveness by enabling an understanding of relationships between variables that is not available at the heuristic level, thus forcing a sharper specification of model constructs and providing more "testable" models. Such a perspective supports the development of more specific theoretical models to provide insight into the relationship between a smaller number of well-defined variables, within the framework of the broader heuristic models.

To address the heuristic character of process in existing models of work group effectiveness, we propose a more specific description of the process component in models of work group effectiveness. We believe our following model satisfies the call for a finer-grained approach, while addressing a range of important new variables such as concertive control (Barker, 1993, 1999; Tompkins & Cheney, 1985), transactive memory (Klimoski & Mohammed, 1994), and intimacy (Horvath & Van Diest, 1998), which have not been incorporated in the more normative current models of work group effectiveness.

A PROCESS ORIENTED MODEL OF WORK GROUP EFFECTIVNESS

Figure 1 presents a model of work group effectiveness focused on process. In this model we represent the process as composed of three elements. The first element set comes from the individuals involved with the process and their unique knowledge, skills, and personalities. A recent study by Mount, Witt, and Barrick (2000) reaffirmed as well as expanded the view that an individual's General Mental Ability (GMA), skills (as measured by biodata), and personality (as measured by the Five Factor model) are valid predictors of an individual's performance. Recent research has also confirmed the importance of the composition of individual personalities within a team in determining team effectiveness (Barrick, Stewart,

Neubert, & Mount, 1998; Neuman, Wagner, & Christiansen, 1999; Neuman & Wright, 1999).

These individual components then combine and form a second element set of the group's effectiveness—its interactions. This factor represents the traditional interactions of a work group through its communication, coordination, and conflict processes. These interactions will occur in a situational context which results from this group interaction. This state of interaction will occur in what we term the *ideal participative state*. Before proceeding, we shall further clarify our use of "ideal" and our use of "state."

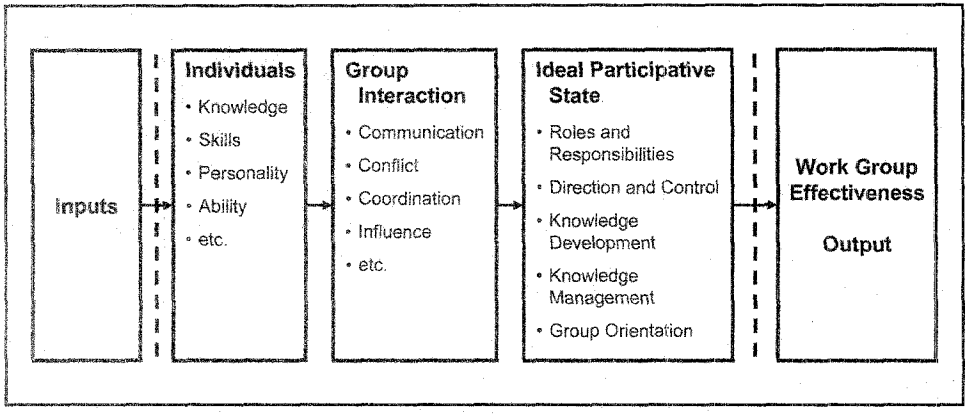

Figure 1. A Process Orientated Model of Work Group Effectiveness

Process, Effectiveness, and an Ideal State

Recalling our introduction above, our concern is for the environment in which groups and teamwork takes place. If we can model the ideal conditions for such an environment, the right conditions that teams need to excel, we can better understand the link between process and effectiveness. From our perspective, the term "state" enables us to depict the fluid environment in which "process" occurs. Participation happens in a state, a state that is not fixed, but instead highly dynamic.

The *ideal participative state* is one in which the right conditions exist for effective teamwork to take place. Perhaps a weather analogy would be useful, too, in understanding our use of the term ideal. In weather forecasting, meteorologists issue weather warnings whenever the "ideal" state exists for severe weather to develop. A severe storm might not develop, *but the necessary potential exists*. Similarly, we need to know what forms the "ideal" state for effective teamwork to develop. We need to know how to create a state in which *teams have the ideal potential to participate together effectively*. As a side note, we should add that our inspiration for using the term "ideal" comes from the work of Charles Redding (1972) who argued that managers should create an "ideal managerial climate" as a means of reaching their own utmost effectiveness.

We contend that the character of an ideal participative state will determine whether what Steiner (1972) and Hackman (1987) have termed "process losses" (negative synergy) or process gains (positive synergy) will occur in the group or team. The effectiveness of the work group is a consequence of whether the ideal participative state creates process gains or losses. The relationship between the ideal participative state and work group effectiveness therefore forms the first proposition from our model.

> ***Proposition 1:*** *The ideal participative state will be positively related to work group effectiveness.*

The process component in traditional input-process-output models of work group effectiveness implies that high or low levels of process, what we term group interaction in our model, will result in high or low levels of work group effectiveness. Clearly, the quantum of group interaction is not the sole determinant of group effectiveness. High levels of group interaction can produce both positive and negative consequences. For example, we would expect that high levels of group interaction in terms of, say, coordination in achieving task completion, would relate to higher task effectiveness. However, higher levels of interaction as a consequence of work group conflict would result in a reduction in task effectiveness. Therefore we are theorizing that the state created by group interaction, not the quantum, serves as the determinant of, or as we call it, the *prelude* to work group effectiveness.

The Explanatory Power of an Intermediate Output

Support for an intermediate output between the process-output components in traditional models is evident in a number of existing models of work group effectiveness. Hackman (1987) viewed group synergy as a potential product of the group interaction process. Even in McGrath's (1964) original model, aspects such as norms and role pattern changes, which we would theorize to be components of an ideal participative state, were proposed as outcomes of group process impacting on group members and task performance. Tannnenbaum et al.'s (1992) model also supports our conceptualization of an intermediate output state reflecting group and individual changes as a product of group processes. Similarly Shea and Guzzo (1984), in their model of task group effectiveness, depict the variable potency, which we would contend occurs in an ideal participative state, as a product of task-related interaction.

We also contend that our concept of an ideal participative state has the potential to explain inconsistencies in empirical research on the dimensions of work group effectiveness. An examination of the effects on performance, attitudes, and behaviors of self-managing teams illustrates these inconsistencies. In general, we can conclude that self-managing teams have a modest direct impact on performance (Goodman, Devadas, & Hughson, 1988), and a recent meta-analysis by Wagner (1994) also supported a small relationship between participation and performance. Such a modest impact is, however, troublesome, as the theory underlying self-managing teams suggests that performance is one of the major benefits of implementing this form of work organization (Wall & Jackson, 1995). Studies by Kemp, Wall, Clegg, and Cordery (1983); Wall, Kemp, Jackson, and Clegg (1986); Cordery, Mueller, and Smith (1991); and Cohen and Ledford (1994) support positive effects for job satisfaction, while these studies variously find no motivation, trust, or mental health effects. Other studies fail to support the predicted impact of self-managing teams on behaviors such as absenteeism

and turnover (Wall et al., 1986; Cordery et al., 1991; Cohen & Ledford, 1994; Cohen, Ledford, & Spreitzer, 1996). Cohen and Bailey's (1997) review of the research on work teams concludes that the relationship of "participation to behavioral outcomes is mixed" (p. 249).

The net result of the above analysis indicates that empirical evidence supporting the impact of self-managing teams on effectiveness is equivocal (Wall & Jackson, 1995). The character of the ideal participative state has the potential to explain these inconsistencies. As Wall and Martin (1987, p.75) noted, we find in existing job design theory a "concentration on a very narrow range of dependent variables." The same situation exists in work group psychology, in which we find a concentration on performance, attitudes, and behaviors rather than a focus on the broader range of intermediate effectiveness dimensions that work groups are likely to impact. Such potential dependent variables include the development of group norms and changes in role patterns, skill and knowledge development (McGrath, 1964; Tannenbaum et al., 1992). Skill and knowledge development in particular offer a potential new set of dependent variables in jobs with high discretion or control like self-managing teams that encourage cross-skilling. In such environments, we see an opportunity to develop and acquire additional skills and greater knowledge of the production system.

Thus, in our model, the components of the ideal participative state represent an intermediate output state in a similar fashion to Hackman's (1987) process criteria of effectiveness. The ideal participative state represents the environment that the work group must create to be effective. Consequently, we propose that if we are to understand and optimize work group effectiveness, then an understanding of the ideal participative state and its determinants presents researchers and practitioners alike with an action lever that can assist in work group optimization.

In Table 1, we depict the ideal participative state as consisting of five dimensions: roles and responsibilities; direction and control; group context; knowledge management; and group orientation.

THE IDEAL PARTICIPATIVE STATE

Roles and Responsibilities

Critical to group effectiveness in the increasingly complex, changing, and uncertain work environments encountered by today's groups and teams is the adaptability and flexibility of group members both in the roles they perform and in group leadership. In self-managing team environments, team members have broad overlapping sets of skills (Cordery, 1996) enabling the performance of a variety of jobs or tasks (Kelly, 1978). The skill composition in the team may vary, but in general we see a degree of skill overlap that facilitates flexibility in the team when dealing with the interdependence and uncertainties of the task conditions. Skill overlap, or multiskilling, also provides job variety to team members in enabling them to perform a number of tasks or jobs within the team.

In a similar manner, the sharing of responsibility and leadership within the team is essential. If work groups are to take on responsibilities and achieve results, they must have internal structure (Jessup, 1990) with leadership assigned throughout the work group. This sharing

of leadership and responsibility reduces the workload on any one individual and enables specialized and focused leadership by group members in areas of expertise.

TABLE 1
Dimensions and Components of the Ideal Participative State

Dimension	Components
Roles and Responsibilities	Sharing of responsibility/leadership Member's roles are adaptable and flexible.
Direction and Control	Goals and objectives Concertive Control Group Discipline
Group Context	Mentoring/Support for other members Risk accepting team environment Safety Openness to Sharing Trust Potency Intimacy Cohesiveness
Knowledge Management	Informal transactive memory system Formal transactive memory system Shared Mental Models
Group Orientation	Reflexivity/Constructive controversy Willingness to take risks/experiment Support for innovation Proactive/anticipatory orientation

Thus we would propose our second proposition.

> ***Proposition 2:*** *Work groups whose members share responsibility and leadership, and are adaptable and flexible in task execution, will have higher levels of effectiveness.*

Direction and Control

The importance of clear and challenging goals to task performance has been well established (Locke, Shaw, Saari, & Latham, 1981). Similarly from a group innovation perspective (West, 1990), clarity of vision or goals will provide the group with a framework within which to develop new ideas or innovations to enhance effectiveness.

However, to be effective, groups must be disciplined in striving to meet their goals. In participative environments, Barker (1993, 1999) contended that workers will develop a powerful sense of functional self-control from their own values, norms, and rules for doing good work in the work group, a practice called concertive control (Tompkins & Cheney, 1985).

The positive consequences of the appropriate level of concertive control in a work group are role clarity and guidance for the group members, and increased discipline within the group (Hodson, Welsh, Rieble, Jamison, & Creighton, 1993) in undertaking the group task. A concertive control system will also assist team or group in the achievement of their goals and objectives by directing "the purposive action of teams to achieve organizational objectives" (Sewell, 1998, p.410).

> ***Proposition 3:*** *Work groups with clear goals and objectives and that have systems of control to maintain discipline in achieving those goals and objectives will have higher levels of effectiveness.*

Group Context

Group context refers to the group environment created through the group interaction processes of communication, co-ordination, and so forth. We would expect that a positive environment characterized by openness among group members in the exchange of information and ideas would facilitate group functioning and task execution and, hence, effectiveness. Such an environment is akin to a dimension that West (1990) termed participative safety. This refers to the creation of an environment that is supportive of individuals and their contributions. In such an environment, group members feel "safe" in participating in the group without sanction or ridicule, thus increasing the willingness of members to propose new ideas and encouraging risk taking. Relational trust within the work group would also affect the quality and quantity of information exchange and would be associated with an open work group environment. Although the empirical evidence substantiating the importance of trust is not abundant, McCauley and Kuhnert (1992) summarized multiple studies suggesting that trust is a prerequisite to group effectiveness, problem solving, loyalty, managerial and leadership effectiveness, effective organizational processes, and organizational effectiveness in general. Also as Mayer, Davis, and Schoorman (1995) have stated, the need for trust is a consequence of risk. Within the ideal participative state, we would expect that group members would be predisposed to be supportive of one another and that we would observe mentoring within the work group.

Other components of the group context that impact on work group effectiveness are potency, cohesiveness, and intimacy. Potency is a collective belief of a group's potential effectiveness (Guzzo, Yost, Campbell, & Shea, 1993). Campion et al. (1993) demonstrated the importance of potency to group effectiveness when they argued that potency was the only group process measure that significantly correlated productivity, employee satisfaction, and manager judgments of effectiveness. Similar confirmation was found in a replication study (Campion et al., 1996).

We view cohesiveness as a multidimensional construct consisting of interpersonal attraction, commitment to the task, and group pride (Mullen & Cooper, 1994). Confirmation of the positive relationship between cohesion and group performance (Cohen & Bailey, 1997) is found in a number of recent meta-analyses (Evans & Dion, 1991; Mullen & Cooper, 1994; Gully, Devine, & Whitney, 1995; Mullen, Anthony, Salas, & Driskell, 1993). Recently a related but distinct concept, group intimacy has been proposed as impacting on group effectiveness. Horvath and Van Diest (1998, p. 13) argued that "self-knowledge and

knowledge of others is the typical performance outcome associated with group intimacy." This description posits that group intimacy may impact on the knowledge management dimension of the ideal participative state outlined below, although Hollingshead (1998, p. 20) recently discounted "intimacy as a possible explanation for transactive memory effects."

Thus the development of an appropriate group context forms the next proposition.

> ***Proposition 4:*** *Work groups who develop a sharing and supportive environment promoting openness and trust will have higher levels of effectiveness.*

Knowledge Management

A critical requirement for current and on-going work group effectiveness is the maintenance of a system for knowledge acquisition and storage, which the group can readily access to guide or influence task execution. This process is essential to maximize productivity.

Knowledge management can take the form of both formal and informal structures. Formal structures such as work plans, business plans, standard operating procedures, and individual and group performance management systems capture knowledge for the group. The transactive memory literature views such structures as formal forms of transactive memory.

Informal knowledge management structures include concepts such as cognitively based informal transactive memory systems. At the level of the work group, informal transactive memory refers to the shared memory of the group members. As a consequence of the group interaction process, individual members retain responsibility for encoding, storage, and retrieval of specific information relevant to the group task, with the group members being aware of who knows what (Wegner, 1986, 1995). Thus, groups tend to reflect a specialization or division of labor in which individual group members take responsibility based on their role within the group, knowledge, skills or other attributes, and group members know who has that knowledge if they need access to it. Although we may see some overlap in knowledge among group members, a transactive memory system allows the group, as an entity, the ability to store and recall knowledge and experiences more accurately and efficiently (Wegner, 1986; Hollingshead, 1998). Consequently, such an ability leads to increased effectiveness as the group has access to a larger source of more appropriate knowledge that is available faster, which enables the group to make more appropriate decisions with respect to task execution with significantly reduced cycle time.

A further aspect of knowledge management that can benefit group effectiveness relates to shared mental models of the group members. Bettenhausen (1991), in a review of group research, noted that "shared understandings of what information is important and what responses are appropriate" (p. 350) is an essential group process. Mental models are used to interpret information to guide appropriate responses (Cannon-Bowers & Salas, 1990; Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000). Further, as Cannon-Bowers, Salas, and Converse (1993) have proposed, if group members have shared or congruent mental models, process losses will be minimized, as the understanding of the situation and the appropriate action will be shared among the group members. Thus the presence of shared mental models should result in the group requiring less interaction or deployment of resources to reach consensus on the appropriate action to be taken.

The presence of formal and cognitive mechanisms within the group to assist in knowledge management can therefore facilitate group effectiveness.

> ***Proposition 5:*** *Work groups who have systems to manage group knowledge, whether formal or informal, will have higher levels of effectiveness.*

Group Orientation

The work group's orientation to decision making, solving and preventing problems, and instituting improvements significantly influences effectiveness. One such aspect of group orientation that impacts group effectiveness is group task reflexivity. West (1996, p. 559) defined group task reflexivity "as the extent to which group members overtly reflect upon the group's objectives, strategies and processes, and adapt them to current or anticipated endogenous or environmental circumstances." West's definition is similar to that of constructive controversy, described by Tjosvold (1990) as the extent of the exploration of opposing views within the group. Thus, we would expect groups that exhibit high levels of group task reflexivity to be more effective as they would "have a more comprehensive and penetrating intellectual representation of their work, a longer timeframe, a larger inventory of environmental cues to which they respond, a better knowledge and anticipation of errors and a more active orientation toward their work" (West, 1996, p. 561). West's (1996) propositions viewed group task reflexivity as directly affecting group task effectiveness, and indirectly, group member well being.

Another aspect of task orientation within the group, support for innovation, is a component of West's (1990) theory of innovation in groups and refers to verbal and active support for innovation within the group. We would expect norms that are supportive of innovation to result in the generation of a higher quality and quantity of ideas to improve performance. If the group is willing to take risks and experiment with these innovations then it will enhance the probability of innovations.

In addition to norms supporting innovation, a proactive or anticipatory orientation within the group should improve performance. Wall and Jackson (1995) have proposed that the mechanisms underlying such an effect are knowledge based, and that the provision of job control at the workface "provides a learning environment which improves employees' predictive knowledge and empowers them to take advantage of that gain" (Wall & Jackson, 1995, p. 188). A study by Wall, Jackson, and Davids (1992) provided empirical support for such an "anticipatory" affect on performance, finding reduced downtime per fault and reduced number of faults in a complex robotics line.

> ***Proposition 6:*** *Work groups who have a proactive and innovative orientation will have higher levels of effectiveness.*

Some Delimitations of the Model

In attempting to describe the relationship between group process, and the existence of an ideal participative state, we have chosen to focus on establishing the primary mediating role for the processes that that state represents. However, we would also recognize the fact that a range of contextual factors will impact on the relationships depicted in Figure 1. A detailed

discussion of such potential moderators is seen as being outside the scope of this particular paper. However, they are likely to include task, organizational and temporal factors. For example, studies by Saavedra et al. (1993) and Campion et al. (1993) support the notion that task interdependence is a condition that enhances perceived strategy effectiveness and minimizes interpersonal conflict in work groups, leading to enhanced productivity. As group tasks with high levels of interdependence would by necessity require group members to work together to be effective, interdependence would be expected to moderate the development of all dimensions of the ideal participative state. The degree to which tasks are complex or uncertain could also be expected to have an impact on the development of the ideal participative state. In such situations, group effectiveness "depends, to a great extent, on the abilities of a team of individuals to coordinate action, integrate information and resources, and adapt to changing task demands" (Rouse, Cannon-Bowers, & Salas, 1992, p. 1296).

Organizational factors have also long been recognized in models of work group effectiveness (e.g., Sundstrom et al., 1990; Tannenbaum et al., 1992; Cohen & Bailey, 1997). These models all capture factors such as a support network in the broader organization available to provide support to the group in terms of information and resources, supportive training and development policies, and an organizational climate that supports experimentation and risk taking. Each of these factors has the potential to influence group process and the development of the ideal participative state.

Finally, temporal effects in models of work group effectiveness have tended to be ignored (Goodman, Ancona, Lawrence, & Tushman, 2001).

However, we would expect that group members' experiences working together over time would affect the development of dimensions of the ideal participative state. For example, we would expect that aspects of group context such as trust and potency, and the development of transactive memory and shared mental models would develop within the group over time (Mathieu et al., 2000; Marks, Mathieu, & Zaccaro, 2001).

IMPLICATIONS AND CONCLUSIONS

In the present paper, we have argued that the ideal participative state offers a more fine-grained approach to assist in our understanding of how group process determines work group effectiveness. In doing so, we described how ideal participative state forms as the outcome of group interaction processes. We propose that this state is a primary determinant, or prelude, of work group effectiveness. We believe our model offers researchers a framework that will prove useful in gaining greater insight into the nature of the environment existing within a work group and, hence, the characteristics of that environment determining effectiveness.

We also foresee a number of areas related to our model that future research could pursue and clarify. Our model and its posited relationships could be examined in a holistic sense or in discreet sections. From a holistic perspective, research could examine whether the macro relationships in the model are indeed valid. Such research would provide evidence supporting the view that in the input-process-output model of work group effectiveness process should

not be generally regarded as a simple and linear process, but rather as a complex dynamic as we have proposed. Such an insight would provide tentative first steps toward expanding our view of the role of process in work groups and assist in developing a richer understanding of the dynamics occurring in such groups.

Following an approach of examining discreet sections of the model would enable researchers to determine the relevant importance of various dimensions of the ideal participative state in determining work group effectiveness. This is important in clarifying and substantiating the relationship between each dimension of the ideal participative state and the various dimensions that constitute work group effectiveness.

Another area of potential research is to substantiate the proposed antecedents of the ideal participative state in our model. This includes the relationship of the group interaction process to the ideal participative state and the proposed moderating variables in the model.

Practical Relevance of the Model

We believe that the research we have outlined is essential to clarifying and refining the relationships in our model to make it more robust and useable for managers as a means of guiding interventions to increase work group effectiveness. In this manner, our model has significant practical implications for both managers and work groups. Both of these target audiences can make use of our model and the diagnostic information derived from it.

From a managerial perspective, our model identifies characteristics of the work group that we propose directly influence effectiveness. Therefore, from both start-up and on-going improvement perspectives, the ideal participative state provides guidance for managers to facilitate work group effectiveness. From a start-up perspective, managers have a framework for group job design and induction training. We can factor into both of these areas the dimensions of roles and responsibilities, direction and control and group context found in our model. For example job design could effectively incorporate the requirements of shared leadership/responsibility, goals and objectives setting, discipline, and mentoring/support for other group members in job descriptions/roles. Similarly, desirable aspects of the ideal participative state could be developed in team building or other forms of training interventions.

Other aspects of the ideal participative state could be developed with appropriate leadership or support from leaders or supervisors external to the work group. These external leaders or supervisors can influence the organizational context within which the group operates. For example, as depicted in our model, if the organizational context is supportive and risk accepting, then we would expect to see a greater willingness within the work group to take risks.

Great potential also exists for the use of the ideal participative state by work groups as a self-diagnostic. If work groups are to be truly reflective, with the intent of improving their functioning and hence their performance, diagnostic information on dimensions of the ideal participative state could serve as a catalyst for these reflections. Data from the diagnostic would assist the work group to identify deficiencies in dimensions of the ideal participative state that could be used by the work group to identify strategies to improve performance on those dimensions.

The proliferation of work groups in organizations today coupled with the increasing competitiveness of the markets in which they operate and the ever-growing requirement for knowledge work demands that groups and teams gain and maintain a high degree of effectiveness. We hope that our model of the ideal participative state will provide organizations, managers, and work groups with an increased understanding of the action levers that will facilitate work group effectiveness, and as such the competitiveness of those organizations.

REFERENCES

Barker, J. R. (1993). Tightening the iron cage: Concertive control in self-managing teams. *Administrative Science Quarterly, 38*, 408-437.

Barker, J. R. (1999). *The discipline of teamwork: Participation and concertive control.* Newbury Park, CA: Sage.

Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology, 83*, 377-391

Bettenhausen, K. L. (1991). Five years of groups research: What we have learned and what needs to be addressed. *Journal of Management, 17*, 345-381.

Burningham, C., & West, M. A. (1995). Individual, climate and group interaction processes as predictors of work team innovation. *Small Group Research, 26*, 106-117.

Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology, 46*, 823-850.

Campion, M. A., Papper, E. M., & Medsker, G. J. (1996). Relations between work team characteristics and effectiveness: A replication and extension. *Personnel Psychology, 49*, 429-452.

Cannon-Bowers, J. A., & Salas, E. (1990). *Cognitive psychology and team training: Shared mental models in complex systems.* Paper presented at the annual meeting of the Society for Industrial and Organizational Psychology, Miami Beach, FL.

Cannon-Bowers, J. A., Salas, E., & Converse, S. (1993). Shared mental models in expert team decision-making. In N. J. Castellan (Ed.), *Individual and group decision making* (pp. 221-246). Hillsdale, NJ: Earlbaum.

Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management, 23*, 239-290.

Cohen, S. G., & Ledford, G. E. (1994). The effectiveness of self-managing teams: A quasi-experiment. *Human Relations, 47*, 13-43.

Cohen, S. G., Ledford, G. E., & Spreitzer, G. M. (1996). A predictive model of self-managing work team effectiveness. *Human Relations, 49*, 643-676.

Cordery, J. L. (1996). Autonomous work groups and quality circles. In M. A. West (Ed.), *Handbook of work group psychology* (pp. 225-246). Chichester, England: John Wiley & Sons.

Cordery, J. L., Mueller, W. S., & Smith, L. M. (1991). Attitudinal and behavioral effects of autonomous group working: A longitudinal field study. *Academy of Management Journal, 34*, 464-476.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*, 350-483.

Evans, C. R., & Dion, K. L. (1991). Group cohesion and performance: A meta-analysis. *Small Group Research, 22*, 175-186.

Gersick, C. J. G. (1988). Time and transition in work teams: Toward a new model of group development. *Academy of Management Journal, 31*, 9-41.

Gersick, C. J. G. (1989). Marking time: Predictable transitions in task groups. *Academy of Management Journal, 32*, 274-309.

Gladstein, D. L. (1984). Groups in context: A model of task group effectiveness. *Administrative Science Quarterly, 29*, 499-517.

Goodman, P. S. (1986). Impact of task and technology on group performance. In P. S. Goodman (Ed.), *Designing effective work groups* (pp. 120-167). San Francisco: Jossey-Bass.

Goodman, P. S., Devadas, R., & Hughson, T. L. (1988). Groups and productivity: Analyzing the effectiveness of self-managing teams. In J. P. Campbell, R. J. Campbell and Associates (Eds.), *Productivity in organizations* (pp. 295-325). San Francisco: Jossey Bass.

Goodman, P. S., Ravlin, E. C., & Argote, L.(1986). Current thinking about groups. In P. S. Goodman (Ed.), *Designing effective work groups* (pp. 1-33). San Francisco: Jossey-Bass.

Goodman, P. S., Ravlin, E., & Schminke, M. (1987). Understanding groups in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 9, pp. 121-173). Greenwich, CT: JAI Press.

Goodman, P.S., Ancona, D.G., Lawrence, B.S., & Tushman, M. L. (2001). Introduction to special topic forum on time & organisational research. *Academy of Management Review, 26*, 507-511.

Gully, S. M., Devine, D. J., & Whitney, D. J. (1995). A meta-analysis of cohesion and performance: Effects of level of analysis and task interdependence. *Small Group Research, 26*, 497-520.

Guzzo, R. A., Yost, P. R., Campbell, R. J., & Shea, G. P. (1993). Potency in groups: Articulating a construct. *British Journal of Social Psychology, 32*, 87-106.

Hackman, J. R. (1987). The design of work teams. In J. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 315-342). New York: Prentice Hall.

Hackman, J. R., & Morris, C. G. (1975). Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 8, pp. 45-99). New York: Academic Press.

Herold, D. M. (1980). The effectiveness of work groups. In S. Kerr (Ed.), *Organizational Behavior* (pp. 95-110). Columbus, OH: Grid.

Hodson, R., Welsh, S., Rieble, S., Jamison, C. S., & Creighton, S. (1993). Is worker solidarity undermined by autonomy and participation? Patterns from the ethnographic literature. *American Sociological Review, 58*, 398-416.

Hollingshead, A. (1998). *Transactive memory and learning in work relationships.* Unpublished manuscript, University of Illinois at Urbana-Champaign.

Horvath, L., & Van Diest, R. (1998). *Why teams don't perform: The misunderstood concept of intimacy.* Paper presented at the annual meeting of the Academy of Management, San Diego, CA.

Jessup, H. R. (1990, November). New roles in team leadership. *Training and Development Journal*, 79-83.

Karau, S. J., & Williams, K. D. (1993). Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality and Social Psychology, 65*, 681-706.

Kelly, J. E. (1978). A reappraisal of sociotechnical systems theory. *Human Relations, 31*, 1069-1099.

Kemp, N. J., Wall, T. D., Clegg, C. W., & Cordery, J. L. (1983). Autonomous work groups in a greenfield site; A comparative study. *Journal of Occupational Psychology, 56*, 271-288.

King, R. T., Jr. (1998, May). Jeans therapy: Levi's factory workers are assigned to teams, and morale takes a hit. *The Wall Street Journal*, A1-A6.

Klimoski, R., & Mohammed, S. (1994). Team mental model: Construct or metaphor? *Journal of Management, 20*, 403-437.

Kolodny, H. F., & Kiggundu, M. N. (1980). Towards the development of a sociotechnical systems model in woodlands mechanical harvesting. *Human Relations, 33*, 623-645.

Lawler, E. E., Ledford, G. E., & Mohrman, S. A. (1989). *Employee involvement in America: A study of contemporary practice*. Houston: American Productivity and Quality Center.

Lawler, E. E., Mohrman, S. A., & Ledford, G. E. (1992). *Employee involvement and total quality management: Practices and results in fortune 1000 companies*. San Francisco: Jossey- Bass.

Lawler, E. E., Mohrman, S.A., & Ledford, G. E. (1995). *Creating high performance organizations: Practices and results of employee involvement and total quality management in fortune 1000 companies*. San Francisco: Jossey-Bass.

Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance. *Psychological Bulletin, 90*, 125-152.

Mathieu, J. E., Heffner, T. S., Goodwin, G. F., Salas, E., & Cannon-Bowers, J. A. (2000). The influence of shared mental models on team process and performance. *Journal of Applied Psychology, 85*, 284-293.

Manz, C. C., & Sims, H. P. (1982). The potential for "groupthink" in autonomous work groups. *Human Relations, 35*, 773-784.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review, 26*, 356-376.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review, 20*, 709-734.

McCauley, D. P., & Kuhnert, K. W. (1992). A theoretical review and empirical investigation of employee trust in management. *Public Administration Quarterly, 16*, 265-283.

McDonough, E. F. (2000). An investigation of factors contributing to the success of cross-functional teams. *Journal of Product Innovation Management, 17*, 221-235.

McGrath, J. E. (1964). *Social psychology: A brief introduction*. New York: Holt, Rinehart & Winston.

Mount, M. K., Witt, L. W., & Barrick, M. R. (2000). Incremental validity of empirically keyed biodata scales over GMA and the five factor personality constructs. *Personnel Psychology, 53*, 299-323.

Mullen, B., Anthony, T., Salas, E., & Driskell, J. E. (1993). Group cohesiveness and quality of decision making: An integration of tests of the groupthink hypothesis. *Small Group Research, 25*, 189-204.

Mullen, B., & Cooper, C. (1994). The relation between group cohesiveness and performance: An integration. *Psychological Bulletin 115*, 210-227.

Neuman, G. A., Wagner, S. H., & Christiansen, N. D. (1999). The relationship between work-team personality composition and the job performance of teams. *Group & Organization Management, 24*, 28-45.

Neuman, G. A., & Wright, J. (1999). Team effectiveness: Beyond skills and cognitive ability. *Journal of Applied Psychology, 84*, 376-389.

Osterman, P. (1994). How common is workplace transformation and who adopts it? *Industrial and Labor Relations Review, 47*, 173-188.

Osterman, P. (2000). Work reorganization in an era of restructuring: Trends in diffusion and effects on employee welfare. *Industrial and Labor Relations Review, 53*, 179-196.

Pearce, J. A., & Ravlin, E. C. (1987). The design and activation of self-regulating work groups. *Human Relations, 40*, 751-782.

Redding, W. C. (1972). *Communication in the organization*. New York: Industrial Communication Council.

Rouse, W. B., Cannon-Bowers, J. A., & Salas, E. (1992). The role of mental models in team performance in complex systems. *IEEE Transactions on Systems, Man and Cybernetics, 22*, 1296-1308.

Saavedra, R., Earley, P. C., & Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology, 78*, 61-72.

Sewell, G. (1998). The discipline of teams: The control of team-based industrial work through electronic and peer surveillance. *Administrative Science Quarterly, 43*, 397-428.

Shea, G. P., & Guzzo, R. A. (1984). *A theory of work group effectiveness*. The Wharton School, University of Pennsylvania.

Steiner, I. D. (1972). *Group process and productivity*. New York: Academic Press.

Sundstrom, E., De Meuse, K. P., & Futrell, D. (1990). Work teams: Applications and effectiveness. *American Psychologist, 45*, 120-133.

Tannenbaum, S. I., Beard, R. L., & Salas, E. (1992). Team building and its influence on team effectiveness: An examination of conceptual and empirical developments. In K. Kelley (Ed.), *Issues, theory, and research in industrial/organizational psychology* (pp. 117-153). New York: Elsevier Science Publishers.

Tjosvold, D. (1990). *Team organization: An enduring competitive advantage*. Chichester, England: Wiley.

Tompkins, P. K., & Cheney, G. (1985). Communication and unobtrusive control in contemporary organizations. In R. D. T. McPhee, P. K. (Ed.), *Organizational communication: Traditional themes and new directions* (pp. 179-210). Beverly Hills, CA: Sage Publications.

Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin, 63*, 384-399.

Wagner, J. A. (1994). Participation's effects on performance and satisfaction: A reconsideration of research evidence. *Academy of Management Review, 19*, 312-330.

Wegner, D. (1986). Transactive memory: A contemporary analysis of the group mind. In G. Mullen & G. Goethals (Eds.), *Theories of group behavior* (pp. 185-208). New York: Springer-Verlag.

Wegner, D. (1995). A computer network model of human transactive memory. *Social Cognition, 13*, 319-339.

Wall, T. D., & Jackson, P. R. (1995). Changes in manufacturing and shop floor job design. In A. Howard (Ed.), *The changing nature of work* (pp. 164-211). San Francisco: Jossey Bass.

Wall, T. D., Jackson, P. R., & Davids, K. (1992), Operator work design and robotics system performance: A serendipitous field study. *Journal of Applied Psychology, 77*, 53-362.

Wall, T. D., Kemp, N. J., Jackson, P. R., & Clegg, C. W. (1986). Outcomes of autonomous workgroups: A long-term field experiment. *Academy of Management Journal, 29*, 280-304.

Wall, T. D., & Martin, R. (1987). Job and work design. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organisational psychology* (pp. 61-91). Chichester, England: John Wiley and Sons.

Wanous, J. P., Reichers, A. E., Cooper, C., & Rao, R. (1994). Effectiveness of problem solving groups: Process and outcome criteria. *Psychological Reports, 75*, 1139-1153.

West, M. A. (1990). The social psychology of innovation in groups. In M. A. West, & J. L. Farr (Eds.), *Innovation and creativity at work, psychological and organizational strategies* (pp. 309-333). New York: John Wiley & Sons.

West, M. A. (1996). Reflexivity and work group effectiveness: A conceptual integration. In M. A. West (Ed.), *Handbook of work group psychology* (pp. 555-579). Chichester, England: John Wiley & Sons.