Loyola University Chicago

2000

An examination of organizational and team commitment in a self-directed team environment

J W Bishop
Dow Scott, *Loyola University Chicago*

Preparing people to lead extraordinary lives

An Examination of Organizational and Team Commitment in a Self-Directed Team Environment

James W. Bishop
New Mexico State University

K. Dow Scott
Loyola University Chicago

A model hypothesizing differential relationships among predictor variables and individual commitment to the organization and work team was tested. Data from 485 members of sewing teams supported the existence of differential relationships between predictors and organizational and team commitment. In particular, intersender conflict and satisfaction with coworkers were more strongly related to team commitment than to organizational commitment. Resource-related conflict and satisfaction with supervision were more strongly related to organizational commitment than to team commitment. Perceived task interdependence was strongly related to both commitment foci. Contrary to prediction, the relationships between perceived task interdependence and the 2 commitment foci were not significantly different. Relationships with antecedent variables help explain how differential levels of commitment to the 2 foci may be formed. Indirect effects of exogenous variables are reported.

Research indicates that commitment in the workplace is a multidimensional phenomenon, and the focus of commitment (i.e., to whom or what an employee is committed) is an important dimension in assessing worker attachment (Becker, 1992). Current emphasis on work teams and participative management systems suggests that two important foci of commitment are an employee's work group or team and the employing organization (Becker, 1992; Hackman, 1987; Reichers, 1985). Organizational commitment has been linked to extrarole behavior (Gregersen, 1993; Morrison, 1994), job performance (Brett, Cron, & Slocum, 1995; Mathieu & Zajac, 1990), and lower turnover (Bishop, Scott, & Casino, 1997; Mathieu & Zajac, 1990). Team commitment has been linked to extrarole behavior (Becker & Billings, 1993; Hackman, 1987) and team performance (Bishop et al., 1997; Hackman, 1987; Scott & Townsend, 1994). Furthermore, individuals may experience high levels of commitment to one of these foci and not the other, or to both, or to neither (Becker & Billings, 1993). However, the question of which antecedents may be related to different levels of commitment to these foci has not been explored.

The purpose of this research was to empirically examine a model hypothesizing differential relationships between certain work characteristics and the commitment individuals have to the organization and their work team (see Figure 1). This study extends research on work teams and employee commitment in three ways. First, the model emphasizes the antecedent/commitment-foci relationship, whereas prior research concentrated on the commitment-foci/outcome linkages. Second, the model is germane to team-management systems, which are becoming pervasive throughout industry. Finally, the resulting model represents a linkage between the organizational-commitment literature and the work-team literature through constructs important to both.

A Model of Organizational and Team Commitment

Prior to proposing our model, we clarify construct definitions and the characteristics and properties of self-directed work teams. The literature offers several definitions and measures of organizational commitment (Mathieu & Zajac, 1990), but Mowday, Porter, and Steers's (1982) definition and its measure, the Organizational Commitment Questionnaire (OCQ), are the most widely used. Also, the OCQ has been modified successfully to measure commitment to entities other than the organization (cf. Scott & Townsend, 1994; Vandenberg & Scarpello, 1991). Organizational (or team) commitment is the relative strength of an individual's identification with, and involvement in, a particular organization (or team). It can be characterized by (a) a strong belief in, and acceptance of, the organization's (or team's) goals and values; (b) a willingness to exert considerable effort on behalf of the organization (or team); and (c) a strong desire to maintain membership in the organization (or team).

Self-directed work teams are those organizational units in which (a) employees share functionally interrelated tasks and are collectively responsible for end products, (b) individual team members have the variety of skills necessary to perform tasks that are the collective responsibility of the team, and (c) employees receive feedback and evaluations that are given in terms of team performance (Wall, Kemp, Jackson, & Clegg, 1986). Self-directed work teams have a high degree of self-determination that includes control over the pace of work, distribution of tasks, work breaks, and participation in recruiting and training new members.

Correspondence concerning this article should be addressed to James W. Bishop, Department of Management, MSC 3DJ, New Mexico State University, P.O. Box 3001, Las Cruces, New Mexico 88003-8001. Electronic mail may be sent to bishopjw@aol.com.
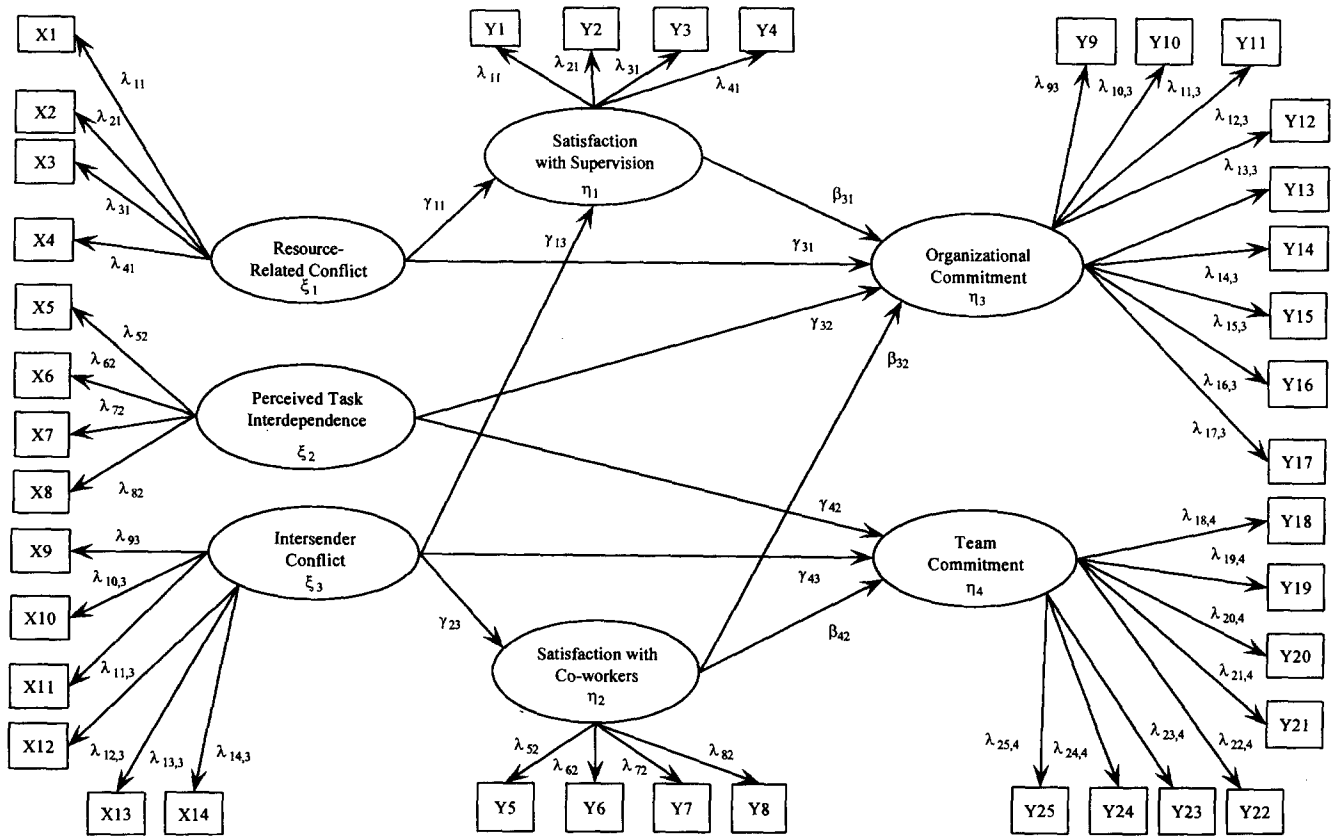
Figure 1. Hypothesized structural model. X and Y represent the manifest variables used to measure the independent and dependent latent constructs, respectively.

When contrasted with traditional work settings, salient differences in self-directed work-team environments involve interdependence of work tasks, employee relationships with first-level supervisors and teammates, and roles assumed by team members (Campion, Medsker, & Higgs, 1993; Cummings, 1978; Hackman, 1987; Manz & Sims, 1984, 1987; Orsburn, Moran, Musselwhite, & Zenger, 1990). We chose to examine constructs related to these differences as our independent variables because we reasoned that they should be significantly related to an employee's comparative attachment to the organization and the team. Hence, the independent variables for our study were perceived task interdependence, satisfaction with supervision, satisfaction with coworkers, intersender conflict, and resource-related conflict.

Perceived Task Interdependence

Interdependent tasks are defining characteristics of self-directed work teams (Wall et al., 1986) and, in many cases, are the reason teams are formed (Campion et al., 1993). Different individuals, however, may have different perceptions of the degree to which tasks are interdependent. Perceived task interdependence is the extent to which employees perceive that their tasks depend on interaction with others and on others' tasks being completed (Campion et al., 1993; Kiggundu, 1981, 1983; Pearce & Gregersen, 1991).

Morris and Steers (1980) found empirical support for a theoretical link between perceived task interdependence and organizational commitment. They argued that task interdependence is a highly proximal component of the work environment and is experienced by workers in a "comparatively direct and operationally meaningful way" (Morris & Steers, 1980, p. 51). When workers perceive high task interdependence, they become more aware of the importance of their own contribution to both the organization and their immediate work group. This heightened awareness should enhance employees' ego involvement and thereby increase their positive affect toward the organization (Mathieu & Zajac, 1990; Morris & Steers, 1980). In practice, the relationship between perceived task interdependence and organizational commitment may be attenuated by the existence of individual reward systems. Conversely, this relationship may be enhanced where teamwork is stressed and team-based rewards are prevalent.

By similar reasoning, we associate perceived task interdependence with team commitment. That is, in the close proximity of a team environment, high perceived task interdependence will cause workers to be more aware of the importance of their contribution to their team as well as to the organization. Hence, their ego involvement in the team should be enhanced, increasing their positive affect toward the team and their willingness to put forth effort on its behalf. On the basis of prior work by Morris and Steers

(1980) and the preceding discussion, we posited that in self-directed work-team environments, perceived task interdependence would be positively related to both organizational commitment and team commitment (*Hypothesis 1a*).

Field theory asserts that individuals' reactions to an environment are determined to a great extent by both the proximity and salience of the perceived elements (Mathieu & Hamel, 1989). Most of the impact an organization has on its members is derived jointly from people with whom members associate in the course of organizational activities and from the tasks they perform (Porter, Lawler, & Hackman, 1975). A self-directed work-team environment stresses teamwork and relationships among tasks for which the team is responsible. Individuals are more aware of how their tasks are interrelated with other tasks performed within their team than how they relate to tasks performed outside the team.

In a team environment, team-based outcomes are stressed and individuals' relative contributions have more direct and proportionally greater impact on team performance than on the performance of the organization as a whole. The team and not the organization, therefore, is the more proximal psychological element for individuals. Enhanced ego involvement and affect resulting from perceived task interdependence are more strongly directed toward the team than toward the organization. In self-directed work team environments, then, we expected perceived task interdependence to be more strongly related to team commitment than to organizational commitment (*Hypothesis 1b*).

Satisfaction With Supervision

In self-directed work-team environments, the roles of first-level supervisors, or *facilitators*, are different than in traditional work settings. Facilitators are essential to team success because they provide essential "expert coaching and consultation . . . at appropriate times" (Hackman, 1986, p. 172), while team members control the work pace, break schedules, and task-related strategies (Cummings, 1978; Hackman, 1986; Manz & Sims, 1984, 1987; Wall et al., 1986). In their role as coaches and consultants, facilitators are more removed from teams and have less direct interaction with them than do traditional supervisors. The facilitator's role means that, to many employees, "the [facilitator] is a representative of the company . . . and is often viewed as an extension of it" (Ogilvie, 1987, p. 341). Employee attitudes toward the organization are shaped largely by perceptions of its representatives, the facilitators.

If employees perceive fair and equitable treatment from facilitators, they will be more satisfied with them. The norm of reciprocity "explains how perceived equitable treatment of the individual by the organization, which leads to a state of satisfaction, can culminate in a member's commitment to the organization" (Angle & Perry, 1983, p. 128). Social exchange theory has also been used to explain why individuals express loyalty to the organization (Settoon, Bennett, & Liden, 1996). Social exchanges involve unspecified obligations assumed by individuals in response to favors they have received (Blau, 1964).

The norm of reciprocity and social exchange theory suggest that satisfaction with supervision is related to commitment in the following way. First, if employees receive fair and equitable treatment from facilitators, they are likely to perceive fairness and equity as organizational values. They are then likely to adopt these values as their own and become more satisfied with facilitators. Second, employees who receive such treatment and are satisfied with their facilitators are likely to want to maintain membership in the organization. Finally, recipients of consideration are morally obligated to recompense the donor. Social exchange relationships at work tend to be long-term interactions (Wayne, Shore, & Liden, 1997) with the pattern of reciprocity determining the perceived balances of the exchanges (Rousseau, 1989). Patterns of reciprocation reinforce the exchange relationship, which leads to commitment (Eisenberger, Fasolo, & Davis-LaMastro, 1990) when such patterns contribute to "maintaining a relationship of consistency and good faith" (Robinson, Kraatz, & Rousseau, 1994, p. 149).

The "division of labor" component of the norm of reciprocity states that reciprocation is made in goods and services that are of value to the organization and within the capability of the employees (Gouldner, 1960). In this case, employees recompense the organization for consideration provided by facilitators by exerting effort on its behalf. This reasoning, along with previous empirical results that linked satisfaction with supervision to organizational commitment (Brief & Aldag, 1980; Luthans, Baack, & Taylor, 1987), led us to propose that in self-directed work-team environments, satisfaction with supervision would be positively related to organizational commitment (*Hypothesis 2*).

Satisfaction With Coworkers

Just as satisfaction with supervision should be related to employees' commitment in the workplace, so, too, should satisfaction with coworkers. A key feature of self-directed work teams is the high degree of self-determination in managing work (Cummings, 1978). Member roles associated with managing teams include developing more interdependent relationships with coworkers (i.e., teammates), sharing functionally interrelated tasks (Wall et al., 1986), regulating member behavior to accomplish team goals, and being collectively responsible for goal attainment (Cummings, 1978). Mastering responsibilities associated with these roles represents a challenge to team members (Orsburn et al., 1990). To handle these challenges successfully, members must learn how to work together to overcome conflicts and thereby to "promote both group creativity and member satisfaction" (Hackman, 1986, p. 170). Accordingly, satisfaction with coworkers was one of our predictor variables.

Prior research links satisfaction with coworkers to organizational commitment (Brief & Aldag, 1980; Mathieu & Zajac, 1990); however, the satisfaction with coworkers relationship with team commitment has not been examined. In an environment that emphasizes team outcomes, individual effort and performance benefit every team member. When individuals observe teammates putting forth effort, they are likely to reciprocate by applying effort themselves in order to create an equitable exchange relationship. Individuals are inclined to accept team goals and values when equitable exchange relationships exist. As individuals experience satisfying social relationships with team members, their alignment with team goals and values, and, therefore, commitment, are enhanced. Therefore, we proposed that satisfaction with coworkers would be positively related to both organizational and team commitment (*Hypothesis 3a*).

In self-directed work-team environments, most social exchange at the peer level occurs within the team. Therefore, when considering commitment and satisfaction with coworkers, we proposed that satisfaction with coworkers would be more strongly related to team commitment than to organizational commitment in self-directed work teams (*Hypothesis 3b*).

Intersender Conflict

Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964) and Rizzo, House, and Lirtzman (1970) conceptualized role conflict as being composed of several dimensions, including intersender conflict. Intersender conflict occurs when a person perceives incompatible requests from two or more people or when a received request conflicts with an organizational policy or standard (Kahn et al., 1964). Role requirements of self-directed work-team members are more comprehensive in terms of responsibility and decision-making authority than those of workers in traditional work settings (Orsburn et al., 1990). Therefore, intersender conflict can impact a more comprehensive set of responsibilities and decisions. Hackman (1986) pointed out a number of conditions requisite for self-directed teams to be effective, including clear overall direction and clear expectations. The incidence of intersender conflict tends to compromise one or both of these conditions.

Morris and Snyder (1979) reported a negative correlation between intersender conflict and organizational commitment. A significant, bivariate correlation between variables, however, does not imply that a significant path will exist between two variables in a structural model. This is because structural equation modeling is a multivariate technique in which the explanatory power of each variable is considered in conjunction with that of other variables in the model. Considering the proximity and salience of the team compared with the organization and the roles of self-directed work-team members compared with traditional work roles, we did not hypothesize a significant path from intersender conflict to organizational commitment. This hypothesis is contrary to what we would expect in nonteam environments and contrary to the findings of Morris and Snyder (1979), whose study did not account for the presence of work teams.

We propose that the presence of self-directed work teams alters the conflict–commitment relationship, because additional responsibilities assigned to teams increase the number of work-related decisions. Also, work-team environments are characterized by a greater number of communication senders and, hence, are more likely to be characterized by role conflict. Although communications could originate outside the team, at the peer level or elsewhere in the chain of command, the preponderance of communications should originate within the team; therefore, most intersender conflict should be associated with the team.

Intersender conflict could weaken individuals' team commitment in several ways. It may project inconsistent team values, reducing the likelihood that they will be accepted. It may leave members confused as to how to perform team tasks, lowering expectancy that effort will lead to successful task completion and, in turn, lessening willingness to put forth effort (Vroom, 1964). Such conflict may also leave individuals confused as to the specificity of team goals. If goals are not perceived to be specific, individuals are less likely to accept them or be willing to put forth effort to achieve them (Locke & Latham, 1990). In self-directed

team environments, then, we predicted that intersender conflict would be negatively related to team commitment (*Hypothesis 4a*).

Incidents of intersender conflict also cause the interaction between individuals and the source of the conflict to become less pleasant. Uncertainty and stress associated with such incidents will reduce an employee's satisfaction with the conflict source. As we mentioned earlier, sources of intersender conflict could be both within and outside the team. In a self-directed work-team environment, the two primary sources of information and, therefore, intersender conflict are team members and facilitators. Thus, we believed that intersender conflict would be negatively related to both satisfaction with coworkers and satisfaction with supervision (*Hypothesis 4b*).

The importance of team decisions makes intersender conflict particularly salient to team members. On the basis of the likely volume of intersender conflict within the team and the importance of such conflict to team members, we predicted that the relationship between intersender conflict and satisfaction with coworkers would be stronger than between intersender conflict and satisfaction with supervision (*Hypothesis 4c*).

We also believed that the paths from satisfaction with coworkers and intersender conflict would be particularly strong. This is because the responsibility members have for their teams, its output, and each other makes satisfaction with each other and intersender conflict particularly salient. We believed the strength of these paths is such that intersender conflict should have a significant indirect effect on team commitment through satisfaction with coworkers (*Hypothesis 4d*).

In Hypothesis 3b, we reasoned that the path from satisfaction with coworkers to team commitment would be stronger than from satisfaction with coworkers to organizational commitment. The indirect effect of intersender conflict on team commitment through satisfaction with coworkers would, therefore, be stronger than the indirect effect of intersender conflict on organizational commitment through satisfaction with coworkers (*Hypothesis 4e*). In light of Hypothesis 4c, we further predicted that intersender conflict would have a greater indirect effect on team commitment through satisfaction with coworkers than on organizational commitment through satisfaction with supervision (*Hypothesis 4f*).

Resource-Related Conflict

Another dimension of role conflict is resource-related conflict (Kahn et al., 1964; Rizzo, House, & Lirtzman, 1970), which occurs when there is a conflict between defined role behaviors and the resources required to perform them (Kahn et al., 1964). Insufficient material resources are often a major impediment to the performance of self-directed work teams (Hackman, 1986; Peters & O'Conner, 1980) and cannot be overcome through simply clarifying other role-related issues (Hackman, 1986). In self-directed work-team environments, responsibility for production has, in great measure, been transferred to the teams. A lack of resources conflicts with this responsibility; therefore, we chose it as an independent variable.

Mowday et al. (1982) proposed role conflict as an antecedent of organizational commitment, and empirical results confirmed that a negative relationship exists (Morris & Snyder, 1979). However, little theoretical work has been applied to explaining the relationship (Mathieu & Zajac, 1990). The most common rationale is that role

conflict results from work environment perceptions and these perceptions influence affective responses (Mathieu & Zajac, 1990).

At the most fundamental level, employees exchange labor for company considerations, including wages, favorable performance appraisals, recognition for performance, and continued employment. The company provides resources such as raw materials and supplies, while employees apply labor, knowledge, skills, and abilities to change raw materials into goods and services desired by the company. If required resources are not available, employees cannot produce output required to meet personal, team, and company objectives.

We believe lack of resources interrupts the exchange relationship between employees and the company. Employees perceive that the company has violated the reciprocity norm by failing to respond to, or reciprocate for, previous employee efforts. With the exchange cycle interrupted, employees may feel freed from the responsibility of reciprocation. Furthermore, when necessary resources are lacking, employees are unable to reciprocate and the development of commitment associated with reciprocation does not take place. Employees may feel that "If the company doesn't care, why should I?" Therefore, we predicted that the relationship reported by Morris and Snyder (1979) would continue to hold in a team environment and that resource-related conflict would be negatively related to organizational commitment (Hypothesis 5a).

Team facilitators are company representatives responsible for resource availability, and frustration associated with resource-related conflict may be directed toward them. To the extent that members blame facilitators for resource deficiency, negative relationships with facilitator satisfaction occur. Thus, resource-related conflict should be negatively related to the level of employee satisfaction with supervision (Hypothesis 5b).

Because of the importance of material resources (Hackman, 1986) and facilitators' role in making them available (Hackman, 1986; Ogilvie, 1987), the paths from resource-related conflict to satisfaction with supervision and from satisfaction with supervision to organizational commitment should be particularly strong. Hence, the indirect effect of resource-related conflict on organizational commitment through satisfaction with supervision would be significant (Hypothesis 5c).

Order of Variables

Although causal inferences should be withheld until relationships among the variables can be examined with experimental or quasi-experimental research, we based the ordering of our variables on the following reasons. Prior research has identified perceived task interdependence and role conflict as antecedents of organizational commitment (Mathieu & Zajac, 1990). On the other hand, the causal relationship between job satisfaction and organizational commitment remains unresolved (e.g., Bateman & Strasser, 1984; Curry, Wakefield, Price, & Mueller, 1986; Farkas & Tetrick, 1989; Lincoln & Kalleberg, 1985; Mannheim, Baruch, & Tal, 1997; Mathieu, 1991; Vandenberg & Lance, 1992; Williams & Hazer, 1986). With respect to satisfaction with supervision and organizational commitment, however, we make the following argument. It makes sense to say that satisfaction with one's supervisor could be a reason why one would take on the goals and values of the organization, be willing to put forth effort on its behalf, and want to maintain membership. There are numerous

other reasons why one could have these responses. Hence, it makes less sense to propose that because one has these feelings, one would be satisfied with one's supervisor. For example, we do not believe it follows that if one is willing to put forth effort for the organization, then one is necessarily satisfied with one's supervisor. On the basis of similar reasoning, we ordered satisfaction with coworkers before team commitment.

Method

Research Site

This study was conducted in an apparel manufacturing plant located in the southeastern United States. The plant had 50 sewing teams with a small support staff composed of team facilitators (1 for every 10 teams), managers, maintenance personnel, and material handlers. Teams consisted of 10 members working at single-person work stations. Cut garment pieces were supplied to the team and seven functions (or jobs) were required to assemble a garment. Six of the jobs took about the same amount of time, but one job took considerably longer. Therefore, 4 members and four work stations were dedicated to this job to even work flow. Team members worked within a few feet of one another, and each member could easily see the other 9. Members were compensated on the basis of team production so that all members of a team received equal pay.

The teams managed their own work processes, controlled the work pace, distributed tasks, scheduled breaks, and participated in recruiting and, to a lesser degree, training new members. To maximize productivity, and therefore pay, the company encouraged members to move freely from one work station to another to help others as bottlenecks developed and work piled up at various stations. Spare sewing machines were strategically located on the production floor to facilitate individual support of other team members. Team members who were ahead in the work at their "home" stations could get supplies for the team or support the team in a variety of other ways. Members were also free to switch stations to relieve boredom or hone their skills on other tasks. Managing work processes was important to a team's compensation because work was not counted for compensation until all operations had been completed.

The company encouraged (but did not require) members to engage in team-supporting behavior. Cross-training was provided so team members would have the skills to perform more than one operation. Training in quality control and group-process skills was also conducted. Teams met weekly to discuss problems, production issues, and team goals.

Participants and Survey Procedure

A total of 485 production employees took part in the survey; this represented all employees assigned to sewing teams who were present during 1 of the 2 days in which surveys were administered. Respondents completed surveys on company time in groups of 20 to 30. Research-team members were present to give instructions, answer questions, and ensure that respondents completed surveys independently. Respondents averaged 37 years old and were mostly female (98%) and White (93%); 73% had been with the company for more than 5 years. About 63% had completed high school, 19% had attended college, and 2% had college degrees. We dropped 22 surveys because of respondents' inability or unwillingness to complete them.

Measures

We used seven 6-point Likert-type scales to measure attitudinal variables. Response options ranged from strongly disagree (1) to strongly agree (6), except for satisfaction scales, for which response options ranged from extremely dissatisfied (1) to extremely satisfied (6); items and their sources appear in Table 1). We followed Podsakoff and Organ's (1986, p.

Table 1

Confirmatory Factor Analysis of the 39 Attitude Items in the Survey Instrument

Item	1	2	3	4	5	6	7
Organizational commitment[a]							
1. I am willing to put in a great deal of effort beyond that normally expected in order for (company name) to be successful.	.47						
2. I talk up (brag about) (company name) to my friends as a great organization to work for.	.84						
3. I would accept almost any type of job assignment in order to keep working with this company.	.51						
4. I find that my values and (company name) values are very similar.	.75						
5. I am proud to tell others that I am part of this company.	.89						
6. (Company name) really inspires the very best in me in the way of job performance.	.75						
7. I am extremely glad that I chose (company name) to work with over others that I was considering working with when I joined.	.82						
8. I really care about the fate of (company name).	.62						
9. For me this is the best of all possible companies for which to work.	.75						
Satisfaction with supervision							
How satisfied are you with . . .?							
1. The amount of support and guidance your facilitator gives you[b]		.83					
2. The overall competence of your facilitator[b]		.92					
3. The respect and fairness you receive from your facilitator[b]		.91					
4. The way your facilitator handles complaints[c]		.89					
Team commitment[a]							
1. I talk up (brag about) this team to my friends as a great team to work on.			.76				
2. I would accept almost any job in order to keep working with this team.			.45				
3. I find that my values and the team's values are very similar.			.72				
4. I am proud to tell others that I am part of this team.			.85				
5. This team really inspires the very best in me in the way of job performance.			.75				
6. I am extremely glad that I chose this team to work with over other teams.			.82				
7. I really care about the fate of this team.			.59				
8. For me this is the best of all possible teams with which to work.			.81				
Resource-related conflict							
1. I frequently lack the materials to do my work.[d]				.56			
2. Work output is often held down due to broken or unavailable equipment.[c]				.71			
3. Getting supplies is a problem around here.[c]				.89			
4. Production would increase by a *good amount* if we always had enough materials.[c]				.75			
Intersender conflict							
1. I work with two or more people who want to do things quite differently.[d]					.70		
2. I receive conflicting requests from two or more people.[c]					.74		
3. I do things that are likely to be accepted by one person and not by others.[d]					.51		
4. If I ask a question of two people, I'm likely to get two different answers.[c]					.67		
5. I am often confused about what others expect of me on the job.[c]					.56		
6. It is often difficult to get people to agree on what should be done.[c]					.81		
Task interdependence							
1. I frequently must coordinate my efforts with others.[e]						.69	
2. Jobs performed by team members are related to one another.[f]						.57	
3. For the team to perform well members must communicate well.[c]						.79	
4. To achieve high performance it is important to rely on each other.[c]						.70	
Satisfaction with coworkers							
How satisfied are you with . . .?							
1. How you get along with others on your team							.74
2. How you and your teammates work together							.85
3. The opportunity to make friends with your teammates							.85
4. The decisions made by you and your teammates							.75
Factor eigenvalue	11.1	5.4	3.8	3.0	1.9	1.4	1.1

Note. $\chi^2(681, N = 463) = 1,413.74$, Root mean square error of approximation $= .048$, goodness-of-fit index $= .86$, comparative fit index $= .93$, Tucker–Lewis fit index $= .92$.

[a] Items are from the Organizational Commitment Questionnaire, "The measurement of organizational commitment," by R. T. Mowday, L. W. Porter, and R. M. Steers, 1979, *Journal of Vocational Behavior, 14.* Copyright 1979 by Academic Press. Reprinted with permission.

[b] Items are from the Job Diagnostic Survey, *Work redesign,* by J. R. Hackman and G. R. Oldham, 1980, Reading, MA: Addison-Wesley. Copyright 1980 by Addison-Wesley. Reprinted with permission.

[c] Items were developed by the authors.

[d] Items are from the Role Conflict Scale, "Role Conflict and Ambiguity in Complex Organizations," by J. R. Rizzo, R. J. House, and S. I. Lirtzman, 1970, *Administrative Science Quarterly, 15.* Copyright 1970 by Cornell University. Reprinted with permission.

[e] Item is from "Task Interdependence and Extrarole Behavior: A Test of the Mediating Effects of Felt Responsibility," by J. L. Pearce and H. B. Gregersen, 1991, *Journal of Applied Psychology, 76.* Copyright 1991 by the American Psychological Association. Reprinted with permission of the author.

[f] Item is from "Relations Between Work Group Characteristics and Effectiveness: Implications for Designing Effective Work Groups," by M. A. Campion, G. J. Medsker, and A. C. Higgs, 1993, *Personnel Psychology, 46.* Copyright 1993 by Personnel Psychology, Inc. Reprinted with permission.

Table 2
Means, Standard Deviations, Correlations, and Measures of Reliability Among the Variables (N = 463)

Construct	M	SD	1	2	3	4	5	6	7
1. Task interdependence	5.55	0.48	(.78)	.17**	.10*	−.12**	−.06	.10*	−.01
2. Intersender conflict	4.06	1.05	.14**	(.83)	.18**	−.70**	−.29**	−.11*	−.62**
3. Resource-related conflict	4.25	1.15	.06	.18**	(.82)	−.13**	−.20**	−.35**	−.10*
4. Satisfaction with coworkers	4.28	0.92	−.04	−.59**	−.11*	(.88)	.32**	.11*	.70**
5. Satisfaction with supervision	3.72	1.03	.05	−.25**	−.18**	.29**	(.94)	.33**	.23**
6. Organizational commitment	3.90	0.98	.13**	−.15**	−.26**	.18**	.29**	(.90)	.28**
7. Team commitment	3.89	1.08	.03	−.54**	−.03	.63**	.20**	.30**	(.89)

Note. Missing data were handled by using pairwise deletion. Missing data constituted less than 5% of our sample and were randomly distributed. Models were reestimated using listwise deletion. N was reduced by 31, but the results did not change. Coefficient alphas are in parentheses on the diagonal. Uncorrected correlations are below the diagonal; corrected correlations from the phi matrix are above the diagonal.
$* p < .05.$ $** p < .01.$

542) recommendations to eliminate obvious item overlap on the independent and criterion measures. We did this to minimize artificial inflation of correlations between independent and dependent variables. We refined the instrument on the basis of employee interviews and performed a pilot survey at a plant similar to the one where the actual study was done.[1]

Organizational and team commitment. We used the OCQ (Mowday, Steers, & Porter, 1979) short form to measure organizational commitment (α = .90). We measured team commitment by modifying the OCQ short form to refer to the team rather than to the organization (α = .89). This technique was suggested by Reichers (1985) and has been successfully used in organizational research (e.g., Scott & Townsend, 1994; Vandenberg & Scarpello, 1991). We deleted one item on the basis of our pilot results, a reevaluation of item content, and a confirmatory factor analysis.

Perceived task interdependence. We measured perceived task interdependence using four items (α = .78). As a scale for task interdependence suitable for this research was not available, we selected items from three existing scales. We took one item from Pearce and Gregersen (1991), another from Campion et al. (1993), and another from Kiggundu (1981). We developed one item for this study.

Satisfaction with supervision and satisfaction with coworkers. The two satisfaction constructs were measured by the corresponding three-item subscales from the Job Diagnostic Survey (JDS; Hackman & Oldham, 1980). On the basis of interviews and our pilot survey, we added one item to the Satisfaction With Supervision scale (α = .94) and one item to the Satisfaction With Coworkers scale (α = .88).

Resource-related conflict. Employees responded to a four-item scale designed to assess perceived level of resource-related conflict (α = .81). We took one item from the Role Conflict scale developed by Rizzo et al. (1970). On the basis of our initial interviews and a review of the literature, we added three additional items.

Intersender conflict. We used a six-item scale to measure intersender conflict (α = .83). Three items were from Rizzo et al.'s (1970) role conflict scale, and three items were developed based on interviews and the pilot test.

Results

Prior to testing our hypotheses, we performed a confirmatory factor analysis (CFA) on the 39-item attitudinal scales (see Table 1). The measurement model fit the data well, $\chi^2(681, N = 463) = 1,413.74$, root mean square error of approximation (RMSEA) = .049, comparative fit index (CFI) = .93, Tucker–Lewis fit index (TLI; also called the non-normed fit index, or NNFI) = .92. These fit indices are recommended on the basis of sample size and number of parameters estimated (Gerbing & Anderson, 1992; Medsker, Williams, & Holahan, 1994; Rigdon, 1996). All items

loaded significantly on their intended factors. Table 2 reports means, standard deviations, coefficient alphas, and correlations among the variables.

Hypothesized Structural Model

The hypothesized model (see Figure 1) was tested with an item-level structural equation model, accounting for 11% of the variance in satisfaction with supervision, 49% of the variance in satisfaction with coworkers, 23% of the variance in organizational commitment, and 55% of the variance in team commitment. Fit indices indicated that the model fit the data well, $\chi^2(687, N = 463) = 1,425.98$, RMSEA = .048, CFI = .93, and TLI = .92. Figure 2 shows completely standardized path coefficients. Completely standardized coefficients are reported because of their suitability in comparing relative contributions to explained variance (Bagozzi, 1980).

Model comparison. We tested the model further using the technique proposed by Anderson and Gerbing (1988), comparing a series of nested models through sequential chi-square difference tests. We first compared the hypothesized model with the structural null model; that is, paths relating the constructs to one another were set to zero, but latent constructs were allowed to correlate. The difference in the chi-squares was significant, $\Delta\chi^2(10, N = 463) = 590.91$, indicating that the hypothesized model represented a significant improvement in fit. Table 3 contains the results of these comparisons. We then compared the hypothesized model with the "next most likely constrained and unconstrained alternatives" (Anderson & Gerbing, 1988, p. 418). In a constrained model, one or more of the paths of the hypothesized model are set equal to zero (i.e., the path is removed) and the model is reestimated. Change in chi-squares between two models reflects the effect of removing paths and therefore tests the significance of the paths to the model. A significant change in chi-square suggests the constrained paths were important, supporting the hypothesized model. In an unconstrained model, one or more paths are added to the hypothesized model. If the change in chi-square between these models is not significant, then the hypothesized model is preferred (Anderson & Gerbing, 1988).

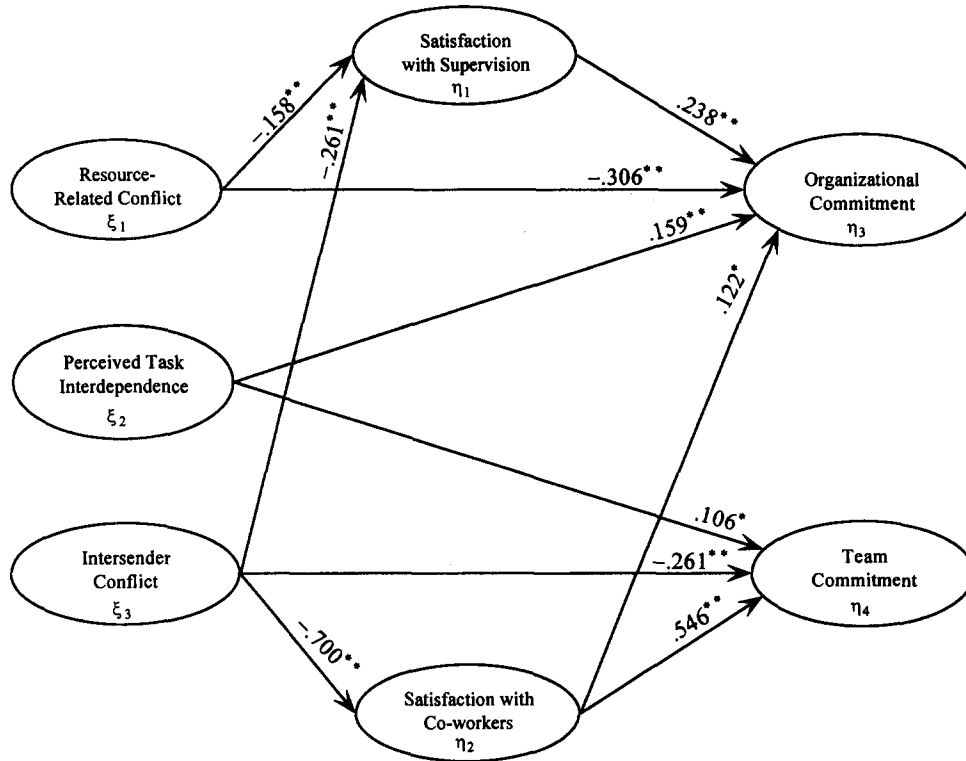[1] A complete description of instrument development is available from James W. Bishop.

Figure 2. Standardized path estimates for the hypothesized model. * $p < .05$, one-tailed. ** $p < .01$, one-tailed.

More constrained models. We compared the hypothesized model to two more constrained models and two less constrained models. In the first more constrained model (Model 1), the paths from the role conflict variables to satisfaction with supervision were set to zero. In self-directed work-team environments, the role of facilitators can be somewhat contradictory in terms of its importance. On one hand, facilitators have less contact with teams, but on the other hand their roles are enhanced (Hackman, 1986; Manz & Sims, 1984, 1987). The hypothesized model proposes that

the latter perspective is dominant, whereas Model 1 tests the former. Specifically, individuals may have perceived the availability of resources to be beyond facilitator control; hence, resource-related conflict would not be related to satisfaction with supervision. Similarly, because facilitators and teams interact on an as needed basis, they may not have been perceived as contributing to intersender conflict. The difference in chi-squares for the hypothesized model and Model 1, $\Delta\chi^2(2, N = 463) = 42.91$, was significant, supporting the hypothesized model. In Model 2, the

Table 3
Results of Model Comparisons

Model	χ^2	df	RMSEA	CFI	TLI	$\Delta\chi^2$ (df) from hypothesized
Structural null	2,016.89	697	.064	.86	.85	590.91 (10)***
Hypothesized	1,425.98	687	.048	.93	.92	
Model 1[a]	1,468.89	689	.050	.92	.91	42.91 (2)***
Model 2[b]	1,432.49	688	.049	.93	.92	6.52 (1)**
Model 3[c]	1,423.65	685	.049	.92	.92	2.32 (2)
Model 4[d]	1,425.98	686	.049	.93	.92	0.001 (1)

Note. N for all chi-squares was 463. RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis fix index.
[a] Model 1 constrains the paths from intersender conflict to satisfaction with supervision and the path from resource-related conflict to satisfaction with supervision to zero. [b] Model 2 constrains the paths from task interdependence to team commitment to zero. [c] Model 3 allows the paths from resource-related conflict to satisfaction with coworkers and from task interdependence to satisfaction with coworkers to be estimated. [d] Model 4 allows the path from intersender conflict to organizational commitment to be estimated.
** $p < .01$. *** $p < .001$.

path from task interdependence to team commitment was set to zero. Prior research identified task interdependence as an antecedent of organizational commitment (Mathieu & Zajac, 1990; Morris & Steers, 1980), but no prior research proposed this relationship to team commitment. It was logical, therefore, to test a model challenging this assertion. The difference, $\Delta\chi^2(1, N = 463) = 6.52$, was significant, supporting the hypothesized model.

Less constrained models. In the first less constrained model (Model 3), we allowed the paths from resource-related conflict to satisfaction with coworkers and from perceived task interdependence to satisfaction with coworkers to be estimated. We did not originally hypothesize the path from resource-related conflict to satisfaction with coworkers; however, resource shortages could result from action or inaction internal to the team. For example, teams may fail to report shortages. Thus, frustration associated with resource-related conflict may be directed inward toward the team itself, decreasing members' satisfaction with teammates. Neither did we hypothesize that perceived task interdependence would be related to satisfaction with coworkers. Perceived task interdependence, however, may be related to satisfaction with coworkers, because people working in a cooperative environment may increase their mutual regard, respect, and satisfaction with one another. The difference in the models $\Delta\chi^2(2, N = 463) = 2.32$, was not significant; therefore, the hypothesized model is preferred over Model 3. A second, less constrained model (Model 4) estimated the path from intersender conflict to organizational commitment. Prior research by Morris and Snyder (1979) supported this relationship, which was not hypothesized because of the influence of a team environment. Even so, it is logical to test a model that challenges this hypothesis. Results indicated that the path from intersender conflict to organizational commitment did not significantly contribute to the model, $\Delta\chi^2(1, N = 463) = 3.36$.

Direct Relationships

Providing support for Hypothesis 1a, perceived task interdependence was positively related to both organizational and team commitment. Satisfaction with supervision and satisfaction with coworkers were positively related to organizational commitment and team commitment, providing support for Hypotheses 2 and 3a, respectively. Both role-conflict variables were negatively related to their respective commitment variables, supporting both Hypotheses 4a and 5a. Intersender conflict was negatively related to both satisfaction with coworkers and satisfaction with supervision, supporting Hypothesis 4b, whereas resource-related conflict was negatively related to satisfaction with supervision, supporting Hypothesis 5b.

Relative Strength of Paths

Three of our hypotheses (1b, 3b, and 4c) proposed that one path was significantly stronger than another. We tested these hypotheses by using the alternative-models approach (Jöreskog, 1993), in which the path coefficients of interest are constrained to be equal. The constrained model is compared with the original model by means of the chi-square difference test. If the constrained model fits the data less well than the unconstrained (hypothesized) model, then we have demonstrated that, when the path coefficients are estimated independently, the unconstrained model fits the data

significantly better. Hence, the path coefficients must be significantly different.

Because repeated chi-square difference tests were performed on the same data, we made a Bonferroni adjustment to the alpha levels. Because three tests were conducted, the critical probability level for each test was set to .05/3 = .017 to maintain an overall alpha of .05 (Bollen, 1989). Constraining two paths to be equal added one degree of freedom, as one fewer parameter was estimated. The critical value for a chi-square with one degree of freedom at the $p < .05$ level is 3.84. The critical value for a chi-square with one degree of freedom at the $p < .017$ level is 5.73.

Hypothesis 1b stated that perceived task interdependence would be more strongly related to team commitment than to organizational commitment. Because the organizational commitment path ($\gamma = .159, p < .01$) was stronger than the team commitment path ($\gamma = .106, p < .05$), further analysis was unnecessary and Hypothesis 1b was not supported.

Hypothesis 3b stated that satisfaction with coworkers is more strongly related to team commitment than to organizational commitment. The path coefficient from satisfaction with coworkers to team commitment was positive, significant ($\beta = .546, p < .01$), and greater than the one from satisfaction with coworkers to organizational commitment ($\beta = .122, p < .05$). When we constrained the paths to be equal, the restricted model fit the data less well than the hypothesized model did, $\Delta\chi^2(1, N = 463) = 36.35$, $p < .001$, providing support for Hypothesis 3b.

Hypothesis 4c was also supported. The coefficients from intersender conflict to satisfaction with supervision and satisfaction with coworkers were $\gamma = -.700$ ($p < .01$) and $\gamma = -.261$ ($p < .01$), respectively. When paths from intersender conflict to satisfaction with supervision and satisfaction with coworkers were constrained to be equal, the model fit the data less well than when the paths were free, $\Delta\chi^2(1, N = 463) = 61.23, p < .001$).

Indirect Effects

We tested Hypotheses 4d, 4e, 4f, and 5c, using the technique recommended by Sobel (1987). Estimations for the indirect effects, their standard errors, and a 95% confidence interval (CI) were computed, given, as input, the maximum-likelihood path coefficients and their standard errors. The indirect effect of intersender conflict on team commitment through satisfaction with coworkers ($\gamma_{23}\beta_{42}$) was $-.38 \pm .12$ ($SE = .058$), and the 95% CI did not contain zero. This result indicated that the path was significant and supported Hypothesis 4d.

Hypothesis 4e proposed that the indirect effect of intersender conflict on team commitment through satisfaction with coworkers would be greater than the indirect effect of intersender conflict on organizational commitment through satisfaction with coworkers ($\gamma_{23}\beta_{42} > \gamma_{23}\beta_{32}$). Currently, there is no statistical test to directly compare the magnitude of indirect effects; therefore, we compared the magnitude of the indirect paths and their 95% CIs. The indirect path to team commitment was over 4 times greater in magnitude than the indirect path to organizational commitment ($\gamma_{23}\beta_{32} = -.09 \pm .07$, $SE = .014$). The 95% CIs for the paths did not overlap, supporting Hypothesis 4e.

Hypothesis 4f proposed that intersender conflict would have a greater indirect effect on team commitment through satisfaction

with coworkers than on organizational commitment through satisfaction with supervision ($\gamma_{23}\beta_{42} > \gamma_{13}\beta_{31}$). The indirect path to team commitment through satisfaction with coworkers was over 6 times greater than the indirect path to organizational commitment through satisfaction with supervision ($\gamma_{13}\beta_{31} = -.06 \pm .035$, $SE = .018$). Further, the 95% CI for these paths did not overlap. This evidence supports Hypothesis 4f. The indirect effect of resource-related conflict on organizational commitment through satisfaction with supervision was $-.04 \pm .03$ ($SE = .014$), and the 95% CI did not contain zero, supporting Hypothesis 5c.

Discussion and Conclusions

This article contributes to the literature on commitment and work teams in several ways. First, it extends research on commitment as a multiple-foci phenomenon by examining antecedents of commitment to important entities in the workplace (i.e., the global organization and the work team). Previous research considering attachment from a multidimensional perspective used commitment to organizational entities as independent variables and examined their relationships with various commitment outcomes (e.g., Becker, 1992; Becker & Billings, 1993; Becker, Billings, Eveleth, & Gilbert, 1996). This research focused on antecedents of commitment, with organizational and team commitment serving as dependent variables. By doing so, we identified relationships that could help explain how individuals may form differential levels of commitment to teams and organizations.

Second, the results further suggest it may be possible to influence employees' relative levels of commitment to the organization or team by manipulating relevant antecedent variables. At this point, however, we must advise caution in making causal inferences from results of the structural equation model in this study. Causal inferences cannot be made from statistical results alone. Even so, the independent variables in our model have been identified by theory and previous research as antecedents of organizational commitment. The reader should consider the following interpretation of our results in light of the preceding observation.

We found organizational commitment to be positively related to satisfaction with supervision and negatively related to resource-related conflict. We found team commitment to be positively related to satisfaction with coworkers and negatively related to intersender conflict. Thus, it may be possible to influence employees' relative levels of commitment to either entity in either direction. This knowledge would be useful if, for example, managers were faced with problems involving both resources (resource-related conflict) and intrateam communication (intersender conflict). If budget considerations or other constraints prohibit addressing both issues concurrently, managers may factor into their prioritization decisions whether team commitment or organizational commitment is more important at the time.

To determine the relative importance of organizational and team commitment in a particular case, managers may want to assess prevailing levels of several organizationally valued outcomes. For example, organizational commitment has been linked to extrarole behavior (Gregersen, 1993; Morrison, 1994), job performance (Brett et al., 1995), and lower turnover (Bishop et al., 1997; Mathieu & Zajac, 1990), whereas team commitment has been linked to extrarole behavior (Becker & Billings, 1993; Hackman,

1987) and team performance (Bishop et al., 1997; Hackman, 1987; Scott & Townsend, 1994).

This model also illustrates the importance of indirect effects. Intersender conflict had a significant effect on organizational commitment through satisfaction with supervision and through satisfaction with coworkers. Hence, a reduction in intersender conflict should have a positive direct effect on satisfaction with supervision in addition to its indirect effect on organizational commitment.

We found perceived task interdependence to be positively related to both team and organizational commitment. The hypothesis that its relationship with team commitment would be significantly greater than with organizational commitment (Hypothesis 1b), however, was not supported. A possible explanation for this result may be found by applying field theory to circumstances existing at this research site. Hypothesis 1b presumed that the team rather than the company was the more proximal element when considering perceived task interdependence, causing affective responses resulting from perceived task interdependence to yield greater team attachment. However, field theory also says that more distal elements may impact individual reactions to a greater extent if their features are especially salient (Lewin, 1943). The use of self-directed work teams was a relatively recent intervention at our research site. Teams had been in place for a little more than 2 years, and the majority of employees were working at this location before the change took place. Hence, employees were particularly mindful that the change to the new team structure and the integration of the tasks were engineered by the company. Employees were likely to be especially aware of the company's influence in creating situations in which tasks become more interdependent. These circumstances suggest that the organization may have remained a particularly salient focus for commitment related to perceived task interdependence.

Another reason for the lack of support for Hypothesis 1b involves technological constraints. Technology had to be applied in specific ways (i.e., sewing garments in a prescribed fashion) that were beyond the influence of team members. This reduction of discretionary latitude may have reduced the amount of variance across respondents in terms of how they were able to perceive task interdependence. (The variance of perceived task interdependence was about one half that of other scales of comparable length.) This situation may change as employees become more familiar with team sewing and become more comfortable using cross-training on other jobs. Future research at locations employing teams for a longer period of time and having structures conducive to greater discretionary latitude would help clarify these findings.

There are a number of limitations to this study. First, the research design was nonexperimental. Regardless of the sophistication of the statistical techniques, causal inferences must be treated with extreme caution when using nonexperimental designs. Although the results are consistent with prior research and the hypothesized model, causal inferences should be withheld. Second, the respondents were mostly female (98%). Differences in how men and women are socialized may affect the team environment experiences and the willingness to commit to teams or organizations. Common method variance, or mono-method bias, is a concern with studies of this type. In his review of the role of self-reports in behavioral research, Spector (1994) concluded that "the reasonableness of using self-reports depends upon the purpose of the study" (p. 387). He also noted that self-reports can be quite

useful for deriving insights about how people feel about and react to their jobs and relationships among various feelings and perceptions (Spector, 1994; Spector & Brannick, 1995). Spector (1987) further concluded that "properly developed instruments are resistant to the method variance problem" (p. 438). The objective of our study required measuring individuals' attitudes toward their job, coworkers, teams, and organization. Thus, even though use of self-reports was indicated, the possibility of common method variance inflating correlations must be acknowledged.

This study suggests a number of implications for future research. First, outcome variables of commitment should be examined further. Becker, Randall, and Riegel (1995) demonstrated that a multiple-foci view of commitment was instrumental in predicting employee behavior. The idea of which behaviors were influenced by commitment to which entities, however, was not examined. Future work should examine relationships between commitment to a specific focus and important outcomes, such as productivity, turnover, and organizational citizenship behavior.

Prior research has linked important outcome variables to team commitment (e.g., team performance) and to organizational commitment (e.g., intention to quit). However, these relationships have not been examined within the context of a structural model of the type used in this study. One advantage of this type of model is that the simultaneous and differential relationships among a set of predictor variables and a set of criterion variables can be measured; that is, the model looks at a system of relationships. The importance of this advantage lies in the fact that organizational situations and events have simultaneous effects on employee attitudes, and employees are capable of making concurrent evaluations of their attachments to organizational entities. For example, managers and researchers may be interested in not only the relationships among certain variables and team commitment but also the strength of these relationships while accounting for the presence of organizational commitment.

Second, testing this model in different work environments would address its generalizability. The current test accounted for 23% of the variance in organizational commitment and 55% of the variance in team commitment. One factor that may have contributed to this difference was the great emphasis put on teams at this particular site. This emphasis was exemplified by the compensation system and the amount of team-related training provided. Employees were also encouraged to think of themselves in terms of teams instead of individual performers. For example, employees named their teams, team production results were continuously displayed, and informal awards were given for outstanding team performance.

Individuals may be affected by team dynamics that differ from those at this site. Cross-functional, cross-team activities may produce different results. This may be true especially for team members with boundary-spanning tasks and responsibilities. Finally, future research could include experimental or quasi-experimental designs and should manipulate the identified variables so that causal inferences of a less cautious nature could be made.

References

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103,* 411–423.

Angle, H. L., & Perry, J. L. (1983). Organizational commitment: Individual and organizational influences. *Work and Occupations, 10,* 123–146.

Bagozzi, R. P. (1980). *Causal modeling in marketing.* New York: Wiley.

Bateman, T. S., & Strasser, S. (1984). A longitudinal analysis of the antecedents of organizational commitment. *Academy of Management Journal, 27,* 95–112.

Becker, T. E. (1992). Foci and bases of commitment: Are they distinctions worth making? *Academy of Management Journal, 35,* 232–244.

Becker, T. E., & Billings, R. S. (1993). Profiles of commitment: An empirical test. *Journal of Organizational Behavior, 14,* 177–190.

Becker, T. E., Billings, R. S., Eveleth, D. M., & Gilbert, N. L. (1996). Foci and bases of employee commitment: Implications for job performance. *Academy of Management Journal, 39,* 464–482.

Becker, T. E., Randall, D. M., & Riegel, C. D. (1995). The multidimensional view of commitment and the theory of reasoned action: A comparative evaluation. *Journal of Management, 21,* 617–638.

Bishop, J. W., Scott, K. D., & Casino, L. S. (1997, August). *The differential effects of team commitment and organizational commitment on job performance and intention to quit.* Paper presented at the annual meeting of the Academy of Management, Boston.

Blau, P. M. (1964). *Exchange and power in social life.* New York: Wiley.

Bollen, K. A. (1989). *Structural equations with latent variables.* New York: Wiley.

Brett, J. F., Cron, W. L., & Slocum, J. W. (1995). Economic dependency on work: A moderator of the relationship between organizational commitment and performance. *Academy of Management Journal, 38,* 261–271.

Brief, A. P., & Aldag, R. J. (1980). Antecedents of organizational commitment among hospital nurses. *Sociology of Work and Occupations, 7,* 210–221.

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.

Cummings, T. G. (1978). Self-regulating work groups: A socio-technical synthesis. *Academy of Management Review, 3,* 625–634.

Curry, J. P., Wakefield, D. S., Price, J. L., & Mueller, C. W. (1986). On the causal ordering of job satisfaction and organizational commitment. *Academy of Management Journal, 29,* 847–858.

Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology, 75,* 51–59.

Farkas, A. J., & Tetrick, L. E. (1989). A three-wave longitudinal analysis of the causal ordering of satisfaction and commitment on turnover decisions. *Journal of Applied Psychology, 47,* 855–868.

Gerbing, D. W., & Anderson, J. C. (1992). Monte Carlo evaluations of goodness of fit indices for structural equation models. *Sociological Methods and Research, 21,* 132–160.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25,* 161–178.

Gregersen, H. B. (1993). Multiple commitments at work and extrarole behavior during three stages of organizational tenure. *Journal of Business Research, 26,* 31–47.

Hackman, J. R. (1986). The psychology of self-management in organizations. In R. Glaser (Ed.), *Classic readings in self-managing teamwork* (pp. 143–193). King of Prussia, PA: Organizational Design and Development.

Hackman, J. R. (1987). The design of work teams. In J. W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 315–342). Englewood Cliffs, NJ: Prentice Hall.

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign.* Reading, MA: Addison-Wesley.

Jöreskog, K. G. (1993). Testing structural equation models. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 294–316). Newbury Park, CA: Sage.

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.

Kiggundu, M. N. (1981). Task interdependence and the theory of job design. *Academy of Management Review, 6*, 499–508.

Kiggundu, M. N. (1983). Task interdependence and job design: Test of a theory. *Organizational Behavior and Human Performance, 31*, 145–172.

Lewin, K. (1943). Defining the "field at a given time." *Psychological Review, 50*, 292–310.

Lincoln, J. R., & Kalleberg, A. L. (1985). Work organization and workforce commitment: A study of plants and employees in the U.S. and Japan. *American Sociological Review, 50*, 738–760.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting & task performance*. Englewood Cliffs, NJ: Prentice-Hall.

Luthans, F., Baack, D., & Taylor, L. (1987). Organizational commitment: Analysis of antecedents. *Human Relations, 40*, 219–236.

Mannheim, B., Baruch, Y., & Tal, J. (1997). Alternative models for antecedents and outcomes of work centrality and job satisfaction of high-tech personnel. *Human Relations, 50*, 1537–1562.

Manz, C. C., & Sims, H. P. (1984). Searching for the "unleader": Organizational member views on leading self-managed groups. *Human Relations, 37*, 409–424.

Manz, C. C., & Sims, H. P. (1987). Leading workers to lead themselves: The external leadership of self-managing work teams. *Administrative Science Quarterly, 32*, 106–128.

Mathieu, J. E. (1991). A cross-level nonrecursive model of the antecedents of organizational commitment and satisfaction. *Journal of Applied Psychology, 76*, 607–618.

Mathieu, J. E., & Hamel, K. (1989). A causal model of the antecedents of organizational commitment among professionals and nonprofessionals. *Journal of Vocational Behavior, 34*, 299–317.

Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin, 108*, 171–194.

Medsker, G. J., Williams, L. J., & Holahan, P. J. (1994). A review of current practices for evaluating causal models in organizational behavior and human resource management research. *Journal of Management, 20*, 439–464.

Morris, J. H., & Snyder, R. A. (1979). A second look at need achievement and need for autonomy as moderators of role perception–outcome relationships. *Journal of Applied Psychology, 64*, 173–178.

Morris, J. H., & Steers, R. M. (1980). Structural influences on organizational commitment. *Journal of Vocational Behavior, 17*, 50–57.

Morrison, E. W. (1994). Role definitions and organizational citizenship behavior: The importance of the employee's perspective. *Academy of Management Journal, 37*, 1543–1567.

Mowday, R. T., Porter, L. W., & Steers, R. M. (1982). *Employee–organizational linkages: The psychology of commitment, absenteeism, and turnover*. New York: Academic Press.

Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior, 14*, 224–247.

Ogilvie, J. R. (1987). The role of human resource management practices in prediction of organizational commitment. *Group & Organizational Studies, 11*, 335–359.

Orsburn, J. D., Moran, L., Musselwhite, E., & Zenger, J. H. (1990). *Self-directed work teams: The new American challenge*. Homewood, IL: Business One Irwin.

Pearce, J. L., & Gregersen, H. B. (1991). Task interdependence and extrarole behavior: A test of the mediating effects of felt responsibility. *Journal of Applied Psychology, 76*, 838–844.

Peters, L. H., & O'Conner, E. J. (1980). Situational constraints and work outcomes: The influences of a frequently overlooked construct. *Academy of Management Review, 5*, 391–397.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*, 531–544.

Porter, L. W., Lawler, E. E., & Hackman, J. R. (1975). *Behavior in organizations*. New York: McGraw-Hill.

Reichers, A. E. (1985). A review and reconceptualization of organizational commitment. *Academy of Management Review, 10*, 465–476.

Rigdon, E. E. (1996). CFI versus RMSEA: A comparison of two fit indexes for structural equation modeling. *Structural Equation Modeling, 3*, 369–379.

Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly, 15*, 150–163.

Robinson, S. L., Kraatz, M. S., & Rousseau, D. M. (1994). Changing obligations and the psychological contract: A longitudinal study. *Academy of Management Journal, 37*, 137–152.

Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal, 2*, 121–139.

Scott, K. D., & Townsend, A. M. (1994, August). Teams: Why some perform and others do not. *HRMagazine, 39*, 62–67.

Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader–member exchange, and employee reciprocity. *Journal of Applied Psychology, 81*, 219–227.

Sobel, M. E. (1987). Direct and indirect effects in linear structural equation models. *Sociological Methods & Research, 16*, 155–176.

Spector, P. E. (1987). Method variance as an artifact in self-reported affect and perceptions at work: Myth or significant problem. *Journal of Applied Psychology, 72*, 438–443.

Spector, P. E. (1994). Using self-report questionnaires in OB research: A comment on the use of a controversial method. *Journal of Organizational Behavior, 15*, 385–392.

Spector, P. E., & Brannick, M. T. (1995). The nature and effects of method variance in organizational research. In C. L. Cooper and I. T. Robertson (Eds.), *International review of industrial and organizational psychology 1995* (Vol. 10, pp. 249–274). Chichester, England: Wiley.

Vandenberg, R. J., & Lance, C. E. (1992). Examining the causal order of job satisfaction and organizational commitment. *Journal of Management, 18*, 153–167.

Vandenberg, R. J., & Scarpello, V. (1991). Multitrait–multimethod validation of the Satisfaction With My Supervisor scale. *Educational and Psychological Measurement, 52*, 203–212.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

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.

Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader–member exchange: A social exchange perspective. *Academy of Management Journal, 40*, 82–111.

Williams, L. J., & Hazer, J. T. (1986). Antecedents and consequences of satisfaction and commitment in turnover models: A reanalysis using latent variable structural equation methods. *Journal of Applied Psychology, 71*, 219–231.