

## Team Goal Commitment and Team Effectiveness: The Role of Task Interdependence and Supportive Behaviors

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The objectives of this study were to test the relationships between team goal commitment and 3 criteria of team effectiveness (i.e., team performance, quality of group experience, and team viability) as well as to examine the moderating effect of task interdependence and the mediating role of supportive behaviors. Data were gathered from a sample of 74 teams working in 13 Canadian organizations. Results indicated that team goal commitment is positively related to all 3 criteria of team effectiveness. In addition, task interdependence moderates the relationship between team goal commitment and team performance. Furthermore, supportive behaviors mediate the relationships that team goal commitment has with team performance and the quality of group experience. Implications of these findings and future research needs are discussed.

*Keywords:* work teams, team goal commitment, team effectiveness, task interdependence, supportive behaviors

Increasingly, much of the work in North American and European organizations is accomplished in teams (Porter & Beyerlein, 2000). According to many authors, the implementation of teams is one of the most common changes in work settings (Devine, 2002; Mohrman, Cohen, & Mohrman, 1995; Sundstrom, McIntyre, Halfhill, & Richards, 2000). A work team may be defined as a permanent and formal group of at least two interdependent individuals who are collectively responsible for the accomplishment of one or several tasks set by the organization (Gladstein, 1984; Sundstrom, DeMeuse, & Futrell, 1990). Many advantages are associated with the use of work teams in organizations, including increased productivity, flexibility, innovation, and employee satisfaction, as well as decreased production costs, turnover, and absenteeism (Goodman, Ravlin, & Schminke, 1987; West, Borrill, & Unsworth, 1998). Nevertheless, it remains that the pres-

ence of work teams is not a panacea for all organizational problems (Buzaglo & Wheelan, 1999; Mueller, Procter, & Buchanan, 2000). Whereas some teams are very successful, others are confronted with a series of failures. Clearly, it is not sufficient to merely put individuals together in the hope that they will automatically know how to work effectively in a team (Rentsch, Heffner, & Duffy, 1994; Salas, Bowers, & Cannon-Bowers, 1995).

In this context, many studies have indicated that goal setting at the team level is an intervention that considerably enhances team performance (for research reviews, see Aubé, Rousseau, & Savoie, in press; Locke & Latham, 1990; O'Leary-Kelly, Martocchio, & Frink, 1994; Weldon & Weingart, 1993). In work settings, a team goal generally refers to the level of task outcomes that team members have to achieve (Weldon & Weingart, 1993). In other words, it establishes the threshold of success explicitly in terms of quantity, quality, speed of work, or deadlines (e.g., produce 25 units before the end of the month; reduce returns by 15% over the next year). Setting a goal at the team level means that team members must reach it collectively. Thus, team goals are connected to the performance of the team. Even if team members are involved in the goal-setting process, in hierarchical work teams, supervisors

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usually set team goals (Manz & Sims, 1987). These assigned goals are described as official because they publicly reflect the legitimate purpose and mission of the team (Perrow, 1961).

A substantial amount of research on goal processes has been carried out at the individual and group (team) level (for a review, see Locke & Latham, 1990). The core findings of these studies are that specific and difficult goals lead to higher levels of performance than do easy goals or no goals (Locke & Latham, 2002). However, according to the goal-setting theory, a goal cannot have an impact on performance unless it is accepted and internalized by the individual (Earley & Shalley, 1991). In other words, as Hollenbeck and Klein (1987) stated, "goal commitment is a necessary condition for goal setting to work" (p. 219). In team settings, team goal commitment means that team members feel an attachment to the team goals and that they are determined to reach these goals (Weldon & Weingart, 1993).

Many authors have focused on the measurement of goal commitment (e.g., DeShon & Landis, 1997; Hollenbeck, Klein, O'Leary, & Wright, 1989; Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001), the antecedents of goal commitment (e.g., Hollenbeck & Klein, 1987; Hollenbeck, Williams, & Klein, 1989), and especially the moderating effect of goal commitment on the relationship between goal difficulty and performance (e.g., Locke, 1968; see the meta-analysis of Donovan & Radosevich, 1998). Much less attention has been given to the effects of goal commitment on the behavior of individuals and on individual and team outcomes. Some studies have indicated that goal commitment at the individual level may be associated with work-related processes and outcomes (e.g., Klein & Kim, 1998; Renn, 2003). At the team level, studies have investigated the influence that group (team) goal commitment may have on group (team) performance (e.g., Hecht, Allen, Klammer, & Kelly, 2002; Hyatt & Ruddy, 1997). However, the research on team goal commitment as a determinant of team performance and other criteria of team effectiveness is still in its infancy.

The purpose of this research was to investigate the effects of team goal commitment in team contexts. In the current study, we focused on commitment toward assigned team goals. More specifically, we aimed to determine the

extent to which team goal commitment is related to team performance and to two additional criteria of team effectiveness, namely, the quality of group experience and team viability. Moreover, we investigated the moderating effect of task interdependence on these relationships. Finally, the mediating role of supportive behaviors in the relationships between team goal commitment and the three criteria of team effectiveness was examined.

### Effects of Team Goal Commitment

Commitment to team goals is generally understood in an expectancy-value framework (Weldon & Weingart, 1993). Specifically, commitment is a function of the expectancy that goal attainment is possible and the attractiveness or value placed on reaching the team goals. Conceptually, individuals who are highly committed to a goal direct their cognitive and behavioral resources toward attaining the goal, whereas individuals with low-goal commitment may be distracted from the assigned goal and may put efforts into unrelated activities because they have not internalized the goal (Renn, 2003).

The role of team goal commitment in team performance depends on the conceptualization of *performance*. As stated by Wofford, Goodwin, and Premack (1992), "the performance variable has been operationalized in two ways in goal setting literature: that is, (a) as the quantity or quality of output or productivity and (b) as the discrepancy between the goal level and the performance level (goal achievement)" (p. 600). With regard to the first conceptualization, which is often used in laboratory studies, research indicated that goal difficulty level interacts with goal commitment to predict performance (Klein, Wesson, Hollenbeck, & Alge, 1999). More specifically, the highest level of task outcomes can be reached when individuals have to attain difficult goals and are committed to them. Either goal difficulty level or goal commitment may have a main effect on performance when the range of the other variable is restricted. Thus, difficult goals can lead to higher levels of performance than easy goals, if the individuals are committed to the goals (Hollenbeck & Klein, 1987). Furthermore, when goals of equivalent difficulty level are assigned to individuals, those who are strongly commit-

ted to these goals will perform better than those who are less committed to these goals (Klein & Kim, 1998). In short, goal difficulty level and goal commitment interact with each other to determine the level of task outcomes (Weldon & Weingart, 1993).

In accordance with the second conceptualization, the assessment of team performance consists in comparing task outcome level with the standards established by team goals (Hackman, 1987; Pritchard, Jones, Roth, Stuebing, & Ekeberg, 1988; Reilly & McGourty, 1998). The more the task outcome level is close to or exceeds the level established by the goal, the better is the team performance. In organizational settings, the supervisors transmit their expectations about the required level of task outcomes to team members and judge the team's productivity and the quality of its work according to the assigned goals. Considering this view of team performance (i.e., in terms of goal attainment), team goal commitment may have a main effect on team performance regardless of the goal difficulty level (Wofford et al., 1992). Indeed, it does not matter much whether the team goals are easy or difficult, because team performance refers to the level of goal attainment. Consequently, the more the team members are committed to their assigned team goals, the more they will be willing to take measures to reach them and the better will be their team performance.

The current study investigated in organizational settings the relationship between team goal commitment and team performance assessed as a function of assigned team goals. At the empirical level, some studies with undergraduates have confirmed that team goal commitment may increase the level of task outcomes when difficult goals are assigned (Klein & Mulvey, 1995; Mulvey & Klein, 1998; Resick & Bloom, 1997; Whitney, 1994), but they have provided no information regarding goal attainment. In field settings, only the study by Hyatt and Ruddy (1997) supports the link between team goal commitment and a criterion measure similar to goal attainment (i.e., the comparison between the average response time and an organizational plan). To test whether the main effect of team goal commitment on team performance is supported in organizational contexts, we put forward the following, first hypothesis:

*Hypothesis 1:* Team goal commitment is positively related to team performance.

### Other Criteria of Team Effectiveness

Given that the purpose of a team is to produce a good or a service, team performance is the most frequently used criterion of team effectiveness (Ilgen, 1999; Shea & Guzzo, 1987). However, team performance is not the only effectiveness criterion that is relevant in organizational settings. Indeed, considering the multiple constituency approach, team effectiveness can be assessed by different constituencies, such as supervisors and team members (Hackman, 1987; Pritchard et al., 1988; West et al., 1998). From this perspective, in addition to team performance, two other criteria of team effectiveness were taken into account in this research, namely, the quality of group experience and team viability. The quality of group experience refers to the extent to which the social climate within the work team is positive (McGrath, 1991; Repetti, 1987). The use of this criterion enables one to assess whether team members have developed and maintained positive relationships while accomplishing their tasks. This criterion is similar to McGrath's (1991) notion of *group well-being*, which is defined as the maintenance of positive interaction among team members. However, because well-being is an experience of the individual (Repetti, 1987), the label *quality of group experience* was chosen instead of *group well-being*. This is intended to reflect a team-level construct as opposed to member well-being, which is an individual-level construct (Sonnentag, 1996). Nonetheless, these two constructs are closely connected, because a positive social environment is likely to be necessary for psychological well-being of individuals (Repetti, 1987). Moreover, Hackman (1987) argued that "the group experience should, on balance, satisfy rather than frustrate the personal needs of group members" (p. 323). Consequently, the quality of group experience reflects the team members' point of view about the common social environment.

Team goal commitment may be related to the quality of group experience. Indeed, team members committed to team goals are likely to recognize that they are collectively accountable for achieving them, which induces a "we are in it together" attitude within the team (Tjosvold,

1984). Thus, the determination to reach shared goals is likely to incite team members to facilitate building and maintaining positive relationships within the team in order to join their efforts to attain team goals (Weldon & Weingart, 1993). On this basis, team goal commitment is likely to enhance the quality of group experience. We formulated the following hypothesis:

*Hypothesis 2:* Team goal commitment is positively related to the quality of group experience.

Team viability may be defined as the team's capacity to adapt to internal and external changes as well as the probability that team members will continue to work together in the future (Hackman, 1987; Sundstrom et al., 1990; West et al., 1998). Throughout the team's existence, team members may have to deal with many changes, such as working with new equipment and integrating a new member. Team viability is likely to be increased by team goal commitment, because the commitment to a goal implies that individuals persist in the face of difficulties (Locke, Shaw, Saari, & Latham, 1981). Thus, team members who are highly committed to their team goal will take action to cope with internal or external changes in order to reach the team goals. Team members who are not very committed to their team goals would be less inclined to really try to adapt to changes. Considering that team goal commitment is expected to correlate positively with team viability, we put forward the following hypothesis:

*Hypothesis 3:* Team goal commitment is positively related to team viability.

### Moderating Role of Task Interdependence

According to many authors, task interdependence is likely to moderate<sup>1</sup> the relationship between team goal commitment and team performance (Klein & Mulvey, 1995; Resick & Bloom, 1997; Weldon & Weingart, 1993). Task interdependence is defined as the extent to which the behavior of one team member influences the performance of others (Thompson, 1967). In other words, it is the extent to which team members must actually work together to perform the task (Van de Ven, Delbecq, &

Koenig, 1976). When the interdependence is high, team members should contribute interactively to task accomplishment (Tesluk, Mathieu, Zaccaro, & Marks, 1997). When the interdependence is low, team members have to work independently from each other. The moderating effect of task interdependence would appear to be as follows: The higher the task interdependence, the more team goal commitment is connected to team performance. That is, team goal commitment would have a greater impact on team performance in a context where team performance corresponds to the result of a collective effort (high interdependence) than in a context where team performance refers essentially to the sum of the individual contributions (low interdependence). Thus, at a lower level of task interdependence, team members should focus more on individual accomplishment than on team accomplishment, and consequently, team goal commitment may have a lower impact on team performance. However, the moderating role of task interdependence on the relationship between team goal commitment and team performance remains to be supported by empirical data. Thus, we formulated the following hypothesis:

*Hypothesis 4:* The higher the task interdependence is, the stronger is the relationship between team goal commitment and team performance.

Taking into account that task interdependence may moderate the link between team goal commitment and team performance, we designed the current study to be an exploratory examination of the moderating effect of task interdependence on the relationships involving the other two criteria of team effectiveness. Thus, the higher the task interdependence is, the stronger the impact that team goal commitment may have on the quality of group experience and team viability. We therefore formulated the following hypotheses:

*Hypothesis 5:* The higher the task interdependence is, the stronger is the relationship

<sup>1</sup> A variable plays a moderating role when it affects the direction and/or the strength of the relation between two other variables (Baron & Kenny, 1986).

between team goal commitment and the quality of group experience.

*Hypothesis 6:* The higher the task interdependence is, the stronger is the relationship between team goal commitment and team viability.

### Mediating Role of Supportive Behaviors

The relationships between team goal commitment and the criteria of team effectiveness are likely to involve behavioral processes (Klein & Mulvey, 1995; Resick & Bloom, 1997; Weldon & Weingart, 1993). Indeed, team goal commitment cannot directly influence team effectiveness if team members do not show some key behaviors. The most likely behavioral process that could mediate<sup>2</sup> these relationships is supportive behaviors, which may be defined as the extent to which team members voluntarily provide assistance to each other when needed during task accomplishment. These behaviors reflect the enacted support that team members provide by choice to each other. Both instrumental and emotional supports are integrated into this behavioral process (Tardy, 1985). Instrumental support includes the various types of tangible help that other team members may provide (e.g., help with difficult tasks). Emotional support refers to the things that team members do that make others feel appreciated and cared for, that bolster their sense of self-worth (e.g., providing encouragement and positive feedback). We chose the label *supportive behaviors* instead of *social support* (Campion, Medsker, & Higgs, 1993), *supportiveness* (Gladstein, 1984), *backup behaviors* (Marks, Mathieu, & Zaccaro, 2001), or *cooperation* (Eby & Dobbins, 1997) to better reflect the enacted instrumental and emotional support among team members.

Team goal commitment is likely to influence supportive behaviors because of the collective nature of team goals (Weldon & Weingart, 1993). Considering that team goal attainment requires the contributions of all team members, their determination to reach these goals would lead them to support each other in order that everyone in the work team contribute to task accomplishment. In turn, supportive behaviors are likely to improve team performance (Campion et al., 1993). Indeed, these behaviors en-

able team members to effectively cope with the different events or situations that can lessen their will to contribute to task accomplishment. By supporting each other, team members promote the integration of their contributions through mutual facilitation (Erez, Lepine, & Elms, 2002). Consequently, team members can complete their respective tasks in situations in which they would have difficulty doing it individually (Eby & Dobbins, 1997; Weldon & Weingart, 1993). In other words, team members can achieve tasks and reach goals that could not be accomplished otherwise (Yeatts & Hyten, 1998).

At the empirical level, some studies have revealed that team goal commitment is related to team members' supportive behaviors (Hyatt & Ruddy, 1997), which in return are correlated to team performance (e.g., Alper, Tjosvold, & Law, 1998; Campion et al., 1993; Campion, Papper, & Medsker, 1996; Eby & Dobbins, 1997). However, none of these studies has explicitly tested the mediating role of supportive behaviors and has appropriately covered both instrumental and emotional forms of support. The expected mediating role of supportive behaviors was tested in this study.

*Hypothesis 7:* Supportive behaviors mediate the relationship between team goal commitment and team performance.

Supportive behaviors are also likely to influence the other two criteria of team effectiveness, namely, the quality of group experience and team viability. More specifically, the support that team members provide to each other can contribute to improve the social climate in work teams (Sarason, Sarason, & Shearin, 1986). Indeed, supportive behaviors may boost self-esteem, strengthen morale, or provide a sense of affiliation, which may improve the quality of group experience (Heaney, Price, & Rafferty, 1995). Furthermore, by supporting each other, team members may be more able to cope with the internal and external changes that their team must face, which may increase team viability (Podsakoff & MacKenzie, 1997; Sinclair, 2003). Consequently, this study tested the

<sup>2</sup> A mediating variable indicates a variable being between the independent and dependent variables in a causal chain (Baron & Kenny, 1986).

possibility that supportive behaviors act as a mediating variable in the relationships that team goal commitment may have with the quality of group experience and team viability. We formulated the following hypotheses:

*Hypothesis 8:* Supportive behaviors mediate the relationship between team goal commitment and the quality of group experience.

*Hypothesis 9:* Supportive behaviors mediate the relationship between team goal commitment and team viability.

## Method

### *Procedure and Sample*

The research was conducted in work settings. Organizations were invited to participate in the study through written invitations. Follow-up phone interviews were also conducted to provide additional information about the research to the managers and to gain information about the teams working in the organizations.

For validity reasons, team selection is a crucial step in a field study. For that matter, it is advisable to make sure that groups identified by the business management are real work teams, as defined in this article. Five criteria were used to select the teams (Hackman, 1987; Ilgen, 1999; Sundstrom et al., 1990): (a) The team had to be recognized as a formal group in the organization; (b) the team's mission had to be connected to the production of a good or a service; (c) team members had to interact and share resources in order to accomplish their tasks, which means they are interdependent; (d) the team had to be embedded in a larger organizational environment in which it maintains relationships with external agents, such as suppliers, customers, and other teams; and (e) team members had to work together on a relatively permanent basis, which means that the team's lifetime is undetermined. On the basis of these criteria, the sample was made up of 74 work teams working in 13 organizations located in the province of Quebec (Canada). These organizations were from both public (43%) and private (57%) sectors.

To establish the boundaries of each team, two criteria were used. Participants had to (a) have been a member of the team for at least 3 months

and (b) work with other team members at least 40% of the team's work time (e.g., each participant had to work within the team at least 2 days during a workweek of 5 days). Individuals who met these criteria were judged sufficiently aware of the workings of their team to participate in the study. Thus, team size varied between 2 and 22 members ( $M = 6.3$ ;  $SD = 4.3$ ). A total of 392 team members participated in this research. The participation rate within teams varied between 50% and 100% ( $M = 90%$ ;  $SD = 15%$ ). As for the supervisors, each one of the 74 work teams participated in this research and was assigned to the same team for at least 6 months. It should be noted that supervisors are not considered team members in the current study.

Data were collected using the survey method. Questionnaires were administered to employees and supervisors in an on-site meeting room during regular scheduled working hours. All survey administrations were conducted by two pre-trained research assistants. Participants were informed that the study aimed to investigate team functioning. They were also told that all individual responses would be kept confidential and anonymous. Before completing the survey, participants read and signed the informed consent form. The research assistants were unaware of the hypotheses of the present study.

### *Measures*

The data were collected from two sources, namely, team members and their supervisors. Team members assessed team goal commitment, supportive behaviors, task interdependence, and the quality of group experience. Supervisors, for their part, appraised team performance, team viability, and team size. This multisource assessment made it possible to reduce common method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

For all measures except team size, each item was linked to a 5-point scale ranging from *not true at all* (1) to *totally true* (5). Respondents were asked to refer to the team in which they work or the team that they supervise while completing the questionnaire. In order to avoid errors concerning the level of analysis, each item explicitly referred to the team. The questionnaire was written in

French. Consequently, the items shown below have been translated into English.

*Team goal commitment.* Commitment to the team goals was assessed using three items from the measure provided by Klein et al. (2001). The items were adapted to reflect team rather than individual goals. The Cronbach coefficient alpha calculated in this study was .85. It should be noted that Klein et al.'s original scale contained five items. However, following a content analysis of the items, we removed two items because they were not consistent enough with the definition of team goal commitment (DeShon & Landis, 1997). More specifically, one item aimed to measure perceptions of goal difficulty ("It is hard to take this goal seriously"); the other was rather speculative and did not reflect the actual determination to attain the goal ("It would not take much to make me abandon this goal"). Consequently, three items were retained from Klein et al.'s original scale and were adapted to the team level to form the team goal commitment scale. The items retained were (a) "We are committed to pursuing the team's goal"; (b) "We think it is important to reach the team's goal"; and (c) "We really care about achieving the team's goal." This last item was reworded as a positive statement to avoid reducing the validity of scale responses or inducing systematic error to the scale (Hinkin, 1995).

*Task interdependence.* Task interdependence was assessed using an adapted version of Campion et al.'s (1993) three-item measure (e.g., "In order to accomplish our work, we need each member's contribution"). For this study, the Cronbach coefficient alpha was .78.

*Supportive behaviors.* No unique scale in the scientific literature provided a complete assessment of supportive behaviors as defined in this article. Therefore, a five-item scale of supportive behaviors was derived from a content analysis of existing measures (Campion et al., 1993; Dominick, Reilly, & McGourty, 1997; Hyatt & Ruddy, 1997; Podsakoff, Ahearne, & MacKenzie, 1997). This scale taps both instrumental and emotional forms of support among team members. The items are listed in the Appendix. Cronbach's coefficient alpha for this scale was .89.

*Criteria of work team effectiveness.* The measures related to the three criteria of team

effectiveness were developed for this research using the subject matter expert method. More specifically, two professors and three PhD candidates formulated items according to an analysis of construct domain of team performance, the quality of group experience, and team viability. The three items assessing team performance concern team goal achievement, work quality, and productivity. To assess the quality of group experience, three items concerning the quality of intrateam social climate were used. Finally, the team viability scale included four items designed to measure the team's capacity to adapt to changes, to solve problems, to integrate new members, and to continue to work together in the future. The items are listed in the Appendix. The Cronbach coefficient alphas were .82 for team performance, .96 for the quality of group experience, and .84 for team viability.

*Team size.* Team supervisors were asked to report the number of members in each work team.

## Results

### *Data Aggregation and Preliminary Analysis*

Even though the participants completed their questionnaires individually, the level of analysis of each variable is the team. Consequently, individual team members' perceptions were aggregated by taking the average team member response and expressing that as a team value. To determine whether aggregation was appropriate, we assessed within-group interrater agreement, using  $r_{wg}$  (James, Demaree, & Wolf, 1984, 1993). Within-group interrater agreement was calculated for each team on each of the variables except for team performance and team viability, which were assessed by the supervisors. The obtained values were then averaged across the 74 work teams. Aggregation is justified when the average  $r_{wg}$  coefficient for each variable is greater than .70, which was the case in this study (see Table 1).

Descriptive statistics ( $M$  and  $SD$ ) and coefficient alphas for each variable are shown in Table 1. Coefficient alphas varied from .78 to .96, indicating that the measures used in this study were fairly reliable. Moreover, significance tests (skewness, kurtosis, and Kolmogorov-

Table 1  
Means, Standard Deviations, Average  $r_{wg}$ , Reliabilities, and Correlations Between Variables

Variable	<i>M</i>	<i>SD</i>	$r_{wg}$	1	2	3	4	5	6
1. Team goal commitment	3.89	0.54	.82	(.85)					
2. Task interdependence	3.70	0.46	.72	.25*	(.78)				
3. Supportive behaviors	3.66	0.46	.83	.59**	.40**	(.89)			
4. Team performance	3.88	0.70	—	.30**	.03	.36**	(.82)		
5. Quality of group experience	3.60	0.58	.78	.31**	.24*	.67**	.25*	(.96)	
6. Team viability	3.85	0.79	—	.26*	.01	.29*	.76**	.19	(.84)
7. Team size	6.26	4.35	—	.10	.12	-.05	.10	.11	.08

Note.  $N = 74$  teams. Reliability estimates (Cronbach's alphas) are in parentheses.

\*  $p < .05$ . \*\*  $p < .01$ .

rov-Smirnov) revealed that every variable showed a roughly normal distribution. In addition, examination of the residuals indicated that multivariate assumptions of linearity and homoscedasticity were respected for all variables. It should be noted that team size was included as a control variable in all analyses because it may have had an impact on the key variables (e.g., Curral, Forrester, Dawson, & West, 2001).

#### Relationships Between Team Goal Commitment and the Criteria of Team Effectiveness

Regression analyses were used to examine the first, second, and third hypotheses, which concern relationships between team goal commitment and the criteria of team effectiveness. As predicted, team goal commitment was positively and significantly ( $p < .05$ ) related to team performance, the quality of group experi-

ence, and team viability (see Table 2). Thus, team goal commitment explained between 6.5% and 9.1% of the variance of the criteria of team effectiveness. The effect size of the relationships involving team performance and the quality of group experience can be qualified as moderate, whereas the effect size of the relationship involving team viability can be qualified as low-moderate (Cohen, 1992).

#### Moderating Effect of Task Interdependence

The fourth, fifth, and sixth hypotheses predicted that task interdependence positively moderates the relationship between team goal commitment and the criteria of team effectiveness. These hypotheses were tested through a hierarchical multiple regression in two steps, which is the procedure proposed by Cohen, Cohen, West, and Aiken (2003). In

Table 2  
Team Goal Commitment Main Effect Analyses

Model	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Dependent variable: Team performance				
Step 1: Team size	.01	.02	.07	.009
Step 2: Team goal commitment	.38	.15	.29*	.085*
Dependent variable: Quality of group experience				
Step 1: Team size	.01	.02	.08	.012
Step 2: Team goal commitment	.33	.12	.30**	.091**
Dependent variable: Team viability				
Step 1: Team size	.01	.02	.05	.006
Step 2: Team goal commitment	.38	.17	.26*	.065*
Dependent variable: Supportive behaviors				
Step 1: Team size	-.01	.01	-.11	.002
Step 2: Team goal commitment	.51	.08	.60**	.360**

Note.  $N = 74$  teams.

\*  $p < .05$ . \*\*  $p < .01$ .



the first step, the dependent variable is regressed on both the independent and moderating variables. In the second step, an interaction term, created by the multiplication of the scores obtained from the two variables entered in the first step, is added to the regression model. To reduce the problem of multicollinearity due to the correlation between the first two variables entered in the model and the interaction term, the scores of the variables are centered before being multiplied. The moderating effect is supported when the regression coefficient associated with the interaction term is significant.

As expected, results revealed that task interdependence moderated the relationship between team goal commitment and team performance. Indeed, the results of the hierarchical multiple regression in Table 3 show that the regression coefficient corresponding to the interaction term was significant ( $p < .05$ ). More specifically, team goal commitment and task interdependence explained 9% of team performance variance. The addition of the interaction term in the regression model significantly increased the percentage of explained variance by 6%. However, results indicate that task interdependence did not significantly moderate the relationships between team goal commitment and the two other criteria of team effectiveness, namely, the qual-

ity of group experience and team viability (see Table 3).

To illustrate the moderating effect, Cohen et al. (2003) recommended plotting the regression of the dependent variable on the independent variable at three values of the moderating variable. These values are the mean of task interdependence, one standard deviation below the mean, and one standard deviation above the mean. Figure 1 illustrates how the relationship between team goal commitment and team performance varies as a function of task interdependence. A visual inspection of this figure reveals that the form of the interaction is consistent with Hypothesis 4. Indeed, the higher the task interdependence is, the stronger is the relationship between team goal commitment and team performance.

#### *Mediating Role of Supportive Behaviors*

Hypotheses 7, 8, and 9 predicted that supportive behaviors would mediate the relationships between team goal commitment and the three criteria of team effectiveness, namely, team performance, the quality of group experience, and team viability. These hypotheses were tested using the method set out by Baron and Kenny (1986). According to these authors, a mediating effect is confirmed when the following four conditions are satisfied: (a) the mediating vari-

Table 3  
*Task Interdependence Moderating Effect Analyses*

Model	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Dependent variable: Team performance				
Step 1: Team size	.01	.01	.09	.009
Step 2: Team goal commitment (TGC)	.48	.15	.37**	
Task interdependence (TI)	-.08	.18	-.05	.088*
Step 3: TGC $\times$ TI	.60	.27	.25*	.060*
Dependent variable: Quality of group experience				
Step 1: Team size	.01	.02	.05	.012
Step 2: TGC	.25	.13	.23	
TI	.20	.15	.16	.117*
Step 3: TGC $\times$ TI	-.26	.23	-.13	.016
Dependent variable: Team viability				
Step 1: Team size	.01	.02	.06	.006
Step 2: TGC	.45	.18	.31	
TI	-.10	.21	-.06	.069
Step 3: TGC $\times$ TI	.38	.32	.14	.019

Note.  $N = 74$  teams.

\*  $p < .05$ . \*\*  $p < .01$ .

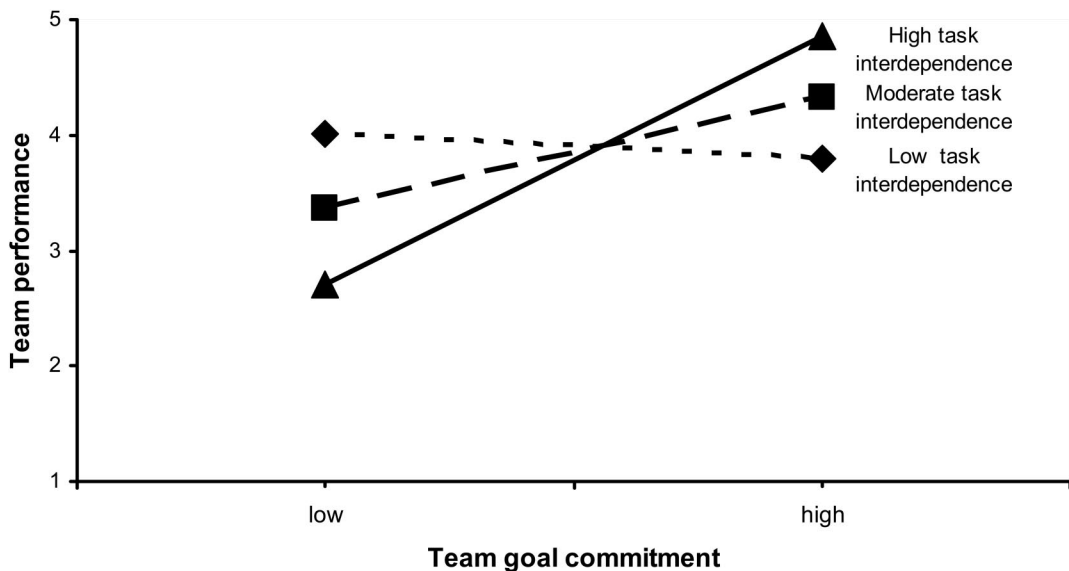


Figure 1. Relationship between team goal commitment and team performance for high, moderate, and low levels of task interdependence.

able (supportive behaviors) must be significantly related to the dependent variable (each criterion of work team effectiveness); (b) the independent variable (team goal commitment) must be significantly associated with the mediating variable; (c) the independent variable must be significantly correlated with the dependent variable; and (d) while regressing the dependent variable on both the independent and mediating variables, the regression coefficient of the mediating variable must be significant. If any of these conditions is not respected, then results do not support the mediating effect. Otherwise, if all conditions are held, the regression coefficient of the independent variable must be nonsignificant for a perfect mediation. If the regression coefficient of the independent variable is significant, the mediation is said to be partial, which means that the relationship between the independent variable and the dependent variable is not entirely explained by the mediating variable.

The regression analyses indicate that the first three conditions were satisfied for each hypothesis concerning mediating effects. More specifically, supportive behaviors were significantly ( $p < .05$ ) related to team performance, the quality of group experience, and team viability (see Table 4), which supports the first condition.

Team goal commitment was related to supportive behaviors, which supports the second condition (see Table 2). Moreover, team goal commitment was significantly related to team performance, the quality of group experience, and team viability (see Table 2). These last results support the third condition.

To test Baron and Kenny's (1986) fourth condition, we performed multiple regression analyses (see Table 5). When the dependent variable is team performance or the quality of group experience, the results of the analyses indicate that the regression coefficients associated with supportive behaviors were significant ( $p < .05$ ) and that the regression coefficients associated with team goal commitment were nonsignificant ( $p > .05$ ). Consequently, the fourth condition is satisfied in these two first cases. More specifically, results indicate that supportive behaviors seem to have mediated perfectly the relationships between team goal commitment and two effectiveness criteria, namely, team performance and the quality of group experience. However, the relationship between team goal commitment and team viability does not seem to have been mediated by supportive behaviors. In this case, the regression coefficients of team goal commitment and supportive behaviors were nonsignificant ( $p > .05$ ).

Table 4  
*Supportive Behaviors Main Effect Analyses*

Model	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Dependent variable: Team performance				
Step 1: Team size	.02	.02	.11	.009
Step 2: Supportive behaviors	.56	.17	.36**	.131**
Dependent variable: Quality of group experience				
Step 1: Team size	.02	.01	.14	.012
Step 2: Supportive behaviors	.85	.11	.67**	.453**
Dependent variable: Team viability				
Step 1: Team size	.02	.02	.09	.006
Step 2: Supportive behaviors	.50	.20	.29*	.084*

Note. *N* = 74 teams.

\* *p* < .05. \*\* *p* < .01.

In sum, Hypotheses 7 and 8 are supported, but Hypothesis 9 is not.

### Discussion

With the current study we aimed to investigate the consequences of team goal commitment in organizational settings. Traditionally, the role of commitment toward goals was limited to a moderating effect on the relationship between goal difficulty level and performance (e.g., Hollenbeck & Klein, 1987). However, more and more authors have emphasized the potential role of goal commitment as a determinant of behaviors and outcomes (e.g., Renn, 2003; Wofford et al., 1992). This research is in keeping with this view and, more precisely,

examines in more depth the relationships between team goal commitment and three criteria of team effectiveness.

Results supported the predicted main effects that team goal commitment is likely to have on three criteria of team effectiveness. The commitment to team goals may influence team performance as assessed by the supervisors, which is consistent with the results of Wofford et al.'s (1992) meta-analysis at the individual level. Moreover, team goal commitment may help to enhance the quality of group experience and team viability. The effect sizes of team goal commitment on team performance ( $\Delta R^2 = .085$ ), the quality of group experience ( $\Delta R^2 = .091$ ), and team viability ( $\Delta R^2 = .065$ ) corroborate that it is a nonnegligible predictor of team ef-

Table 5  
*Supportive Behaviors Mediating Effect Analyses*

Model	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Dependent variable: Team performance				
Step 1: Team size	.02	.02	.10	.009
Step 2: Team goal commitment	.15	.18	.12	
Supportive behaviors	.45	.21	.29*	.139**
Dependent variable: Quality of group experience				
Step 1: Team size	.02	.01	.16	.012
Step 2: Team goal commitment	-.17	.12	-.16	
Supportive behaviors	.97	.14	.77**	.469**
Dependent variable: Team viability				
Step 1: Team size	.01	.02	.07	.006
Step 2: Team goal commitment	.19	.21	.13	
Supportive behaviors	.37	.25	.21	.094*

Note. *N* = 74 teams.

\* *p* < .05. \*\* *p* < .01.

fectiveness. These results show that commitment to team goals may have consequences on outcomes at the team level.

Furthermore, this study represents the first attempt to empirically examine the moderating effect of task interdependence on the relationships between team goal commitment and the criteria of team effectiveness. As predicted, results indicated that task interdependence significantly moderates the relationship involving team performance. More specifically, team goal commitment is more strongly related to team performance when task interdependence is high than when task interdependence is low. This research thus highlights the role of task interdependence in the study of the determinants of the team performance. However, at an exploratory stage, task interdependence does not appear to moderate the relationships between team goal commitment and the other two criteria of team effectiveness, namely, the quality of group experience and team viability. Though task interdependence influences the capacity of team goal commitment to increase performance, it does not affect the capacity of team goal commitment to enhance the quality of intrateam social environment and the adaptation of the team to changes. In other words, the team members' commitment toward their team goals is likely to increase the quality of group experience and team viability regardless of the level of task interdependence. Thus, this study reveals the differential effect of task interdependence according to the criteria of team effectiveness. Future studies should investigate other factors that might moderate the relationships between team goal commitment and the criteria of team effectiveness.

This study also reveals that at least two of the observed relationships between team goal commitment and team effectiveness are indirect. The results indicated that supportive behaviors completely mediate the relationships that team goal commitment has with team performance and the quality of group experience. These results suggest that team members who are committed to their team goals are likely to adopt more supportive behaviors, which in turn may increase team performance and the quality of group experience. Consequently, the current study shows that team goal commitment may enhance an important behavioral process that increases two key criteria of team effectiveness.

However, the results did not support the mediating role of supportive behaviors in the relationship between team goal commitment and team viability. These last results do not necessarily imply that the relationship between team goal commitment and team viability is direct. They instead suggest that the mediating process involved in this relationship, if there is one, does not correspond to supportive behaviors, at least as this variable was defined and measured in this article.

The findings related to team performance and team viability are less influenced by common method variance, because the independent variable (team goal commitment) and the dependent variables (team performance and team viability) have been assessed by two distinct sources, namely, team members and supervisors (Podsakoff et al., 2003). Therefore, the relationships involving those variables are less likely to be spuriously inflated by common method variance. However, the use of a common source for the measurement of team goal commitment, task interdependence, supportive behaviors, and the quality of group experience raises the question of how much of the explained variance in the relationships between these variables is common method variance and how much is true variance. Nevertheless, considering the nature of these variables, team members are one of the best sources to assess them (Tesluk et al., 1997).

### *Limitations and Directions for Future Research*

The present study has a few limitations that should be mentioned. First, team performance was assessed subjectively by the teams' supervisors, which means that different biases may influence the assessment (e.g., recency effect, central tendency errors). However, considering that supervisors are responsible for assigning team goals and assessing team outcomes in organizational contexts, they are in the best position to provide data about team performance. Second, this study was based on a cross-sectional design in which data were collected during a one-time assessment without variable manipulation. Therefore, this study does not provide direct evidence of causal links between team goal commitment and the criteria of team

effectiveness. However, given the positive results of this study, experimental and longitudinal research should now be conducted in order to obtain more definitive results about the direction of causality. Finally, although the sample size ( $N = 74$  work teams) was quite large for a study on work teams, it was insufficient to perform structural equation modeling (SEM) analyses. In addition to control measurement error, SEM is the only analysis that allows complete and simultaneous tests of all the relationships. Taking into account the positive results of this research, it would be beneficial in future research to constitute a larger sample and to perform SEM analyses.

### *Implications and Conclusion*

The prevalence of work teams in organizations highlights the need to understand factors that influence team effectiveness. The current research extends the understanding of the multiple effects of team goal commitment. The results of this research indicate that team goal commitment may have a main effect on team performance, the quality of group experience, and team viability. In concrete terms, these results suggest that managers and consultants would be well advised to promote team members' team goal commitment in order to improve team effectiveness. For this purpose, Hollenbeck and Klein (1987) suggested a number of ways to enhance the commitment to goals. These ways refer, for example, to the explicitness of the goals, the reward structures, and instrumental support from supervisors. Otherwise, given the encouraging results of this study, research on the nomological net of team goal commitment should be pursued. Future research would help to deepen the understanding of the antecedents and the consequences of team goal commitment in work team settings.

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(Appendix follows)

## Appendix

## Scale Items Created or Adapted for This Study

## Supportive Behaviors

1. We help each other out if someone falls behind in his/her work.
2. We cooperate to get the work done.
3. We encourage each other to do a good job.
4. We recognize and value the contributions of each member to task accomplishment.
5. We care about team members' feelings and well-being.

## Team Performance

1. The members of this team attain their assigned performance goals.
2. The members of this team produce quality work.
3. This team is productive.

## Quality of Group Experience

1. The social climate in our work team is good.

2. In our team, relationships are harmonious.
3. In our team, we get along with each other.

## Team Viability

1. Team members adjust to the changes that happen in their work environment.
2. When a problem occurs, the members of this team manage to solve it.
3. The new members are easily integrated into this team.
4. The members of this team could work a long time together.

*Note.* The items presented have been translated from French.

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