THE ROLE OF LEADERS IN SHAPING TEAM NORMS

The role of emergent leaders in shaping the norms of an initially leaderless problem solving team was examined in the context of a field study of autonomous groups. Leaders were found to strongly influence the norms that a team adopted around problem solving behaviours, such that when staff started out with low expectations of collaborative problem solving behaviours, a leader who had initially high problem solving behaviour expectations was able to significantly raise the problem solving norms established in the team. Team problem solving norms significantly impacted peer assessments of individual team member problem solving behaviours.

Introduction

Autonomous work teams are becoming an increasingly popular work design strategy (Cohen, 1993; Lawler, Mohrman, & Ledford, 1995; Manz & Sims, 1993). Such teams are characterized by the team taking responsibility for completion of a variety of tasks, including team maintenance functions (e.g., conflict resolution, leadership, and decision making), work allocation, and identifying and solving ill-defined or poorly structured problems (Cannon-Bowers, Oser, & Flanagan, 1992). Such teams are often charged with problem solving in an effort to improve the effectiveness of organizational decision-making (Anderson & Balzer, 1991; Taggar, 2002).

When teams are autonomous, team members can be considered to be relatively empowered. Within the group, social expectations and support are environmental factors that moderate or help to actualize the potential for empowerment of individuals and groups. Social expectations may vary in their degree of saliency. There may be fairly weak social cues telling each member how they may behave (i.e., “weak” situation), so they behave in a way consistent with their natural propensity. However, as team norms (collectively held expectations) develop, the team context would become “stronger” and better social cues develop to guide team member behaviour. In order to encourage effective team member behaviour across all members, some academics and practitioners have suggested that the team set formal team norms at the beginning of the team interaction (e.g., Feldman, 1984; Argote, 1989). According to Coleman and Carron (2001), team norms serve an informational function in that members are provided with information about the “group’s reality and afforded standards against which to compare a person’s behavior” (p. 201). Negotiation of common expectations, in the form of agreed upon team norms about how each team member should behave can contribute to team performance (Mullen & Copper, 1994; Roethlisberger & Dickson, 1939; Thompson, 1967). In conditions of high reciprocal interdependence, the absence of strong norms supporting task accomplishment detracts from group effectiveness.

Leadership has been linked to both individual performance within a team and to team performance (Borman, 1990; Cohen, Chang, & Ledford, 1997; Kenny & Zaccaro, 1983). Emergent leaders may be just as important to the facilitation of team task completion as are designated leaders (Stogdill, 1974). The manner in which a leader comes to power—whether formally designated or emerging—may be “unimportant in comparison to the behaviours of the
leader” (Firestone, Lichtman, & Colamosca, 1975, p. 347). Schneider and Goktepe (1983) define emergent leaders as group members who exert significant influence over other members of the group, although no formal authority has been vested in them. Leaders differ from other team members in that they are “more likely to direct other group members’ activities” (De Souza & Klein, 1995, p. 475). The emergent leader role involves initiating or formulating goals, organizing the group’s thinking, clarifying team member responses, and summarizing, generalizing, and formulating conclusions (Bass, 1949, 1961). However, there is little research on how an emergent leader impacts group norms that are agreed upon at the beginning of the team interaction.

The primary goal of this study was to develop and assess a model that depicts the impact of a team leader, and other team members, on negotiated and agreed upon team norms. The focus is specifically on norms established for collaborative problem solving within the team – Stevens and Campion’s (1994) view collaborative problem solving as fundamental to team effectiveness. The impact of the collaborative problem solving norms established by a team on subsequent individual team member behaviour is also explored in our longitudinal study of team dynamics. Figure 1 depicts the model tested.

**Figure 1**

*Formation of group norms from leader and staff expectations*

- Conflict
- Communication
- Goal-setting/performance mgmt.
- Planning/Task

- Leader expectations
- Staff expectations
- Staff expectations x leader expectation

**Hypotheses:**
- $H_1$
- $H_2$
- $H_3$
- $H_4a$
- $H_4b$
- $H_4c$
- $H_4d$
- $H_4e$
Role of a Team Leader

LePine, Hollenbeck, Ilgen and Hedlund (1997) suggest that if a team leader has the greatest impact on team performance, then the leader role may be viewed as separate from the role of other team members whom they refer to as team staff. They found that high cognitive ability and conscientiousness on the part of both leader and staff were important for team performance, thereby supporting the idea of unique roles being played by the leader and staff in the teams that they studied. Similarly, Taggar, Hackett, and Saha, (1999) found that resources possessed by a team leader (e.g., personality traits) and his or her staff both predicted team performance. Moreover, they found that in some cases, the resources possessed by the team leader were more important than the resources possessed by the staff in predicting team performance, and that there was an interaction between leader and staff contributions to the team. Teams performed best when both the emergent leader and other team members were high in leadership.

Seers, Petty, and Cashman, (1995) argue that due to the self-managing nature of autonomous work teams, such teams “experience more peer-directed role-making interaction” (p. 21). Applying the role development process (Hollenbeck, Lepine, & Ilgen, 1996; Seers, 1989) to the leadership emergence, one anticipates that a leader emerges when peers expect leadership behaviour from a team member who fulfills those expectations. Therefore, exchanges between team members may take structure not from formal job positions but from the negotiated roles or relationships between team members (Seers, 1989). This process assumes aggregation of perceptions of role episode exchanges across members of a team, leading to general role consensus within the team (Seers, Petty, & Cashman, 1995).

Leaders emerge early in a team’s interaction (Okhuysen, 2001; Taggar, Hackett, & Saha, 1999). The attribution of leadership early in team interaction may have implications for the development of group norms (Feldman, 1984; Gersick & Hackman, 1990).

Assessment of behavioural norms. Norms (collectively held expectations) are established in the early stages of team development (Tuckman & Jensen, 1977). When individuals join groups, their feelings of uncertainty regarding expected actions are eased as subsequent communication with the group clarifies appropriate behaviour (Colman & Carron, 2001). Over time, “interaction among group members tends to decrease the variance in their behavior” (Vroom, 1969). This is because group norms are developed to express the group’s values. Norms apply more or less equally to all team members (Argote, 1989). Consistent with social exchange theory, norms give rise to obligations that form the basis of each person’s agreement with each other and with the group as a whole (Shore & Barksdale, 1998).

Based on the earlier work of Stevens and Campion (1994), Taggar and Brown (2001) developed a typology of performance-relevant, individual team member behaviours that are related to effective team performance. Their typology consisted of 14 behavioural dimensions, (a) reaction to conflict; (b) addresses conflict; (c) averts conflict; (d) synthesis of team’s ideas; (e) involving others; (f) participates in problem-solving; (g) effective communication; (h) goal setting/achievement; (i) team citizenship; (j) commitment to team; (k) focus on task-at-hand; (l) preparation for meetings; (m) providing/reaction to feedback; and (n) performance management. Taggar and Brown (2001) suggested that these dimensions might “be used to determine the role a new or existing member should assume within a team” (p. 721). As such, team norms may develop around these behavioural dimensions as expectations concerning team member roles evolve.
In the present study, teams were instructed to develop norms around these performance-relevant behaviours, with the expectation that the norms would influence team member behaviours. The dimensions can be aggregated to form the 5 dimensions of teamwork described by Stevens and Campion (1994), as outlined by Taggar & Brown (2001) – conflict resolution, collaborative problems solving, communication, goal setting/performance management, and planning/task coordination.

**Problem solving behaviour.** A fundamental activity of groups is the integration of individual knowledge into collective knowledge to solve a problem. Indeed, there are many organizational situations in which individuals with specialized knowledge must integrate their knowledge in a group to solve problems, for instance, multifunctional product development groups working, top management teams whose members represent different business functions and who must make strategic choices about their collective business, and teams of factory representatives working on manufacturing process improvements (Ancona & Caldwell, 1992; Eisenhardt, 1989; Tyre & Orlikowski, 1994).

In previous research on group problem solving, the dominant research tradition has been to identify variables that will encourage social interaction between participants and optimise team productivity (e.g., Bettenhausen, 1991; Keller, 2001; Jehn & Mannix, 2001). For example, research has been undertaken on training (Wheeler & Valacich, 1996; Bottger & Yetton, 1987), creativity (Amabile, 1996, 1998; McFadzean, 1996), group support systems (Dennis & Valacich, 1993; Dennis, 1996), group size (Gallupe et al., 1992; Hare, 1981) and so on. There is little research on team roles, and specifically how a leader impacts team problem solving norms.

The team leader’s role is thought to affect the procedures and outcomes of problem solving discussions. Several leader factors may have an impact because leaders often direct the discussion process or serve an integrative function within the team (Maier, 1967). In the present study, all team members were asked to complete a questionnaire in which they reported the level of expected behaviours they would display once they were formed into teams. After reporting their individual expectations, they were formed into teams and asked to negotiate and agree upon group norms. Subjects were asked to treat agreed upon norms as a written contract.

Based on the above literature review, we can make the following hypotheses with respect to group norms about problem solving.

**H1.** Group problem solving norms ($t_2$) will be predicted by a leader’s reported expectation for how frequently (s)he will display collaborative problem solving behaviour ($t_1$).

**H2.** Group problem solving norms ($t_2$) will be predicted by a staff’s (mean aggregation) reported expectation for how frequently it will display collaborative problem solving behaviour ($t_1$).

**H3.** Leader and staff (mean aggregation) collaborative problem solving expectations will interact to predict group norms, such that a leader can ameliorate the low expectations of staff.

Normative beliefs, or our expectations of the reactions of others, influence attitudes, intentions, and behaviours according to the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Accordingly:
H4. Collaborative problem solving group norms (t2) will predict individual team member behaviour (t3) on (a) conflict resolution, (b) collaborative problem solving, (c) communication, (d) goal setting/performance management, and (e) planning/task coordination.

**Method**

**Participants and Procedure**

Participants were 280 third yearhonours business students enrolled in an organizational behaviour course in a southern Ontario university (56% women, mean age = 21 years). As is the practice in many North American business schools, students worked in groups to complete assignments for their course. Students were randomly assigned to 65 mixed-sex groups that ranged in size from 3 to 6 persons. Groups were created during the second week of classes and remained together for the duration of the 12-week course. Immediately following group formation, participants were asked to complete a measure of their individual expectations regarding their contributions to their team in terms of problem-solving behaviours (Taggar & Brown, 2001). Each group then met and established norms around these behaviours. They did so through a 30-minute discussion for which they were asked to achieve “group consensus” regarding “behavioural expectations of team members” and complete a measure of problem-solving behavior as a team. Finally, each team member signed this measure of team expectations to indicate that agreement had been reached on the norms.

Students were given autonomy on how best to accomplish team assignments over the term. In the final week of classes, 10 weeks later, participants completed peer evaluations using a short form of the individual and team expectations measures completed at the beginning of the term. Although the behavioural items were identical to the earlier measures, at this point they were asked to “assess frequency of behaviours” of their fellow group members based on their observations in the course. In addition, members completed a leadership measure on other group members. Participants were informed that the data would be used for research purposes rather than determining course grades.

**Group Tasks**

Student teams worked together on two assignments for 35% of their course grade. Both tasks involved solving applied problems. The first, worth 15% of their grade, was to make a 15-minute presentation in class on a topic from the course, (e.g., expectancy theories of motivation). They were required to summarize the main concepts and their practical implications. Teams made presentations during weeks 3, 6 and 7 of the course. The second, worth 20% of their grade, was a written analysis of a business case. Teams submitted their written case analysis in week 10 of the course. Teams had received their results for the first assignment, but not for the second, at the time they completed peer evaluations of team behaviour and leadership.

**Measures**

**Individual and team expectations.** Both team member’s individual expectations for their own behaviours (time 1) and the team’s expectations for its members reached through consensus (time 2) were assessed using the measure of team problem-solving behaviours developed by Taggar and Brown (2001). The purpose of their research was to create a typology of performance-relevant team member behaviours. Critical incidents were collected from business student teams that worked together over 13 weeks to complete projects for their organizational behaviour/human resource management course. From these incidents, a 46-item
measure comprising 14 meaningful behavioural observation scales (BOS) was developed (Latham & Wexley, 1977). Each item requires the rater to assess the frequency of a behaviour on a 5-point Likert-type scale ranging from 1 (almost never) to 5 (almost always). The items and scales were cross-validated with a second sample. This measure was found to have strong inter-rater reliability, ranging from .73 to .85 for the BOS scales, and to account for 72% of the variance in team performance. Taggar and Brown suggest that the hierarchical factor structure of the data allows the 14 dimensions to be aggregated into 5 dimensions, making the results comparable to Stevens and Campion’s results. These latter dimensions are conflict resolution, collective problem-solving, communication, goal-setting/performance management, and planning/task coordination. The authors note that the only behavioural dimension not captured by their typology was leadership. At the individual level, this measure assessed each team member’s expectations for his or her own behaviour in teams; at the team level, this measure assessed the agreed-upon expectations for members of the team.

**Peer evaluations of team behaviour.** Team members evaluated the frequency of team behaviours of their fellow members (time 3) on the measure of team problem solving behaviours. Team members did not rate themselves. Again, responses were measured on a 5-point Likert-type scale ranging from 1 (almost never) to 5 (almost always). Mean peer evaluations were used to assess behaviours across each of the 5 dimensions identified by Taggar and Brown. Dimension Cronbach alpha’s varied from .73 to .87. To assess the level of inter-rater agreement on the behavioural ratings, we calculated the $r_{wg}$ score (James, Demaree, & Wolf, 1983) for each participant on each of the 14 behavioural dimensions. The average score across all ratings and participants was .84, which indicates adequate inter-rater agreement. In conclusion, team members appeared to agree as to which individual’s demonstrated high levels of the behaviours of interest (and which individuals did not).

**Peer evaluations of leadership.** Team members evaluated their fellow members on leadership using the General Leadership Impression (GLI) measure (Cronshaw & Lord, 1987). Team members did not evaluate themselves. This measure was strongly related to objective measures of leadership behaviours and other measures of leadership perceptions (Lord, 1977). This measure contained six verbally-anchored scales that assessed the amount of exhibited leadership, the extent to which the member was typical of a leader, the amount of leadership behaviour, correspondence to the image of a leader, willingness to choose the member as a leader for a future group, and ranking as the leader of the present group. Responses were measured on 5-point scales with lower numbers indicating greater leadership. As in Cronshaw and Lord, these 6 items were summed to yield an overall index of general leadership impression. The summated ratings were averaged across peers to assess leadership. The team member with the strongest general leadership impression (lowest score) was defined as the leader, while other team members were defined as staff. Thus, in this study the leader was determined through the process of leader emergence rather than appointment.

**Aggregation to the Staff Level.** Hypotheses 1 to 3, proposes relationships between group-level variables. To justify our procedures for treating measures taken at the individual level as having staff-level properties, we relied on Chan’s (1998) typology of composition models. Chan argued that an additive aggregation model (using the mean of individual-level variables as a group level variable) is appropriate when the theoretical interest is not agreement, but instead is the magnitude of an effect at the group level. That argument applies to our team-level measure of teamwork behaviours. Accordingly, the average score of this measure of behaviour is the best representation of the team-level construct, irrespective of the level of within-group agreement.
Control variables. Age, gender and group norm for situational strength were control variables for individual level analyses. Situational strength was assessed by one item – “degree to which the team imposes structure and constraints on team member’s behaviour” (1 = less than 20% of the time to 5 = more than 80% of the time).

Results

A correlation matrix of key study variables at the individual level of analysis are in Table 1. While group norms established for each of the teamwork dimensions were all correlated, we decided the correlations were not great enough to aggregate variables to form higher order constructs.

Table 1
Correlation Matrix of Study Variables at the Individual Level, Controlling for Team Member Age and Gender, and for Group Situational Strength Norm (N = 305)

<table>
<thead>
<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>1. Coll. problem solving norm</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>2. Peer ratings of conf. resolution</td>
<td></td>
<td>.15*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Peer ratings of coll. problem solving</td>
<td></td>
<td>.14*</td>
<td>.52***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Peer ratings of comm.</td>
<td></td>
<td>.12</td>
<td>.26***</td>
<td>.16*</td>
<td></td>
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<tr>
<td>5. Peer ratings of goal setting/ performance management</td>
<td>.23***</td>
<td>.51***</td>
<td>.53***</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>6. Peer ratings of planning/task coord.</td>
<td>.17*</td>
<td>.44***</td>
<td>.66***</td>
<td>-.03</td>
<td>.63***</td>
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Note: * p < .05, ** p < .01, *** p < .001.

Hypotheses 1 to 3 were tested using regression analysis and are the group level. Results are in Table 2. Hypothesis 1 was supported. Problem solving norms (t2) were associated with a leader’s reported expectation for how frequently (s)he would display collaborative problem solving behaviour (t1) ($\beta = 3.84, p < .05$). Hypothesis 2 was also supported. Group problem solving norms (t2) were associated with a staff’s reported expectation for how frequently it would display collaborative problem solving behaviour (t1) ($\beta = 2.92, p < .05$). We also found that leader and staff collaborative problem solving expectations interacted ($\beta = -3.78, p < .05$) to predict group norms, such that a leader can ameliorate the low expectations of staff (Figure 2).

Table 2
Results of the Regression of Group Collaborative Problem Solving Norms on Leader, Staff, Leader X Staff Collaborative Problem Solving Expectations N = 65 Teams)

<table>
<thead>
<tr>
<th>Dependent variable measured at time 2</th>
<th>Behavioral expectations (independent variables) measured at time 1.</th>
<th>$\beta^a$</th>
<th>t</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coll. Problem solving behaviour norm (t2)</td>
<td>Leader collaborative problem solving expectations (hypothesis 1)</td>
<td>3.84*</td>
<td>2.22</td>
<td>.38</td>
</tr>
<tr>
<td></td>
<td>Mean staff collaborative problem solving expectations (hypothesis 2)</td>
<td>2.92*</td>
<td>2.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean staff collaborative problem solving expectations X Leader collaborative problem solving expectations (hypothesis 3)</td>
<td>3.78*</td>
<td>2.02</td>
<td></td>
</tr>
</tbody>
</table>

Note: * p < .05, ** p < .01, *** p < .001. *Standardized Beta. Results are similar if the gender and age of the leader are controlled.
At the individual level we expected that the collaborative problem solving group norms (t2) would predict individual team member behaviour (t3) on (H4a) conflict resolution ($r = .15$, $p < .05$), (H4b) collaborative problems solving ($r = .14$, $p < .05$), (H4d) goal setting/performance management ($r = .23$, $p < .01$), and (e) planning/task coordination($r = .17$, $p < .05$). Problem solving group norms (t2) did not predict individual communication team member behaviour (H4c) communication ($r = .12$, $p > .05$).

Discussion

This study proposed that leader and staff expectations interact when group norms are being formed, such that the team leader with high expectations for problem solving behaviour within the team can compensate for a staff’s low expectations. This is what we found. We also found that the norms that are thus formed, impact a variety of the behaviour of individuals within teams. This is consistent with previous research (e.g., Fiske & Taylor, 1991). To date, little research has explored the role that leaders play in shaping members' interactions through their impact on team norms. Team norms are important in shaping members' relationships and represent an important research area (Guzzo & Dickson, 1996).

In the initially leaderless teams we studied, the process of role making and role taking may result in development of an informal hierarchy of relationships. That is, once a person has assumed the leadership role in an initially leaderless team, that person may function in much the same way as a designated leader. Although the emergent leader may have no formal authority, (s)he may have informal authority granted from the role negotiation process. This may be one explanation for the similarity of the results reported here and those reported by Lepine et al., (1997). Hollenbeck et al. (1995) suggested that part of designated leader’s job may be to weigh each staff member’s opinion in coming up with a single overall decision from the team as a whole. We found that an emergent leader is likely to most impact a group’s problem solving norm when (s)he believes that the norm for expected behaviour is too low and needs to be increased. In this way, the leader has impact on team performance by facilitating problem solving behaviour in his or her peers. The impact of a leader on problem solving norms supports the notion that members begin to develop roles in a relatively short time after team formation.

Figure 2

Plot of Interaction Effects between Leader Expectations of Problem Solving Behaviour and Staff Expectations of Problem Solving Behaviour ($N = 65$ teams)$^a$

$^a$Using marginal means (in GLM).
Leader coll. problem solving exp.

Estimated Marginal Means

Staff exp.

Low

High

35.5

36.0

36.5

37.0

37.5

38.0

38.5
Although the participants in our study were students, the team problem solving task they performed had meaningful personal consequences. In addition, the participants were largely responsible for the results that they obtained. Thus, we believe that our findings will generalize to organizational settings that use autonomous teams with no formally designated leader. Nevertheless, the precise influence of work experience and organizational context on the present results should be explored in future research.

References

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