

Event criticality, urgency, and duration: Understanding how events disrupt teams and influence team leader intervention

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Abstract

Research has begun to recognize the role leaders can play in enhancing semi-autonomous work team effectiveness. One recent approach suggests that leaders enhance team functioning by intervening in the context of specific events, where the effectiveness of active intervention strategies is moderated by event disruptiveness [Morgeson, F.P. (2005). The external leadership of self-managing teams: Intervening in the context of novel and disruptive events. *Journal of Applied Psychology*, 90 497–508.]. The present study extends this research by examining the relationship between event criticality, urgency, and duration and event disruptiveness as well as the amount of time leaders spend managing different types of events. Using both qualitative and quantitative methods in four different organizations, we found that these three characteristics of events were positively related to team disruption, but only urgency was related to the amount of time leaders spent managing the event. A qualitative analysis of the events revealed that the impact of events on team functioning and leader intervention varied according to the type of event encountered. The implications of these findings for team leadership research are discussed.

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Work is increasingly structured around autonomous or semi-autonomous teams (Cascio, 1995; Hackman, 1990; Lawler, 1986; Manz & Sims, 1993). Given the autonomy and control teams like this exert over their immediate work environment (Cohen, Chang, & Ledford, 1997), they are commonly charged with many of the managerial and maintenance functions typically performed by the leader (Hackman, 1986; Manz & Sims, 1980, 1987). This suggests that these teams do not require formal external leadership.

Yet a number of researchers have pointed to the importance of work team leadership, suggesting that leaders of self-managed work teams are necessary (Barker, 1993; Cummings, 1978; Mills, 1983; McIntyre & Salas, 1995) and play an influential role in determining the goal-directed behavior of the group (Morgeson, 2005; Schriesheim, Mowday, & Stogdill, 1979). Although commonly found in team settings (Stewart & Manz, 1995), the leader's role is often ambiguous (Manz & Sims, 1987) and apparently redundant given high levels of team self-management and leadership capacity that often resides within a team (Day, Gronn, & Salas, 2004). This results in something of a paradox of leadership because it is unclear why a self-managing team requires any leadership at all (Manz & Sims, 1984; Mills, 1983). The present research seeks to address this paradox by suggesting that disruptive events impact team functioning, thereby creating a need for external leader assistance in teams that otherwise have sufficient leadership capacity within

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the team. We then examine the types and characteristics of events that lead to disruptions in teams and how an external team leader intervention in the team is a function of these events.

1. The performance environment of semi-autonomous teams

The sine qua non of semi-autonomous teams is that they assume responsibility for managing and executing major production activities (Banker, Field, Schroeder, & Sinha, 1996). As part of managing their own activities, teams will seek to develop routines that specify what behaviors should be performed in different circumstances (Gersick & Hackman, 1990). In the course of routinizing their behavior, teams develop a set of shared expectations and norms that give the team a sense of shared identity and guide future behavior. This combination of developmental processes enables teams to effectively cooperate, communicate, and otherwise function as an integrated whole. This suggests that under normal task conditions teams have very few leadership needs because they are fully capable of managing their own activities (Zaccaro, Rittman, & Marks, 2001).

Yet team routines are occasionally disrupted by a variety of different kinds of events. For example, a team may encounter an unexpected problem that they do not know how to solve. Or there may be conflict within the team that violates established norms, thereby disrupting the normal task cycle. Such disruptions can impair team functioning and create a situation where external team leadership is needed. Such a focus on disruptions is consistent with notions of “management by exception,” where leaders intervene “when something goes wrong” (Bass, 1985, p. 135). If practicing active management by exception, leaders anticipate and intervene prior to the actual problem. If practicing passive management by exception, leaders intervene after the problem has actually occurred.

Morgeson (2005) recently examined how different kinds of events can moderate the effectiveness of team leadership interventions. In particular, he found that disruptive events moderate the effectiveness of active intervention activities. For example, active coaching and sense-making interventions, although negatively related to satisfaction with the team leader, were positively related to leader effectiveness when events were disruptive in nature. This work clarified the role of leadership in teams in two important ways. First, it provided greater understanding of the circumstances under which leaders should intervene in the team. Because teams possess a great deal of self-management, leaders should only intervene when teams are being disrupted. Second, it suggests that team leaders should actively monitor potentially disruptive events. These events can serve as triggers for active intervention in the team.

Yet such an event-oriented approach raises at least two additional questions. First, what is it about events, specifically, that make them disruptive to a team? Answering this question is important because it can inform a leader’s monitoring and intervention activities. Second, how do these event characteristics impact the amount of time a leader spends intervening in the team? Currently, it is not clear how much time a leader should devote to directly intervening in the team. The current research seeks to address these questions and add to our understanding of why leaders are needed in team settings and the extent of their intervention activities.

2. Understanding event characteristics and leader intervention

To identify what event characteristics influence the degree to which an event disrupts team functioning, we drew from the literature on team routines and other event-based research (Dohrenwend, Raphael, Schwartz, Stueve, & Skodol, 1993; Gersick & Hackman, 1990; Lee & Mitchell, 1994; Olson-Buchanan et al., 1998; Thomas, 1992; Trevino, 1992; Weiss & Cropanzano, 1996). This research concerns the central role events play in a host of different outcomes.

A critical aspect of events concerns their ability to prompt an individual to evaluate aspects of his or her environment or job situation. Lee & Mitchell (1994) make this point explicit by discussing the difference between events and shocks, where an event can only be considered a shock if it is “sufficiently jarring that it cannot be ignored” (p. 60). The current research uses the broader term, events, which refers to occurrences that interrupt the routines of organizational life and prompt controlled information processing (Morgeson, 2005; Morgeson & Hofmann, 1999). These occurrences have been variously referred to as “problems” (March & Simon, 1958), “fires” (Kotter, 1982), “shocks” (Lee & Mitchell, 1994), “surprises” (Louis, 1980), and “events” (Trevino, 1992; Weiss & Cropanzano, 1996). Because of their salience and importance, such events are particularly disruptive.

This importance has been noted by many researchers. For example, Louis (1980; Louis & Sutton, 1991), suggested that “individuals and groups develop cognitive structures, habits of mind, to guide automatic cognitive processing”

(Louis & Sutton, 1991, p. 70). However, “discrepant events, or surprises, trigger a need for explanation” (Louis, 1980, p. 241). In other words, automatic processing and “habits of mind” reflect routines that are maintained until interrupted by an event. As Gersick & Hackman (1990) note, “habitual behavior, once established, persists more or less automatically until and unless something specific happens to break a group out of its routine” (p. 80). Thus, events are the means by which individuals and groups come to evaluate, change, or otherwise disrupt their routines or behavior.

In addition to event-based research, we also drew from a series of in-depth, one-on-one interviews conducted with the team leaders included in this study (see the Method section for additional description of these interviews). These interviews focused on the specific events that have occurred in each leader’s team. These interviews lend additional support for the importance of the hypothesized event characteristics and provide concrete examples in a semi-autonomous team setting. Considering the literature on events and our interviews with team leaders, three event characteristics are particularly noteworthy in the context of team leadership: criticality, urgency, and duration.

2.1. *Event criticality*

Events vary with respect to the extent that they are critical to the long-term success of the team. Event criticality reflects the degree to which an event is important, essential, or a priority to the team. Concepts similar to event criticality can be found in the stress literature, where events become central to individual functioning because they are threatening (Brown, Sklair, Harris, & Birley, 1973) or high in magnitude and severity (Dohrenwend et al., 1993). Highly critical events are likely to cause the team to devote more of its attentional and information processing resources to responding to the event. This will make it more difficult to maintain routines. Thus, the greater the criticality, the more likely the event will disrupt the team. Furthermore, extending the notion of Brown et al. (1973) that highly threatening or severe events become central to individual functioning, highly critical events in teams would be expected to become the central focus of teams and team leaders until the event is resolved. Thus, because critical events are threatening to team functioning, leaders are likely to spend considerable amounts of time intervening in the team when critical events occur.

Our interviews with team leaders also indicate that highly critical events can be quite disruptive to the team and prompt leader intervention. For instance, one team responsible for developing a new pharmaceutical compound made a mistake whereby two treatment conditions were incorrectly coded (they were switched). The resulting data reports incorrectly recommended not going forward with development of the compound. The coding mistake was eventually discovered by the customer, not the team. Because of this, the team leader was forced to considerably increase his involvement in the situation, such that the event garnered the leader’s full attention until the situation was resolved. The leader developed a solution for the problem, identified corrective steps to avoid similar problems in the future, and communicated these changes to the team — all of which took considerable amounts of time on the leader’s part. Although this event ultimately increased the awareness of the potential for errors in team processes, the event was quite disruptive to the process of developing this compound as well as the team’s relationship with the customer.

Hypothesis 1. Event criticality will be positively related to disruption to the team.

Hypothesis 2. Event criticality will be positively related to the amount of time a leader spends intervening in the team.

2.2. *Event urgency*

Events vary with respect to their urgency. Event urgency reflects the degree to which the team must respond immediately to an event in order to either capitalize on its occurrence or mitigate its negative consequences. Similar concepts to event urgency are embedded in the conflict management (Thomas, 1992) and leadership (Schein, 1992) literatures, where the need to respond to crises is often highly important. When faced with an urgent event, the resources of the team will shift away from ongoing routines and toward the event. This is especially true of the team leader, who must redirect significant amounts of his or her attention toward resolving the urgent situation as soon as possible or preparing the team to manage the event in a timely manner (Morgeson, 2005). Overall, the urgent nature of an event increases the likelihood that the team will be disrupted and forces the team leader to redirect his or her attention toward this particular event. In fact, Gersick (1988) highlighted how teams used time-based milestones to create urgency and break themselves out of their typical way of behaving (i.e., their routine).

An example from our interviews with team leaders shows exactly how urgent events can be disruptive to team functioning. This example also illustrates why the amount of time spent on the event by the leader is positively associated with the urgency of the event. One team in our sample had to develop two annual reports that were particularly important for the company. The due date for one of these reports was unexpectedly moved up several weeks, thereby creating an urgent need to conduct the necessary analyses and develop the report in a very short timeframe. This change in due date was quite disruptive to team functioning. Having two reports on different timetables complicated the data analytic process for both reports, and the allocation of roles and responsibilities among team members so that both reports could be accomplished on time was quite difficult. Accordingly, the team leader was forced to spend considerable amounts of time reassigning roles and responsibilities within the team. Furthermore, in order to complete the first report on time while not getting behind schedule on the other report, the team leader was forced to spend considerable time directly helping develop the first report. Interestingly, the urgency of this event actually escalated to the point that senior management became involved, thereby creating a situation where the disruption spanned beyond the bounds of the team.

Hypothesis 3. Event urgency will be positively related to disruption to the team.

Hypothesis 4. Event urgency will be positively related to the amount of time a leader spends intervening in the team.

2.3. *Event duration*

Event duration reflects how long an event lasts. Similar distinctions have been made in the conflict management literature, where conflict episodes can be described in terms of whether they are short-term or long-term (Olson-Buchanan et al., 1998). Similarly, Walton (1969) described cycles of conflict episodes which can extend over varying lengths of time. All else being equal, when an event occurs over a longer period of time, it is more taxing on the team. A longer duration makes it more likely that the team will be disrupted.

Our interviews with team leaders indicate that events occurring over a long period of time can be especially disruptive to the team. For instance, one team had experienced significant reductions in the inventory of their product and was, as a result, having difficulties with a materials expeditor who was responsible for transporting their inventory. So, not only did the team not have the same level of inventory as before, but now the materials expeditor was not shipping the product on time. This problem worsened over the course of several months, thereby straining the team's relationship with its customers and hindering the team's ability to perform its duties.

Another leader indicated the performance of a well tenured team member was consistently decreasing over time (e.g., not coming to work on time, not filling out time card, leaving plant for extended periods of time). Whereas one instance of tardiness or one on-the-job mistake would have been acceptable, the consistent poor performance over time created significant disruption to the team. The team was forced to turn its attention away from its primary duties so that it could meet and determine an appropriate course of action for this particular member. Whereas some team members felt a probation period was justified, other team members believed the individual should be asked to resign. The differences of opinion in the team caused unnecessary conflict among the well performing team members. So, not only was the team's performance directly disrupted by the actions of this one poorly performing team member, but conflict among the other team members escalated as a result of having to determine an appropriate course of action.

How duration affects the amount of time leaders spend intervening, however, is less clear. Longer events clearly provide the leader with a greater opportunity to become involved in the team, suggesting there may be a positive relationship between duration and time spent intervening by the leader. However, two alternative explanations exist for why duration and time spent by the leader might be unrelated. First, one explanation for why an event occurs over a long time horizon is that the leader did not do much to address the event, thus allowing the event to carry on over time. Otherwise, had the leader contributed more time to resolving the event, the event may not have lasted as long. In fact, in the interviews, several leaders mentioned that they often would not intervene so the team could learn for itself. Second, there are many events where the general intensity (e.g., criticality, urgency) of the event would not signal to the leader that intervention was necessary. Instead of offering a formal hypothesis, we will investigate this on an exploratory basis.

Hypothesis 5. Event duration will be positively related to disruption to the team.

3. Method

3.1. Research setting

The data used in this study was collected as part of a larger research project, part of which was reported in Morgeson (2005). For the current study, data from one new organization is reported and with the exception of a single measure (disruption to the team), none of the data reported has been previously published. Four different organizations were involved in the present research. All teams had only one formally designated leader. The first organization was a large pharmaceutical company and contributed 24 (57%) teams to the current study. The unit involved in the study was responsible for managing the data that results from clinical trials of new drug compounds. There were a variety of professional information systems jobs involved in collecting, cleaning, loading, analyzing, and reporting data from clinical trials for eventual submission to the Food and Drug Administration and other regulatory bodies. Work was organized into teams (team size $M=9.25$, $SD=4.86$), with considerable interdependence between work processes. Some teams were organized around products (e.g., certain drug compounds) whereas others were organized around function (e.g., data reporting). The teams had a moderate amount of self management and task variety. They were largely responsible for deciding how to accomplish their work but were often subject to external deadlines by other teams. All teams had formally designated leaders, who were variously called manager, project leader, and team leader. These leaders had a fairly high level of position authority, and were held accountable for the team's performance. Several of these leaders were responsible for more than one team.

The second organization was a large state university and contributed 6 (14%) teams to the current study. The unit involved in the study was responsible for building and grounds maintenance. A subset of this unit (approximately a third of the total maintenance staff) was organized into cross-functional teams (team size $M=8.86$, $SD=1.77$), who were responsible for all routine and preventative maintenance in a defined geographic area. There were a variety of craft jobs, including electricians, plumbers, elevator repair specialists, and heating, ventilation, and air conditioner specialists. There was modest interdependence within teams and greater interdependence with other teams and units in the organization (i.e., other project teams, central shops). The teams had a moderate amount of self management and task variety. They were solely responsible for deciding how to make needed repairs and the nature of the repair work changed on a daily basis. All teams had formally designated leaders, who were called zone leaders. These leaders had a high level of position authority, were responsible for delegating work, and were held accountable for the team's performance. There was only one leader per team.

The third organization was a large paperboard and packaging company and contributed 4 (10%) teams to the current study. The unit involved in the study was responsible for four-color printing of corrugated products. The skilled production workers used a three-story printing press that ran continuously at high speed and occupied the majority of the plant floor. It required approximately eight individuals to run the press (i.e., load the rolls of paper into the press, monitor speed of press, ensure quality of product, unload finished rolls). The work within the team (team size $M=9.00$, $SD=1.15$) was highly interdependent, and there existed moderate interdependence between the team and other teams (who worked different shifts). The teams had a moderate amount of self management and a large amount of task variety. Their task activities were largely prescribed by the technological demands of work, although they were able to engage in a large amount of job rotation. All teams had formally designated leaders, who were called print specialists. These leaders had a large amount of position authority, made key decisions about the work flow, and were held accountable for the team's performance. There was only one leader per team.

The fourth organization was a mid-sized chemical processing plant and contributed 8 (19%) teams to the current study. The unit involved in the study was responsible for the daily production and maintenance of the plant. The continuous process production jobs were organized around the two major processes that transformed the raw material into final product. Work within the team (team size $M=8.86$, $SD=3.89$) was highly interdependent, as was the work between teams. The teams had a large amount of self management and a moderate amount of task variety. They were responsible for all aspects of their work (e.g., performance management, hiring, firing, discipline). All teams had formally designated leaders, who were called team coordinators. These leaders had a smaller amount of position authority and acted primarily as an additional resource to the team. As such, they were not held as accountable for the team's performance. There was only one leader per team.

Taken together, these four organizations provide a good test of the hypotheses for four reasons. First, the sample includes a range of different kinds of teams. They vary in terms of their levels of self management, task variety, and

interdependence. Second, the types of work done by these teams vary markedly. This includes knowledge worker jobs, craft jobs, production jobs, and continuous process jobs. Third, each of these four organizations comes from a distinctly different industry. This includes the pharmaceutical, higher education, printing, and food production industries. Fourth, this sample represents a range of team leadership situations. Team leaders have varying levels of involvement in the team, responsibility for the team's performance, and set of duties. Taken together, this diversity helps ensure variability in events, leader actions, and team reactions. This reduces the risk of range restriction and potentially increases the generalizability of the results. Overall, 42 different teams participated in the research.

3.2. Procedure

This study involved two distinct phases of data collection. The first phase consisted of in-depth, one-on-one interviews with team leaders to understand the kinds of events that occur in team contexts, as well as to better understand the nature of the event management process. This phase not only provided the rating stimuli to be used in the survey phase, but it also grounded the study in observables. As mentioned previously, this phase of qualitative data collection also served as one source of information on event characteristics. The second phase of data collection consisted of team and leader surveys designed to test the hypotheses outlined earlier. This data allows a formal test for how event characteristics influence the degree of disruption to the team and the amount of time a leader spends intervening.

3.2.1. Team leader interviews

Once an organization agreed to participate in the research, semi-structured interviews were conducted with all team leaders in the unit under study. In these interviews, we sought to understand what kinds of events occur in the team context, the characteristics of these events, and the extent to which these events caused disruption to the team and a leader's intervention actions. Prior to the interview, team leaders were given an overview of the research project and asked to think about some events that had occurred in the team's past. Thirty-nine interviews were conducted, and each interview lasted between sixty and ninety minutes.

After several preliminary questions, team leaders were asked about specific events that occurred in the team's context. To get them started, they were asked: "Tell me about a time when a problem or incident occurred that affected the team's ability to get its work done in which you somehow intervened to get them back on track." This open-ended question initiated a conversation about a range of events. After the leaders were done discussing the event for which they intervened, we then asked about an event when the leader did not directly intervene. As the interview progressed and leaders became more comfortable discussing events, they were asked to recount both positive and negative things that happened in the team, events that arose within the team, and events that had their origin outside the team. These multiple prompts ensured that the widest possible range of events was discussed, and not simply problems or disruptions that leaders did something about. Thus, the final list of events included things that ranged from very little disruption to very high levels of disruption to the team. Finally, leaders were asked to focus on events that would be familiar to most team members.

When discussing each event, a number of questions were asked about the event itself, what the leader did, and how the team was affected. Specifically, information was gathered on the event, the event context, the actions that preceded and followed the event, and the ultimate outcomes of the event. This structure and methodology was patterned after the critical incident technique (Flanagan, 1954). For example, leaders were asked to describe what led up to the event, what happened to the team when the event occurred, what the team's reaction to the event was, what they (the leader) did prior to the event and once the event occurred, and why they intervened (or did not intervene).

Extensive notes were taken during these interviews, totaling several hundred pages. After the interview, we drafted summaries of the interviews highlighting the things that led up to each event, the events themselves, and the range of leader and team responses to each event. These summaries were reviewed and edited by the leaders to make sure they were accurate. This process resulted in a total of 138 events ($M=4.09$, $SD=1.00$, per leader), where each leader had a unique set of events. Example events appear in Table 1.

3.2.2. Team and leader surveys

After the events were identified via in-depth interviews, they were recorded in surveys that were then rated by team leaders and team members. Leaders rated the extent to which these events disrupted the team and the nature of their

Table 1
Example event episodes

Foaming Coil Cleaner Accident

A team member was taking foaming coil cleaner out of a cart when an aerosol can was punctured, spraying him in the eyes. He came to the team leader, who called an ambulance and subsequently drove the team member back to the shop from the hospital. After this, the team leader talked to the team, urging them to be very careful when handling these types of material in the future. (safety)

Equipment Breakdown

The 75 MR broke down in the morning. After assessing the situation, the team leader determined that it would take 4 team members about 20 hours to repair the machine. In addition, he determined that this was a high priority repair and the team would have to stay and work until it was done. The team leader asked the team how they wanted to handle the situation and the team then got together to figure out a way to make the repairs in a timely manner. (task problem)

Addition of New Team Members

Due to the departure of some team members and the growth of the team, four new employees were brought into the team at the same time. Although these new employees were needed to handle the daily workload, they also needed training and coaching. This taxed the resources of the entire unit, resulting in a temporary increase in the amount of work each team member had to complete. As a result, the team leader became more involved in coaching the new team members. (personnel)

Dissatisfaction with Level of Customer Service

One of the project teams was unhappy with the level of customer service it was receiving. Their dissatisfaction stemmed from communication issues involved with the overall process for scheduling transfers and the need to be more flexible with the dates because of a dependence on the clinical research team. As it turns out, although the standards for scheduled data transfers were clear, the standards for unscheduled transfers were unclear. To resolve the customer service issues, the team leader met with the team to understand the situation and discuss solutions and then met with other leaders to identify the issues and provide metrics on the problem. The teams then met, shared their processes with each other, and put an action plan in place. (conflict)

Feedback from Customer

At a compound forum meeting, a customer of the unit acknowledged the importance and the quality of the contribution of members of the compound treatment systems team. More specifically, the customer acknowledged that the team has done a great job of producing output for the submission. The team leader sent voice mail acknowledging the comment, congratulating the group for the level of work done, and restated the customer's goals. (reinforcement)

intervention. Team members rated the characteristics of the events unique to their team. Separate ratings were made for each event, and team members only rated events applicable to their team.

Across 42 teams, thirty-four leaders and 293 team members provided useable responses on the 138 events. Response rates were 90% and 75% for the leader and team member samples, respectively. Thirty-two of the team leaders were male, and 70% of the team member sample was male. There were approximately 9 team members on each team ($M=9.07$, $SD=3.96$). Between four and five team members provided ratings on each event ($M=4.66$ $SD=2.72$). Of the thirty-four leaders, twenty-nine leaders supervised one team, two leaders supervised two teams, and three leaders supervised three teams.

3.3. Team and leader survey measures

With the exception of the leader intervention measures, all ratings were measured on a 5-point "extent" scale (1="not at all," 2="to a limited extent," 3="to a moderate extent," 4="to a large extent," 5="to a very large extent"). All scales were averages of applicable items, with larger values indicating more of the variable. Because team members rated characteristics of each event and team leaders rated the extent to which each event disrupted the team and their intervention actions, the measures were methodologically separate. Having separate sources for the independent and dependent measures mitigates concerns regarding common method variance.

3.3.1. Event characteristics

To develop measures of event characteristics, we drew from the aforementioned leader interviews and obtained feedback from several organizational informants. Because of concerns over questionnaire length (team members provided ratings on multiple events), these scales were composed of two to three items each. *Event criticality* was a 3-item measure that included items such as: "to what extent was this event critical for the long-term success of the team" and "to what extent was this an important event for the team." *Event urgency* was a 2-item measure that included the

following items: “to what extent did the team have to immediately respond to the event” and “to what extent did the team have to stop what it was doing and respond to the event.” *Event duration* was a 2-item measure that included the following items: “to what extent did this event last a long time” and “to what extent was this event over quickly” (reverse scored). Coefficient alpha for each of these scales was .80, .72, and .65, respectively.

Because the hypotheses focused on the event level, it is necessary to aggregate team member responses to the event level. To assess the extent to which team members converge in their judgments about the same event (e.g., ratings of event criticality), interrater reliability [ICC(2)] for each of the event characteristics was calculated. In this study, ICCs assess the extent to which team members’ judgments of events covary with each other relative to other teams’ judgments. All ICCs were statistically significant at the $p < .01$ level. Interrater reliability of event criticality, event urgency, and event duration was .61, .70, and .69, respectively, suggesting considerable convergence in team member judgments.

3.3.2. Disruption

Team leaders completed a 3-item measure assessing the extent to which events disrupted the team. Example items include “to what extent did this event disrupt the team’s ability to get its work done” and “to what extent did this event alter the team’s normal way of responding.” Coefficient alpha for this scale was .64.

3.3.3. Intervention time

Team leaders completed a single-item measure of the time they spent intervening in each event. Intervention time for each event was measured with the following question: “Once you decided to intervene, what percentage of your time did you devote to managing the event?” Anchors ranged from “1–10%” to “91–100%.” This scale was patterned after Green, Fairhurst, & Snavely (1986).

4. Results

Because teams provided multiple ratings of events, there is a lack of independence in team ratings of events (i.e., events are nested within teams). To take this lack of independence into account, the hypotheses were formally tested with hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992; Hofmann, 1997; Hofmann, Griffin, & Gavin, 2000). In addition, there are a variety of factors other than event characteristics that may influence the observed relationships among the study variables. As such, several control measures were gathered and used in the analysis. First, we dummy coded each of the four organizations to control for any differences between organizations. From the teams, we collected information concerning the number of individuals on each team (*team size*), as larger teams could perhaps be less disrupted by events and may have more resources to draw upon (thus experiencing less disruption to team functioning). Team members were also asked about their tenure in the organization, which was then averaged across all team members to obtain an *average team tenure* measure. It is possible that more experienced teams will be able to better manage events, thereby experiencing less disruption or different leadership.

In the HLM analysis, the Level 1 predictors included all ratings of the event. The Level 2 predictors included team size and average team tenure, as well as three organizational dummy codes (We chose to control for organization at Level 2 instead of including a Level 3 predictor due to the small number of organizations [4] included in the sample). For the hypotheses, the t -test of the γ_{10} parameter provides a direct test of the hypothesis taking into account the lack of independence in team ratings (see Hofmann et al., 2000).

Table 2 contains the means, standard deviations, and intercorrelations among the event-level variables. The control variables, team size and average team tenure, demonstrated small to modest relationships to the study variables, with some achieving statistical significance. Table 3 shows the results for all formal hypotheses. Hypothesis 1 predicted that event criticality would be positively related to disruption to the team. This relationship, after accounting for the control variables, was significant ($\gamma_{10} = .19, p < .05$) and explained an incremental four percent of the variance¹ in disruption to the team. Hypothesis 2 predicted that event criticality would also be positively related to the amount of time a leader spent intervening in the team. This relationship was found to be in the expected direction but did not reach statistical significance ($\gamma_{10} = .36, p = .235$). Thus, Hypothesis 1 was supported, but Hypothesis 2 was not.

¹ We estimated the proportion of variance explained using ordinary least squares (OLS) regression. Although using OLS for this model likely violates the assumed independence of error terms (consequently biasing the parameter estimates), the overall R^2 value provides an unbiased estimate of the percentage of variance accounted for by the predictor variables (Hofmann, Morgeson, & Gerras, 2003).

Table 2
Descriptive statistics and intercorrelations among study variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
Event criticality	3.58	.80	–					
Event urgency	2.70	.90	.22**	–				
Event duration	3.17	.89	.18*	.17*	–			
Disruption to team	2.78	.94	.26**	.17	.23**	–		
Intervention time	2.87	2.67	.04	.29**	–.04	–.03	–	
Team size	9.07	3.96	–.01	–.12	.01	–.18*	–.10	–
Average team tenure ^a	8.16	6.13	–.19*	.10	.10	–.13	.16	–.38**

^aIn years.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Sample size ranges from 128 to 138 due to missing data.

Hypothesis 3 predicted that event urgency would be positively related to disruption to the team. This relationship, after accounting for the control variables, was significant ($\gamma_{10} = .23, p < .01$) and explained an incremental three percent of variance in disruption to the team. Hypothesis 4 predicted that event urgency would be positively related to the amount of time a leader spent intervening in the team. This relationship was also significant ($\gamma_{10} = .51, p < .05$) and explained approximately six percent of variance in amount of time spent intervening in the team. Thus, Hypotheses 3 and 4 received support in the current data.

Hypothesis 5 predicted that event duration would be positively related to disruption to the team. This relationship, after accounting for the control variables, was significant ($\gamma_{10} = .26, p < .01$), explaining an additional six percent of the variance in disruption. In addition, although not hypothesized, we examined the relationship between event duration and the amount of time a leader spends intervening in the team. We found no significant relationship between these variables ($\gamma_{10} = .17, p = .658$). Thus, Hypothesis 5 received support in the current data.

In all of the analyses thus far, we have treated team size and average team tenure as control variables in the relationship between event characteristics and disruption to the team. Yet, these two team characteristics may interact with the event characteristics in causing disruption in teams. As previously noted, larger teams or teams with longer tenure may view some events as less disruptive than would smaller or less experienced teams. To investigate this possibility, we tested how the two control variables (team size, average team tenure) might moderate the relationship between the three event characteristics (criticality, urgency, and duration) and disruption to the team and leader intervention time. Of the six models tested, only average team tenure moderated the relationship between criticality and disruption to the team ($\gamma_{11} = .003, p < .01$). This suggests that these team characteristics generally do not moderate the relationship between the event characteristics and outcomes.

4.1. Classification of event themes: A qualitative analysis

After interviewing 39 leaders and gathering detailed information on over 138 separate events, the data contains a richness only partially revealed in the quantitative results. As a result, we conducted a qualitative assessment of the in-depth interviews to further investigate the nature of these events, how they affected teams, and the role external leaders played in helping the team manage these events. The objective of this qualitative analysis was twofold. First, we sought to understand how the event characteristics (criticality, urgency, and duration) determine the extent to which specific event types disrupt teams, thereby creating a need for leader assistance. Second, we looked to the qualitative data to understand the specific behaviors and actions leaders engage in when responding to disruptive events. This qualitative analysis contributes to the paper in three ways. First, this analysis complements our prior discussion of underlying event characteristics (criticality, urgency, and duration) by classifying and describing events in broader, thematic terms (*event types*). Second, it allows a deeper understanding of the event management process by describing what leaders do when different types of events occur. Finally, it provides additional linkages to existing team and leadership theory because aspects of the event themes to be investigated have been discussed in previous research and theory.

When conducting the interviews and summarizing the events leaders recounted, considerable similarity existed in the types of events and the underlying characteristics of those events. Furthermore, leaders often responded to these event types in similar ways. Our qualitative analysis of event themes began by examining all the events that occurred in one of the organizations and sorting them into relatively homogeneous categories based on the central focus of

Table 3
Effects of the event characteristics on disruption to team and intervention time

Predictor	Disruption to team		Intervention time	
	Coefficient	SE	Coefficient	SE
<i>H1 and H2: effects of event criticality on disruption to team and intervention time</i>				
Intercept (γ_{00})	3.089**	.908	1.891	2.689
Team size (γ_{01})	-.058*	.028	.026	.085
Average team tenure (γ_{02})	-.003	.003	.001	.010
Organization 1 (γ_{03})	-.068	.594	-1.402	1.763
Organization 2 (γ_{04})	-.236	.405	.178	1.208
Organization 3 (γ_{05})	-.617	.666	.730	1.980
Event criticality (γ_{10})	.185*	.103	.356	.299
<i>H3 and H4: effects of event urgency on disruption to team and intervention time</i>				
Intercept (γ_{00})	3.183**	.879	1.886	2.440
Team size (γ_{01})	-.062*	.029	.016	.080
Average team tenure (γ_{02})	-.004	.004	.000	.010
Organization 1 (γ_{03})	.001	.598	-1.227	1.655
Organization 2 (γ_{04})	-.233	.413	.195	1.134
Organization 3 (γ_{05})	-.671	.677	.644	1.871
Event urgency (γ_{10})	.226**	.085	.508*	.248
<i>H5: effects of event duration on disruption to team</i>				
Intercept (γ_{00})	2.866**	.877		
Team size (γ_{01})	-.066*	.028		
Average team tenure (γ_{02})	-.003	.003		
Organization 1 (γ_{03})	.152	.578		
Organization 2 (γ_{04})	-.193	.398		
Organization 3 (γ_{05})	-.415	.652		
Event duration (γ_{10})	.256**	.088		

* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

Sample size ranges from 128 to 138 due to missing data.

attention in the event. This initial categorization effort resulted in seven relatively discrete categories. These categories were then used by two raters who independently coded all the events and reached 60% agreement in the classification of events. To refine the classification system, areas of disagreement were examined. This revealed that the bulk of the disagreements occurred in only two categories. Adding two additional categories and refining the criteria used to place events into categories eliminated these disagreements. The final categorization system revealed nine distinct event themes (Table 4). As noted, there were some differences across organizations in terms of the occurrence of these different events. Interestingly, no single organization had all types of events, reaffirming the importance of sampling a diverse set of organizations to obtain a representative sample of events.

These themes were then examined in terms of how they differ from one another on the constructs measured in this study. To test for differences among the themes, one-way analyses of variance were conducted, followed by contrasts to examine mean-level differences (Table 5). This provides insight into how teams might be affected by different types of events as well as suggesting what leaders might do when certain kinds of events occur. These differences then serve as a point of departure for discussing the character of these event themes and leader intervention activities.

Approximately 20% of the events concerned *task performance*. This involved the issues that arose when performing work tasks, such as defining operating standards, identifying new technical systems, and specifying task-related goals and strategy. It included such events as automating a peer review process, implementing a new maintenance tracking system, and dealing with an increase in report volume. Task performance events were judged to be the most critical and the most disruptive by teams and leaders, respectively. The severe impact of this event type is because routines that are developed to facilitate work performance are likely to be highly affected by events arising from within the work itself.

Surprisingly, team leaders spent very little time (relative to other event types) attempting to manage these events. Examining the intervention activities of team leaders, however, provides some insight into why they spent so little time attempting to manage this type of event. Generally speaking, leaders attempted to prepare the team to manage task performance events by themselves. For example, leaders commonly reported being involved in the initial stages of managing the event by working with teams to decide on direction, helping the team develop a task performance

Table 4
Classification of event themes

Theme	Description	Sample leader intervention activities	Overall %	Org. 1 %	Org. 2 %	Org. 3 %	Org. 4 %
Task performance	Issues that involve the performance of job tasks (e.g., operating procedures, technology, task-related goals)	<ul style="list-style-type: none"> • Build team self-management capacities • Develop team strategies and goals 	20.3%	17.4%	2.2%	0%	.7%
Personnel	Personnel-related issues of one or more team members (e.g., turnover, absences, new team members)	<ul style="list-style-type: none"> • Discuss options with team • Discipline team members 	20.3%	8%	2.2%	2.2%	8%
Conflict	Disagreements within or between individuals or teams (e.g., intragroup conflict)	<ul style="list-style-type: none"> • Mediate conflict situation • Encourage team to solve conflict on its own 	14.5%	10.9%	0%	1.4%	2.2%
Task resources	Resource issues encountered when performing tasks (e.g., lack of resources)	<ul style="list-style-type: none"> • Acquire additional resources • Prepare teams • Restructure work 	11.6%	1.4%	9.4%	0%	.7%
Task problems	Problems encountered when performing tasks (e.g., poor quality, malfunctions)	<ul style="list-style-type: none"> • Secure resources • Plan and schedule work • Identify causes of task problems 	8.7%	2.2%	0%	2.9%	3.6%
Reinforcement	Work accomplishments or recognition of work accomplishments (e.g., rewards, feedback)	<ul style="list-style-type: none"> • Communicate feedback • Emphasize recognition 	8%	.7%	1.4%	2.2%	3.6%
Team process	Issues involving internal team dynamics or how individuals work together as a team (e.g., communication, coordination)	<ul style="list-style-type: none"> • Encourage team to resolve process issues on its own 	6.5%	5.1%	.7%	.7%	0%
Safety	Issues of personal risk or injury (e.g., injuries, safety violations)	<ul style="list-style-type: none"> • Initiate safety audit • Identify causes of accidents 	5.8%	0%	1.4%	.7%	3.6%
Deadlines	Deadlines in the team's work (e.g., missed deadlines)	<ul style="list-style-type: none"> • Delegate responsibilities • Adjust deadlines 	4.3%	4.3%	0%	0%	0%

Some percentages do not total correctly due to rounding.

strategy, facilitating initial meetings, challenging the teams to improve their processes, and helping clarify project goals. As the team began to work, leaders generally became less involved and did such things as monitoring the team's progress, providing coaching and encouraging the team when needed, and promoting and defending the team with external constituencies (e.g., customers, upper management). Thus, leaders tended to spend a small amount of time early in the process, and then pulled back and let the team manage the event themselves. This is consistent with the philosophy of self-managing teams, in that the teams themselves are largely responsible for performing the work, independent of an external leader.

Approximately 20% of the events concerned *personnel* issues. This event type involved the human resource-related issues that arise within the team, such as hiring, turnover, terminations, and performance problems. It included such events as the departure of a valued team member, hiring of new team members, the repeated poor performance of a team member, and the termination of an employee who violated company policy. Personnel events did not stand out on any of the event characteristic measures, generally coming in at the midpoint for most. In addition, there was little convergence on team leader intervention activities. These results are due to several factors. First, personnel events tended to be heterogeneous in nature. They ranged from such positive events as planning developmental opportunities

Table 5
Differences among event themes

Theme	Event characteristics			Disruption to team	Leader intervention time
	Event criticality	Event urgency	Event duration		
Task performance	3.966 _c	2.334 _a	3.395 _c	3.259 _d	2.04 _a
Personnel	3.578 _b	2.748 _a	3.305 _c	2.667 _c	2.79 _b
Conflict	3.602 _b	2.630 _a	3.031 _c	2.937 _c	2.62 _a
Task resources	3.644 _b	2.675 _a	3.622 _d	2.711 _c	3.00 _b
Task problems	3.496 _b	3.625 _b	3.248 _c	2.846 _c	5.15 _c
Reinforcement	3.408 _b	2.178 _a	2.495 _a	1.633 _a	3.56 _b
Team process	3.219 _a	2.574 _a	2.953 _c	2.630 _c	1.89 _a
Safety	2.965 _a	2.853 _a	3.008 _c	2.278 _b	3.83 _b
Deadlines	3.556 _b	3.625 _b	2.625 _b	3.222 _d	2.33 _a

Means with the same subscript in a column are not significantly different from each other ($p < .05$).

to neutral events such as hiring new team members to negative events such as firing team members. Second, leaders had varying levels of involvement in managing these events. For some events, leaders simply discussed options with the team, and the team then carried out the actions. For other events, leaders acted in accordance with company policy and disciplined or fired team members with little or no team member input.

Approximately 15% of the events involved *conflict* of one sort or another, involving a range of disagreements, difficulties, or misunderstandings between team members, or between the team and other teams. This event type included such events as a disagreement over new peer review guidelines, confusion about how to design a clinical study, and conflict with another team about sharing office space. These events were moderate in criticality and disruption to the team, but relatively low in terms of time spent by the leader on these events. Team leaders were often content to let their teams resolve the conflict themselves, acting primarily as a sounding board and discussing with team members how to approach the situation. When a leader did become more involved, they typically acted as a mediator or facilitated meetings between the parties in conflict.

Approximately 11% of the events concerned *task resources*. This involved the resource issues teams encounter when performing their work, such as not having enough resources with which to accomplish work tasks. This type included such events as insufficient technical support from internal statisticians, difficulties getting transportation from one work site to another, or not having enough replacement parts to repair equipment. Task resource events were the longest duration of all events, suggesting that resource issues tended to be chronic and have a long-lasting, disruptive impact on the team.

As a consequence, team leaders tended to be highly proactive with this type of event. Indeed, a closer examination of what leaders actually did when intervening shows they attempted to stop resource events from occurring by attempting to acquire more resources prior to the event. When they were unable to acquire additional resources, however, leaders tended to prepare teams for the events through joint planning and communication of the impending resource events. In addition, team leaders sometimes worked with the team to reorganize their work and develop structural ways of managing such events (e.g., create resource buffers).

Approximately 9% of the events concerned *task problems*. This event type involved problems teams experienced as they performed their work, such as poor quality, mistakes, and breakdowns in equipment. Specific examples included events such as a mistake in study coding, the failure of a communications network device, color variation in prints, and a major equipment failure. Task problems were judged to be one of the most urgent types of events because they interrupt the normal task cycle and prevent teams from completing their work. In short, task problems are salient events that cannot be set aside.

As such, leaders were the most proactive with this type of event, as well as spending by far the most time managing events such as this (more than a full scale point higher than the next highest event type). This event type is very salient to leaders, and it is very clear to the leader that intervention is needed. In fact, the range of leader intervention activities is relatively straightforward. For example, leaders would readily jump in to manage these events by ensuring the teams had the appropriate resources (e.g., parts, tools, information) with which to solve the problem. Leaders often had to juggle priorities, schedules, and timelines to make sure the appropriate team members were able to work at solving the problem while regular work continued to be completed. Leaders also worked with the team to identify the cause of the

problem, determine and implement potential solutions, and take steps to avoid the problem in the future. Finally, a number of team leaders reported presenting the team's solution to upper management and communicating the problem (and solution) to others in the organization.

Approximately 8% of the events concerned *reinforcement* themes, which involved the variety of ways in which work accomplishments were recognized and reinforced. This event type included events such as getting positive feedback from a key customer, achieving a valued supplier certification award, recognizing the accomplishments of a team member, and getting positive feedback from another manager in the organization. These events were uniformly positive occurrences, and tended not to disrupt the team or be viewed as overly critical. Leader intervention actions were also relatively uniform in that they primarily acted as a conduit for the positive feedback or reinforced the recognition already received by the team.

Approximately 6% of the events concerned *team process* issues. This event type involved the variety of issues that arose concerning internal team dynamics and how the team works together, such as communication and coordination issues and role definition of team members. It included such events as reviewing and revising the roles of different team members, developing a process for conducting technical review meetings, and resolving communication difficulties. Team process events were judged low in criticality by team members. This is surprising, given the relative importance placed on process factors in the academic literature (Hackman, 1987). One possible explanation for this low rating of criticality is that, although team process factors may be important to overall team functioning, events which involve team process issues (e.g., communication improvements) may not be recognized as critical because they only have incremental or delayed effects on team functioning. For their part, team leaders tended to wait to intervene, and when they did intervene, they spent very little time managing the event. As with the conflict events, team leaders generally let the teams manage these events themselves, only offering ideas, attending meetings, or supporting the team's decisions.

Approximately 6% of the events concerned *safety* issues, such as accidents, injuries, or safety violations. This event type included events such as an accident where an overhead door cable struck a team member's hand, a team member being severely injured by cutting blades, and a safety violation when a team member drove across moving cables. There were relatively few safety-related events, which might have been expected given its generally low base rate in organizations. But surprisingly, safety events were low in criticality and disruption to the team. This is particularly noteworthy given the relative importance placed on safety in the organizations studied. These results may be explained by the fact that the safety events in this study typically occurred to single team members. As such, although safety events may be important in an absolute sense, they may not have been viewed as critical to the long-term success of the team or all that disruptive to the team as a whole.

On the other hand, leaders tended to intervene very quickly when safety events occurred, even if the event did not occur within their team. For example, following virtually every safety event, team leaders immediately initiated safety audits or investigations, outlined the causes of the accident, implemented corrective actions, and identified other unsafe conditions. When events happened within their team, team leaders often accompanied the injured team member to the doctor or hospital or documented the violation (if no injury occurred).

Finally, approximately 4% of the events concerned *deadlines* in the team's work, such as changing, approaching, or missed deadlines. It included such events as an annual report process being behind schedule, changing deadlines on a key study report, and missing the deadline for an important efficacy report. The deadlines event type manifested itself primarily within teams that worked on a project basis, but they were very distinct. Such events tended to be highly urgent and of low duration, but very disruptive to the team. As with task problems, deadline events are very salient and cannot be easily ignored. They are, however, time-delimited phenomena. As such, team leaders tended to become involved very quickly but spent very little time managing such events.

When deadline-related events occurred, team leaders often delegated specific responsibilities, mapped out requirements, and established or revised timelines for completion. Although in some instances leaders worked collaboratively with the team, the urgency of the situation often required leaders to become more structuring and make decisions alone or with a small number of key team members. Team leaders also frequently investigated why the deadline was missed and acted as a liaison with customers to negotiate new deadlines and secure their buy-in on new plans.

5. Discussion

Many have discussed, in general, how events can influence social system functioning (Barley, 1986; Louis, 1980; Schneider & Reichers, 1983). Such events are notable because they can disrupt automated routines and otherwise affect

task performance (Gersick & Hackman, 1990; Louis & Sutton, 1991). Considering such events and their relationship to team functioning is particularly important because it provides a justification for the existence of team leaders in self-managing environments and acknowledges that teams and leaders reside in a broader context of constantly shifting events. This study represents an initial attempt to understand how specific characteristics of events relate to team functioning and team leader intervention activities. Building from past event-oriented research and qualitative interviews with team leaders, event criticality, urgency, and duration were found to be related to greater disruption to team functioning. In addition, urgency was found to be related to greater time spent managing events. This research contributes to the team leadership area in four distinct ways.

First, it provides additional insight into the specific types of events that can disrupt team routines. This answers recent calls for research into the types of events that are important for teams and leaders (Morgeson, 2005). In addition, it suggests one answer for the paradox of team leadership mentioned earlier. That is, leaders are needed in autonomous or semi-autonomous team settings because they can help teams manage critical, urgent, or long duration events that can have deleterious effects on team functioning. Yet, it was found that only urgent events are related to the amount of time a leader spends managing the event. This suggests that a decision to intervene is not predicated solely on the event, but might also include considerations about the team and wider context, likely involving a simultaneous consideration of the event (in terms of criticality, urgency, and duration), the team's capabilities (what is the mix of knowledge, skills, abilities, experience, and capacity for leadership within the team), and the contribution the leader can make to the team (what the leader can actually do to help the team). Future research should investigate additional triggers for leader intervention and the role these event characteristics play in deciding to spend time managing the event.

Such considerations are important because team leaders must walk a fine line between ensuring the team performs its required work in a timely manner and ensuring the team further develops its own capabilities. For example, excessive team leader intervention is likely to result in team dependence on the leader, instead of the independence that encourages further team self-management and the development of leadership capacity within the team. To the extent that teams are dependent on a leader, they are less valuable to the organization and the benefits of a team structure might not be realized. Little is known about how leaders balance these competing demands and the implications of failing to achieve an appropriate balance. Future research should investigate the circumstances under which leaders intervene in teams and how they balance the competing demands of task accomplishment and team development.

Similarly, although the event characteristics of criticality, urgency, and duration were significantly related to disruptions to the team, the effect sizes were modest. This suggests there might be other things that disrupt teams. For example, the extent to which teams have encountered similar events in the past might be important for understanding how they are affected by the event. It may be that if a similar event has been experienced before, the team knows what to do. Similarly, if an event is very clear and unambiguous, it is likely that the team will be in a better position to manage it themselves with a minimum of disruption. Other factors may also buffer or insulate the team from disruptions and need for assistance. For example, characteristics of the team's design may have implications for team functioning. Teams with greater amounts of self management may need less assistance whereas teams with greater interdependence may be more affected by events.

Second, this study extends the event management model outlined by Morgeson (2005). Although Morgeson (2005) found that disruptive events moderate the relationship between leadership behaviors and leader effectiveness, he did not identify the specific event characteristics that can disrupt teams. Linking event criticality, urgency, and duration to disruptions to the team provides team leaders with additional guidance on what to monitor in the team environment and when to choose to intervene in the team. For example, based on the current results, team leaders should actively monitor the team's environment for urgent or critical events and assess the team's preparation or capability vis-à-vis the event. Team leaders may be ideally positioned to enhance the team's own internal leadership capacity by helping the team develop its monitoring systems and learning from past events (Day et al., 2004). In terms of long duration events, team leaders should assess the benefits of the team disruption caused by ongoing events. It may be that longer duration events fall off the "radar screen" of leaders because of their more chronic nature and leaders might want to periodically reassess and address those events that are impeding the team's functioning.

Third, we found that event urgency is positively related to the amount of time leaders spend intervening in the team as a result of the event. This finding has potentially significant implications for the leadership of team-based organizations. Team leaders can spend their working time on many different activities, and research suggests that a considerable amount of a leader's time is spent "putting out fires" (Kotter, 1982) and dealing with urgent events. For

organizations looking to enhance the effectiveness of leaders in team contexts, one approach might be to reduce the urgency associated with particular events that occur. Another approach might be to invest in development and training activities designed to enhance leaders' ability to manage these urgent events in an efficient manner.

The event themes further illustrate the dynamics through which leaders orient themselves around events and intervene in the team and provide insight into the timing of the leader's intervention and the form of that intervention. As the results indicate, leaders engaged in many different forms of intervention. Had these actions been viewed in the aggregate, it would have been difficult to make sense of the range of behaviors exhibited. But examining intervention activities in the context of the event themes lends coherence to seemingly disparate team leader actions.

For example, because task resource events were relatively long in duration, team leaders attempted to acquire more resources prior to the events. When they were unable to do this, they either prepared the team for the event or tried to develop ways to minimize it. Such behavior is consistent with research that highlights the importance of ensuring teams have adequate resources (Hackman, 1987). The pattern of intervention activities for task performance events, on the other hand, was quite different. For these events, leaders spent a small amount of time early in the process, and then let the team manage the event themselves. In team process events, leaders had even less involvement, suggesting that self managing teams can often handle many of their own internal events, particularly if they do not immediately impact task performance. Such an event management process is consistent with the philosophy underlying self managing teams and mirrors previous work where leaders were found to encourage team self management (Manz & Sims, 1987). It may be that for these types of events teams possess the necessary capacity to lead themselves.

For task problems and deadline events, however, another pattern emerged. The high levels of urgency appeared to serve as a trigger for intervention. With these events, leaders intervened quickly and tended to be more directive and task focused. This manifested itself in working directly with the team and assuming more control by structuring the team's activities and working with the other teams or individuals affected by the event. Although this may appear to be at odds with the self management philosophy note above, in some instances such leadership intervention may be entirely appropriate. Just because a team is self managing, it does not necessarily mean that they have to do everything themselves. In fact, in many instances teams recognized their weaknesses and need for leader assistance. One challenge for team leaders would be to not only recognize when it is appropriate to intervene in the team, but also to work with the team to enhance its own ability to manage such events in the future. Perhaps formal external leaders can identify and work with the informal leaders in the team to further develop a team's leadership capacity. One way a leader might do this in the context of highly urgent events would be to focus on what was done (from a leadership perspective) when a highly urgent event occurred and then focus on the "lessons learned" as a result of the experience. Leaders can then convey to team members the expectation that they will assume more of a leadership role when similar events occur in the future. Helping the team develop its own leadership capacity via vicarious learning and communicating appropriate expectations is an important leadership activity in self-managing team settings.

As these examples highlight, the nature of leader intervention varies widely. Leaders can be more or less involved in managing events, they can be directive or nondirective, and they can be proactive or reactive. This suggests that team leadership is much more complex than heretofore acknowledged. Team leaders are not simply coaches, problem solvers, boundary managers, facilitators, or resource acquirers; they are all of these things. Depending on the event, we found that leaders provided advice, communicated with other teams, acted as an information conduit, protected teams from pressures emanating from higher levels in the organization, encouraged teams to tackle difficult assignments, acted as an advocate for teams, resolved conflicts, and so on.

A question this research cannot address, however, concerns the relative amount of time spent intervening in the context of events. That is, how much time do team leaders spend managing events? It would be foolish to assert that intervening in the context of events is all that team leaders do. They are clearly involved in more traditional functional activities (e.g., planning, performance management, etc.). What is not clear is the distribution of time spent. That is, researchers have highlighted the fragmented, varied, and hectic nature of managerial work. Although this suggests that event management would occupy a large amount of leadership time and attention, the present research does not allow one to determine the relative amount of time leaders spend managing events. The ubiquity of event management, particularly when compared to traditional leadership functions, could be the subject for future research.

Another issue not investigated in the current study is the notion that some teams are likely to experience more disruptive events. This would reflect the "event density" in a team's context. Teams that work in complex technical systems that have high levels of task interdependence, or poor team processes, are more likely to experience disruptive

events. Future research should investigate the extent to which such event density affects team functioning and the best ways leaders and teams can effectively manage a large volume of events.

Future research should also examine how individual differences between leaders influence how they respond to the criticality, urgency, or duration of a particular event. For example, leaders with differences in experience or ability are likely to react differently to the same event. Although a leader with little experience may respond to a moderately critical or urgent event by intervening in the team, a more experienced leader may decide to withhold intervention for only events that are highly critical or urgent. Future research should examine how a leader's past experience with events impacts his or her future intervention behavior. For instance, a leader with past exposure to highly urgent events may be more inclined to adopt a similar perspective on future events, thus having a natural tendency toward considering future events as urgent and responding accordingly. Future research could examine the nature of events across time to determine the extent to which leaders accurately interpret the nature of those events, as well as examine how leaders' patterns of intervention change over time.

Finally, formal (external) leaders are not the only source of leadership in team contexts. Some teams may have informal leaders within the team that assume certain leadership roles and responsibilities when events occur. Future research should examine which event characteristics prompt informal leaders to emerge in teams, as well as the intervention activities employed by these informal leaders. Furthermore, future research should consider how formal and informal leaders in teams might work together in order to overcome the challenges associated with certain event types.

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References

- Banker, R. D., Field, J. M., Schroeder, R. G., & Sinha, K. K. (1996). Impact of work teams on manufacturing performance: A longitudinal study. *Academy of Management Journal*, *39*, 408–437.
- Barker, J. R. (1993). Tightening the iron cage: Concertive control in self-managing teams. *Administrative Science Quarterly*, *38*, 408–437.
- Barley, S. R. (1986). Technology as an occasion for structuring: Evidence from observations of CT scanners and the social order of radiology departments. *Administrative Science Quarterly*, *31*, 79–108.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Brown, G. W., Sklair, F., Harris, T. O., & Birley, J. L. T. (1973). Life events and psychiatric disorders. Part I: Some methodological issues. *Psychological Medicine*, *3*, 74–87.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage.
- Cascio, W. F. (1995). Whither industrial and organizational psychology in a changing world of work? *American Psychologist*, *50*, 928–939.
- Cohen, S. G., Chang, L., & Ledford, G. E. (1997). A hierarchical construct of self-management leadership and its relationship to quality of work life and perceived work group effectiveness. *Personnel Psychology*, *50*, 275–308.
- Cummings, T. G. (1978). Self-regulating work groups: A socio-technical synthesis. *Academy of Management Review*, *3*, 625–634.
- Day, D. V., Gronn, P., & Salas, E. (2004). Leadership capacity in teams. *Leadership Quarterly*, *15*, 857–880.
- Dohrenwend, B. P., Raphael, K. G., Schwartz, S., Stueve, A., & Skodol, A. (1993). The structured event probe and narrative method for measuring stressful life events. In L. Goldberger, & S. Breznitz (Eds.), 2nd ed. *Handbook of stress: Theoretical and clinical aspects*. (pp. 174–199) New York: Free Press.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, *51*, 327–358.
- Gersick, C. J. G. (1988). Time and transition in work teams: Toward a new model of group development. *Academy of Management Journal*, *31*, 9–41.
- Gersick, C. J. G., & Hackman, J. R. (1990). Habitual routines in task-performing groups. *Organizational Behavior and Human Decision Processes*, *47*, 65–97.
- Green, S. G., Fairhurst, G. T., & Snavely, B. K. (1986). Chains of poor performance and supervisory control. *Organizational Behavior and Human Decision Processes*, *38*, 7–27.
- Hackman, J. R. (Ed.). (1986). *The psychology of self-management in organizations. Psychology and work: Productivity, change, and employment*. Washington: APA.
- 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. (1990). *Groups that work and those that don't: Creating conditions for effective team work*. San Francisco: Jossey-Bass.
- Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, *23*, 723–744.
- Hofmann, D. A., Griffin, M. A., & Gavin, M. B. (2000). The application of hierarchical linear modeling to organizational research. In K. J. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 467–511). San Francisco: Jossey-Bass.

- Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between leader–member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology*, *88*, 170–178.
- Kotter, J. P. (1982). *The general managers*. New York: Free Press.
- Lawler, E. E. (1986). *High-involvement management*. San Francisco: Jossey-Bass.
- Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of voluntary employee turnover. *Academy of Management Review*, *19*, 51–89.
- Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly*, *25*, 226–251.
- Louis, M. R., & Sutton, R. I. (1991). Switching cognitive gears: From habits of mind to active thinking. *Human Relations*, *44*, 55–76.
- Manz, C. C., & Sims, H. P. (1980). Self-management as a substitute for leadership: A social learning theory perspective. *Academy of Management Review*, *5*, 361–367.
- 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.
- Manz, C., & Sims, H. (1993). *Business without bosses: How self-managing teams are building high performance companies*. New York: Wiley.
- March, J., & Simon, H. (1958). *Organizations*. New York: Wiley.
- McIntyre, R. M., & Salas, E. (1995). Measuring and managing for team performance: Emerging principles from complex environments. In R. A. Guzzo, & E. Salas (Eds.), *Team effectiveness and decision making in organizations* (pp. 9–45). San Francisco: Jossey-Bass.
- Mills, P. K. (1983). Self-management: Its control and relationship to other organizational properties. *Academy of Management Journal*, *8*, 445–453.
- Morgeson, F. P. (2005). The external leadership of self-managing teams: Intervening in the context of novel and disruptive events. *Journal of Applied Psychology*, *90*, 497–508.
- Morgeson, F. P., & Hofmann, D. A. (1999). The structure and function of collective constructs: Implications for multilevel research and theory development. *Academy of Management Review*, *24*, 249–265.
- Olson-Buchanan, J. B., Drasgow, F., Moberg, P. J., Mead, A. D., Keenan, P. A., & Donovan, M. A. (1998). Interactive video assessment of conflict resolution skills. *Personnel Psychology*, *51*, 1–24.
- Schein, E. H. (1992). *Organizational culture and leadership*, 2nd ed. San Francisco: Jossey-Bass.
- Schneider, B., & Reichers, A. E. (1983). On the etiology of climates. *Personnel Psychology*, *36*, 19–39.
- Schriesheim, C. A., Mowday, R. T., & Stogdill, R. M. (1979). Crucial dimensions of leader-group interactions. In J. G. Hunt, & L. L. Larson (Eds.), *Cross-currents in leadership* (pp. 106–125). Carbondale, IL: Southern Illinois University Press.
- Stewart, G. L., & Manz, C. C. (1995). Leadership for self-managing work teams: A typology and integrative model. *Human Relations*, *48*, 747–770.
- Thomas, K. W. (1992). Conflict and negotiation processes in organizations. In M. D. Dunnette, & L. M. Hough (Eds.), 2nd ed. *Handbook of industrial and organizational psychology*, Vol. 3. (pp. 651–717) Palo Alto, CA: Consulting Psychologists Press.
- Trevino, L. K. (1992). The social effects of punishment in organizations: A justice perspective. *Academy of Management Review*, *17*, 647–676.
- Walton, R. E. (1969). *Interpersonal peacemaking: Confrontations and third-party consultation*. Reading, MA: Addison-Wesley.
- Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. In B. M. Staw, & L. L. Cummings (Eds.), *Research in organizational behavior*, Vol. 18. (pp. 1–74) Greenwich, CT: JAI Press.
- Zaccaro, S. J., Rittman, A. L., & Marks, M. A. (2001). Team leadership. *The Leadership Quarterly*, *12*, 451–483.