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# Initial and Longer-Term Change in Unit-Level Turnover Following Leader Succession: Contingent Effects of Outgoing and Incoming Leader Characteristics 

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#### Abstract

Leader exits at the work-unit level are prevalent, yet little attention has been devoted to understanding the impact of leader succession on employee turnover. In this paper, we draw from uncertainty-management theory to specify and test conditions under which leader exits are followed by increases (or decreases) in the turnover rates of remaining members. We theorize that leader exits disrupt the status quo and heighten remaining members' feelings of uncertainty and propose that characteristics of the outgoing and incoming leaders help members forecast their future work situation and influence their decisions to stay or leave. Leveraging longitudinal data from 287 locations of a U.S. hospitality organization ( $n=6,357$ unit-month observations), we test several attributes of the succession context that moderate the effects of leader departures on both the initial change in turnover levels and the longer-term change in turnover trends. Discontinuous growth models revealed both an initial spike and a longer-term rise in voluntary turnover rates following the departure of a high-performing leader. In addition, the longer-term turnover trajectory was found to trend upward when replacements lacked role experience, when replacements were internally promoted, and when post-succession involuntary termination rates were high. Overall, we conclude that the magnitude and direction of leader-succession effects on unit turnover rates depends on uncertainty-reducing characteristics associated with both outgoing and incoming leaders.


Keywords: leader succession • turnover • longitudinal methods • uncertainty management • leader performance

Work-unit leaders regularly vacate their positionsabout 1 in 4 leave in any given year-prompting a growing interest in understanding leader succession and its consequences (e.g., Rowe et al. 2005, Ballinger et al. 2010, Hale et al. 2016). Leader succession is "the planned or unplanned change of the formal leader of a group or organization" (Gordon and Rosen 1981, p. 227). Researchers assert that leader succession is a disruptive event that elicits uncertainty and instability among remaining members and theorize effects on numerous individual and organizational outcomes (Ballinger and Schoorman 2007, Ng and Feldman 2013, Lam et al. 2016, Shapiro et al. 2016). For instance, scholars have investigated how CEO and other executive departures impact financial performance, strategic change, and firm-level turnover (Friedman and Saul 1991, Kesner and Dalton 1994, Shen and Cannella 2002a). In doing so, macro scholars consider upperechelon leaders, who are unique from other organizational leaders in the nature of their job demands (Zaccaro et al. 2001), the type of social capital they bring (Cao et al. 2006), and the amount of behavioral control they have over lower-level workers (Ouchi 1978). At an individual level, researchers have
considered how the departure of immediate supervisors dissolves leader-member relationships and triggers a range of individual reactions and choices, such as whether to leave the organization (e.g., Ballinger et al. 2009, Zhao et al. 2016). They find that employees experience the departure of the same leader differently depending on the quality of their individualized relationships with the leader, which then influences their individual turnover choices (Ballinger et al. 2009).

Despite progress in macro- and individual-level studies, there remains scant theory and empirical evidence linking midlevel leader succession to unitlevel outcomes such as employee turnover rates. In contrast to upper-echelon turnover, midlevel leader exits are not highly publicized, do not disrupt a firm's overall strategic direction, and are less likely to be promotion battlegrounds. Such exits also differ from those among direct supervisors that are often the focus of individual-level research. Midlevel leaders have a more distal relationship with unit employees than do direct-line leaders and therefore are less likely to develop individualized and differentiated leadermember relationships. At the same time, midlevel
leaders retain behavioral control over frontline staff, which is generally not the case in upper-echelon research. Overall, at a unit level, midlevel-leader exits generate effects across the unit members that they oversee. Given their central role in affecting workunit function, we see value in studying how departures among midlevel leaders affect unit-level outcomes such as employee turnover rates. Unit-level turnover is important to address, given its negative effects on a wide range of outcomes, including productivity, service quality, safety, revenues, and more (Hausknecht and Trevor 2011, Park and Shaw 2013). Although multiple antecedents of unit-level turnover rates have been identified, this literature has yet to examine what role, if any, leader succession plays in influencing the subsequent departures of unit members (see Heavey et al. 2013).

Our aim is to provide theory and evidence to explain when and why midlevel-leader exits bring about either rising or falling unit turnover rates. Given theorizing that leader-succession effects are contextdependent (Shapiro et al. 2016), we ask "What factors moderate the relationship between leader exits and unit-level turnover?" Given that the departure of the former leader and the appointment and integration of the new leader transpire over time, we also aim to provide temporal precision in our investigation and ask, "What are the initial and longer-term effects of a leader exit on unit-level turnover?" Following from recent research, we posit a "two-phase" longitudinal model to investigate these temporal effects (see Hale et al. 2016). In the initial phase, we examine how certain factors influence unit turnover levels in the month immediately following a leader exit, whereas in the longer-term phase, we examine how those factors predict unit turnover trends, as compared with those from the pre-exit period.

In particular, we test whether leader-succession effects on unit turnover rates are contingent upon: (a) the outgoing leader's job performance, (b) the incoming leader's experience with the unit (i.e., whether the leader is internally promoted), (c) the incoming leader's experience with the role (i.e., whether the leader has held a similar leadership role with another unit), and (d) the involuntary termination rate in the unit. Uncertainty-management theory (Berger and Calabrese 1975, Kramer 1999, Brashers 2001) provides an integrated theoretical framework to consider these as potential influences on unit turnover rates. Unit members use characteristics of outgoing and incoming leaders as cues to forecast whether their situation would worsen or improve following leader exits; for instance, some characteristics may stimulate hope and strengthen the desire to remain, whereas others may elicit fear and increase turnover risk. We test our predictions with a 36-month, repeated-measures data set covering 287
comparable locations of a U.S. hospitality organization. Our data and modeling enable us to test whether leader exits precipitate an initial and a longer-term change in units' monthly turnover rates, pinpoint what explains variability in those changes, and ultimately describe conditions that promote greater workforce stability during and after leader succession.
This study offers several contributions. The first centers on developing theory and providing evidence to explain how and why midlevel leader exits should affect unit turnover rates. We develop and test reasoning that is specific to midlevel leaders, thus complementing existing succession research on direct supervisors and executives. Second, we add rigor to existing cross-sectional research in both the succession and turnover literatures by examining both initial and longer-term effects. Our temporally nuanced perspective aligns the level of theorizing (i.e., unit), the timing of expected effects (i.e., initial and longer-term), and the methodology (i.e., repeated-measures, longitudinal data)-thereby addressing the challenge to investigate issues of time and context in the study of succession (Day and Lord 1988, Giambatista et al. 2005). Third, we answer calls in the unit turnover-rate literature to further evaluate antecedents (Hausknecht and Trevor 2011, Heavey et al. 2013). By examining leader exits as a potential cause of unit turnover rates, we complement existing views that seek to explain the psychology of individual quit decisions (e.g., unfolding model, Lee and Mitchell 1994; turnover contagion, Felps et al. 2009; and conservation of resources, Troester et al. 2019).

## Theory and Hypotheses

Uncertainty management theory (Berger and Calabrese 1975, Kramer 1999, Brashers 2001) specifies the nature and meaning of uncertainty and provides a foundation for understanding unit members' responses to leader exits. Scholars believe that uncertainty arises when people encounter situations that are ambiguous and unpredictable and suggest that complete uncertainty occurs when there is a $50-50$ probability that an event has positive versus negative consequence (Kramer 1999, Bradac 2001, Brashers 2001). Whereas early work on uncertainty-management theory focused on explaining uncertainties associated with the initial stages of interpersonal interactions (Berger and Calabrese 1975), researchers have since turned to questions about the sources of uncertainty (e.g., Babrow et al. 1998, 2000), uncertainty-management strategies (e.g., information seeking and social support; Brashers et al. 2004), and how uncertainty operates in specific contexts (e.g., healthcare, Babrow et al. 1998; work life, Kramer 1999; and relationships, Knobloch and Solomon 2003).

The fundamental human drive to reduce uncertainty (Berger and Calabrese 1975) leads people to make sense of their situation, assess whether events will positively or negatively affect their lives, and determine appropriate courses of action (Bradac 2001, Brashers 2001). Uncertainty itself is neither positive nor negative-it simply activates people's search for signals that their situation should worsen or improve. Accordingly, people judge an uncertainty-inducing event based on how it will ultimately affect them (i.e., the "appraisal process"; Lazarus and Folkman 1984). Uncertainty appraisals may trigger a range of emotional responses, including negative emotions such as anxiety or fear, positive emotions such as hope or optimism, and neutral emotions such as indifference (Babrow 1992, Brashers 2001). Ultimately, uncertainty-management theory suggests that what people do in response to uncertainty is determined by their appraisal and emotional responses related to the event or experience.

Both turnover and succession scholars treat leader exits as disruptive organizational events that elicit uncertainty among employees (Ballinger and Schoorman 2007, Ng and Feldman 2013, Shapiro et al. 2016). For instance, in the turnover literature's unfolding model (Lee and Mitchell 1994), leader exits signify a "shock" or critical event that forces employees to make deliberate judgments about whether to stay or leave. In the succession literature (Friedman and Saul 1991), leader exits are characterized as critical events that disturb traditional behavior patterns and intensify feelings of instability and insecurity. According to uncertainty-management theory, employees' reactions to a workplace event would depend on the nature of the uncertainty-reducing signals they acquire in relation to that event. Such information could generate positive reactions among employees, leading them to feel hopeful or optimistic about the future (Brashers 2001). For example, an organization might commit to a no-layoffs policy following a major restructuring. In this case, the restructuring is a disruptive event that elicits uncertainty, but the new policy signals an optimistic future for employees. Conversely, new information can generate negative reactions that lead employees to feel less secure about their future (e.g., a restructuring followed by rumors of possible further cuts). In both cases, information related to the event helps employees see the event and its consequences as more (or less) favorable, which facilitates choices about whether to remain in the situation or find an alternative that is presumably more desirable. Substantiating this logic, Ballinger et al. (2010) found that subordinates were more likely to stay following the departure of leaders with whom they had a low-quality relationship (hoping that the new leader would be an improvement); conversely, members were more likely
to quit if they had a high-quality relationship with the former leader (because of a more pessimistic view that their situation would be less favorable under the new leader).

Taken as a whole, uncertainty-management theory proposes a general logic that leader exits are disruptive, uncertainty-provoking events and suggests that people use relevant situational information (i.e., leader characteristics) to guide their reactions and behaviors (e.g., quit/stay decisions). We extend this logic to the domain of leader-succession management while examining employee reactions over time in response to the uncertainty brought about by leader exits. In line with the recent work by Hale et al. (2016), and as previously noted, we propose two distinct phases of leader-departure effects (see Figure 1). Phase 1 is a "transition" phase; it is the month immediately after a leader exits and where we predict that the outgoing leader's characteristics-specifically the job performance of outgoing leaders-affects the level of turnover rates. We follow in the tradition of leadersuccession studies that have examined the quality of the leader as a relevant factor (e.g., Pfeffer and Davis-Blake 1986, Kesner and Sebora 1994, Giambatista et al. 2005). Here, we theorize that the outgoing leader's job performance serves as a signal to employees as to how their job situation might change under a new leader.
The second phase of our model conceptualization is a longer-term "post-exit" phase; it occurs as a unit attempts to stabilize after a leader departure. We predict that post-exit trends (i.e., slopes) in turnover rates vary depending upon characteristics of both exiting and incoming leaders-namely, the outgoing leader's performance, the incoming leader's experience, and the incoming leader's rate of discharging existing employees. Post-exit trends, then, are the rates of change in turnover over time and capture leaderexit effects that take a longer time to materialize. We chose these specific contingencies largely based on the work of Gabarro (1987), who extrapolates the factors and actions that determine new leader transition success. This work is instructive in identifying relevant contingency factors that vary over time and that signal whether uncertainty in employees' job conditions will persist.

In sum, the uncertainty-management perspective provides a sound basis for generating predictions about those leader characteristics that could signal a more- or less-favorable future for unit members. Although it is beyond our scope to test the specific micromediational psychological processes at play, as we describe below, aspects of both exiting and replacement leaders can provide salient, uncertaintyreducing information that ultimately influences remaining members' behaviors. Extant models of succession outcomes feature these dimensions (e.g., termination

Figure 1. A Two-Phase Model of Leader Succession and Unit Turnover


Notes. Figure illustrates a leader exit in month 3 for a given work unit. Leaders in different units may depart in different months, and the level of initial change and trend in turnover rates may vary across units. Dashed line indicates hypothetical continuation of pre-exit trend, against which the post-exit trend can be compared.
rates, Shen and Cannella 2002b; insider status, Bidwell 2011; and performance, Shapiro et al. 2016), and all have a reasonable interpretation as accessible signals that employees can use to reduce uncertainty and determine the impact of a leader exit on their future (as positive or negative).

## Phase 1: Initial Effects of a Leader Transition Effects of Former Leader Performance on Turnover-

 Rate Levels. We contend that an initial signal that members use to gauge the impact of a leader exit is the effectiveness of the outgoing leader. Following such an event, uncertainty arises as to how well a replacement leader will be able to facilitate work-unit function (Shapiro et al. 2016). The magnitude of uncertaintyand employees' reactions to it-partly depends on what was lost by way of the departing leader's effectiveness. Research suggests that high-performing leaders use information gleaned as a product of their position to set goals, manage tasks, and show consideration for employees (Bono and Judge 2003, Judge et al. 2004, Piccolo and Colquitt 2006, Yukl 2012). Stated simply, high-performing leaders create favorable performance conditions for their units to succeed, which may dissipate upon their departure (Hackman and Walton 1986). Such exits trigger uncertainty and, in this case, loss, which should prompt negative reactions among employees (Ballinger et al. 2010). Furthermore, one possible loss-avoidance strategy for remaining members would be to follow their highperforming leaders to the new organization; such a pattern may be more likely given that high performersare more prone to external recruitment efforts (given the curvilinear relationship between performance and turnover where higher performers are more likely to leave; Sturman et al. 2012).

In contrast, under a low-performing leader, favorable performance conditions are less likely. Lowperforming leaders have failed, at least to some degree, to effectively manage the unit-for example, exhibiting characteristics of a laissez-faire leadership approach that hinders employee satisfaction and unit performance (DeRue et al. 2011). Following a lesseffective leader's exit, members are likely optimistic that replacement leaders can make their jobs less difficult; they should therefore be more likely to remain as they hold out hope for a more desirable work situation (Ballinger et al. 2010, Rothausen et al. 2017). Furthermore, in contrast to conditions under a highly effective leader, remaining members are unlikely to follow low performers to another organization.
Hypothesis 1. The initial effect of a leader exit on voluntary turnover rates depends on the exiting leader's performance: Turnover rates will increase in the month after a high performer exits and decrease after a low performer exits.

## Phase 2: Longer-Term Effects of Leader Exits Effects of Former Leader Performance on Post-Exit

 Turnover Trends. In contrast to our first hypothesis, where we predict initial changes in turnover rates after a leader exit, we also propose longer-term effects on the rate of change (i.e., the post-exit trend in turnover rates). Conceptually, leader exits and replacements should impact work units for some timeas members gather information and evaluate their new situation (e.g., Ballinger and Schoorman 2007). In particular, we expect additional effects associated with the exit of a high-performing leader and the appointment of a new leader. When new leaders assume the role, they assess the unit and initiate change (Gabarro 1987). After high-performing leaders exit, remaining members likely see change as involving additional work and potentially adding confusion to what was once a well-functioning unit and creating negative feelings among employees (e.g., Beer et al. 1990, Kiefer 2005, Shin et al. 2012). Members foresee their job becoming more frustrating and difficult, setting the stage for negative reactions, declining attachment, and, eventually, the decision to leave (Fugate et al. 2008).

On the other hand, relative to pre-exit periods, turnover rates will likely trend downward after a lowperforming leader departs. Although replacement leaders will assess and institute changes in the unit (Gabarro 1987), employees should be more receptive to change because accomplishing their work was more difficult under the former leader. These positive reactions, which have been shown to lessen feelings of threat and uncertainty, would increase optimism and the likelihood of staying (Fugate et al. 2012).

Hypothesis 2. The effect of leader departures on the postexit trend in voluntary turnover rates depends on the exiting leader's performance. Relative to the pre-exit trend, turnover rates will trend upward after a high performer leaves and trend downward after a low performer leaves.

Effects of New Leader Characteristics on Post-Exit Turnover Trends. Above, we predicted that highperforming leader exits generate negative reactions, both immediately and over the longer term. Next, we consider how well equipped the incoming leader may be to reduce uncertainty and generate positive reactions among unit members. We examine two important aspects of the incoming leader's experience-their previous experience with the unit (i.e., whether an internally promoted candidate) and their previous experience with the role (i.e., whether they have held a similar leadership role with another work unit). Both are central to models aimed at explaining succession outcomes (Shen and Cannella 2002a). Regarding our first experience-based prediction, we contend that remaining members will appraise incoming leaders more positively if they have been promoted from within the unit. Succession scholars contend that outsiders tend to introduce more changes in terms of personnel and work procedures (Helmich and Brown 1972, Friedman and Saul 1991). As these changes would exacerbate uncertainty regarding roles and work practices, unit members would be less likely to form
positive appraisals of their new situation (Rosenbaum 1979, Lazear and Rosen 1981). Furthermore, internal candidates have longer experience within the firm, are more likely to possess unit-specific knowledge than external replacements (Lepak and Snell 1999), and have been shown to demonstrate superior performance relative to outsiders (Bidwell 2011). Moreover, internal candidates have preestablished relationships with unit members, which may reduce both the magnitude of uncertainty and the negative evaluations felt by staff members (Sonnenfeld and Peiperl 1988, Shen and Cannella 2002b, Chadwick and Dabu 2009). Given these points, internal hires should have a smoother transition because they would have relatively greater knowledge of task and relationship issues within the unit, be better able to reduce members' feelings of uncertainty regarding their roles and work-unit practices, and stabilize the workforce more rapidly in comparison with those brought in from the outside.

On the other hand, a valid counterargument to this rationale is that internal replacements might increase the turnover rate of employees because those passed over in "horse-race" succession episodes tend to leave the organization (Vancil 1987, Friedman and Olk 1995). Such a pattern seems most likely in contexts where remaining members were themselves candidates for the succession vacancy (e.g., multiple top-management-team members vying for the CEO position; Shen and Cannella 2002a, b). However, in other situations, ours included, remaining members would not generally be part of the potential replacement pool. For example, viable replacements for a variety of midlevel leadership positions (e.g., sports-team managers, college deans, or restaurant managers) would include few, if any, remaining unit members that fall under their direction (e.g., current players, professors, or hourly employees). Assuming that remaining members are unlikely replacements for the unit-leadership position (an implicit boundary condition of our proposed effect below), we expect that promoting internally enhances retention for the reasons noted above regarding unit-specific knowledge, experience, and relationships.

Hypothesis 3. The effect ofleader departures on the post-exit trend in voluntary turnover rates depends on the replacement leader's experience in the unit. Relative to the pre-exit trend, the post-exit turnover rates will trend downward when replacement leaders are promoted from within the unit and trend upward when they are not.

Our second experience-based prediction relates to whether new leaders have previously held similar leadership roles within their organization. Those who enter formal leadership roles having previous experience are likely better equipped to reduce uncertainty and generate positive appraisals than those who have not.

Experienced leaders have had time to build knowledge, skills, and proficiency, which enable them to be more effective soon after assuming their new post (Borman and Motowidlo 1993, DeRue and Wellman 2009, Van Iddekinge et al. 2009). Indeed, research shows a consistent, positive relationship between job experience and job performance (Quińones et al. 1995). The benefits of prior role experience would ease the transition into the current role and help incoming leaders better manage relationships among work-unit members, as one of the most robust indicators of current leadership performance is previous experience in a similar role (Gabarro 1987, Bettin and Kennedy 1990, Avery et al. 2003). For instance, Pfeffer and Davis-Blake (1986) found higher team performance when basketball coaches selected as successors had prior coaching experience.

We expect, then, that replacement leaders with previous role experience will be more effective at managing unit functions than those without it. Experienced incoming leaders have likely learned essential lessons about how to create favorable performance conditions and how to do so more quickly (e.g., Gabarro 1987, McCall et al. 1988). For instance, they can identify which information is most critical, can interpret and translate data into meaningful goals, can more readily diagnose symptoms of situations that demand their attention and action, and can implement approaches that best clarify tasks and motivate employees. In coming into a new role, leaders with prior experience would be more likely focused on essential priorities (Gabarro 1987). These relatively earlier and more effective actions, coupled with remaining members' potential knowledge of the replacement leader's prior experience, help to signal the successor's legitimacy. This competence eases anxieties and uncertainty regarding members' roles under the new leader (Ballinger et al. 2009) and decreases the potential for losses in unit stability.

Hypothesis 4. The effect of leader departures on the postexit trend in voluntary turnover rates depends on the replacement leader's previous role experience as a formal leader. Relative to the pre-exit trend, the post-exit turnover rates will trend downward when replacement leaders have previous role experience as a leader and will trend upward when they do not.

In addition to the performance- and experiencebased characteristics that we discussed above, incoming leaders, regardless of whether they are internal or external hires, often make considerable personnel changes after arriving in the role (Gabarro 1987, Friedman and Saul 1991, Shen and Cannella 2002b). This suggests a final attribute of the incoming leader that may explain variability in unit members' quit decisions: the incoming leaders' termination rate (i.e., percentage of work-unit members who they fire,
or the involuntary turnover/discharge rate of employees). When an incoming leader forces personnel changes, members' perceptions of uncertainty and job insecurity increase (Heaney et al. 1994, Casey et al. 1997). Members who are insecure about their jobs seek alternatives to ease these fears (Ballinger and Schoorman 2007), which likely results in higher levels of voluntary turnover (Griffeth et al. 2000). Moreover, higher termination rates disrupt unit operations as members attempt to coordinate workflow, divide their time between standard role responsibilities and covering for those who have been fired, and orient new hires (Hausknecht et al. 2009). Losing stable relationships with former colleagues may additionally deprive remaining members of a vital social buffer, as their jobs become more uncertain and difficult to execute. The resulting reality of active job searches to guard against job insecurity, role overload and stress, and limited social support sets the stage for higher rates of work-unit turnover (Griffeth et al. 2000, Mossholder et al. 2005).
Hypothesis 5. The effect of leader departures on the postexit trend in voluntary turnover rates depends on the termination rate. Relative to the pre-exit trend, the post-exit turnover rates will trend upward as termination rates increase.

## Method

## Data and Sample

Our sample consists of 287 independently operated and geographically dispersed work units that are owned by a U.S. company in the food and hospitality industry. The hierarchical structure, human-resource practices, product and service offerings, and work roles across the sampled units are consistent. Each unit is led by a general manager (GM)-that is, the formal midlevel leader whose exit is studied here-who is responsible for managing unit employees and overall operations. Under the GM, several assistant managers have functional responsibilities (i.e., marketing and sales, product creation, and customer service) and support the GM (average assistant manager $n=3.21$; $\mathrm{SD}=0.55$; range $=1-7$ ). The majority of the work-unit members are hourly frontline staff. These employees work in a sequentially interdependent fashion and typically fulfill one role, such as creating products, serving and interfacing with customers, or fulfilling one of several support activities (average employee $n$ per unit $=112 ;$ SD $=16$; range $=65-205$ ). Unlike assistant managers, frontline staff are not qualified for the GM role and are not considered potential replacements for the exiting leaders.
We gained access to archival data from the organization's human-resources information system from the period of June 2009 to May 2012 (i.e., 36 months). These records contained a unit identifier, the unit
open and close dates, job codes for each employee, hire and departure dates, annual GM performance ratings, and payroll information for all employees, which allowed us to discern who had exited the unit and when they did so. Turnover reasons were included in these records, which were organized into voluntary and involuntary classifications.

To ensure that the units had an adequate number of time points available for longitudinal modeling (both before and after the GM exit), we followed researcher guidance to only include units with at least three months of data before and after the GM exit (Ployhart and Vandenberg 2010). In total, 39 units were dropped because they did not meet this criterion. To achieve comparability in the amount of available data modeled across units, we included monthly data for up to 12 months on either side of a GM exit. Thus, for each unit, there are 3-12 months of data on either side of a GM exit. In our supplementary analysis, we investigated the sensitivity of our findings to time frames that differed from 12 months (i.e., 9,6 , and 3 months). In addition, to account for the reality that turnover rates are highly volatile when units first open or finally close, we excluded data from 21 units that opened or closed during our study window. Finally, we dropped three units with internal replacement leaders who also had previous role experience as the GM of another unit. This ensured that all replacements with previous GM experience were not internal replacements and that the estimates of our internally promoted measure would not confound role and unit experience. Applying these criteria, we retained data from 287 units (i.e., $350-39-21-3=287$; $82 \%$ inclusion rate), which yielded a final data set with 6,357 unit-month observations. This repeatedmeasures, longitudinal data set served as the foundation for our analytical approach-that is, discontinuous growth modeling (Bliese and Ployhart 2002, Singer and Willett 2003)-which we explain in detail in a later section.

Consistent with recent work (Hale et al. 2016), we chose to study core members for both conceptual and practical reasons. Conceptually, our theoretical arguments and hypotheses are most relevant to those employees who are central or "core" to work-unit operations. This is because core members presumably face higher uncertainty in the event of leader exits because they occupy more complex jobs, are in closer contact with the leader, are more central to the workflow, and thus are more affected by the leader's exit than noncore employees. Practically, core employees have a disproportionally larger impact on the collective's performance. They are more critical to unit performance than noncore employees because they encounter unique problems and provide a stronger contribution to competitive advantage (Delery and

Shaw 2001). As a result, voluntary turnover of core employees could be more disruptive to the unit's operation and costly to the organization than that of the noncore employees. We applied the definition of "core" by Humphrey et al. (2009) to those employees who are responsible for creating products and interfacing with customers because these roles are most central to the workflow and encounter the majority of the problems. Those in support roles were defined as "noncore" because their jobs were easily replaced and were largely established to assist other employees in creating products and serving customers. To create our coding scheme, three authors independently coded each job function as core or noncore. Initial agreement exceeded $90 \%$, and remaining disagreements were discussed and resolved to consensus.

Finally, a portion of work units experienced multiple GM exits during the study window (two exits: $n=43$; three exits $n=4$ ). In these cases, we modeled only the effects of the first instance of a leader exit to isolate initial exit effects from those that would reflect compounding and potentially cumulative effects of multiple leader departures. Modeling our data with and without those units with multiple leader exits did not change support for our hypotheses.

## Measures

Voluntary Turnover Rates. In keeping with the vast majority of turnover research (e.g., Hausknecht and Trevor 2011), we calculated unit-level voluntary turnover rates, for each month and for each unit, as the number of members who voluntarily exited the unit in a given month divided by the total number of members. We relied on the company's termination codes in determining whether turnover was voluntary or involuntary. Moreover, in calculating monthly turnover rates, we account for monthly changes in the base number of employees, which may vary because of hiring or turnover.

Leader Performance. We used the general manager's overall annual performance rating as our measure of leader performance. These ratings ranged on a scale of 1 (below expectations) to 5 (exceeds expectations) and were conducted annually by the general manager's direct supervisor (i.e., regional manager) based on key GM responsibilities, which included both operational concerns (e.g., meeting operational targets) and people concerns (e.g., ability to lead the team). Although work-unit members did not have direct access to these performance ratings, GM performance is highly visible in this context, and unit members were aware of whether a GM (and the unit) was meeting operational performance targets (e.g., unit-performance metrics are routinely shared with employees). Despite the tendency for annual performance-review ratings

Table 1. Coding and Meaning of Change Variables

| Measurement period |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Interpretation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |  |
| Time | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Natural trend (i.e., slope) of turnover rate over time |
| Transition | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Initial change in the level of turnover following a leader exit |
| Post-exit trend | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Longer-term change in trend (i.e., slope) of turnover after a leader exit |

Note. Example illustrates a leader exit at Time 3.
to be negatively skewed, we found that these scores appeared reasonably normal with sufficient variation in ratings (mean $=3.50 ; \mathrm{SD}=0.72$ ).

Replacement Leader's Experience in the Unit. We used job codes, unit-identification codes, and payroll information to determine whether replacement leaders were promoted internally into the general manager position (coded " 1 ") or were brought in from outside the unit (coded " 0 "). Within our data, 80 (27.9\%) replacement GMs were promoted from within the unit, and 207 ( $72.1 \%$ ) were not. Among the 207 external replacements, 144 came from another unit, and 63 were external to the organization.

Replacement Leader's Role Experience. Also using job codes, unit identification codes, and payroll information, we coded replacements with previous GM experience at another unit as a " 1 " and those without as a "0." A total of 107 (37.3\%) replacement GMs had prior experience in this role from a different unit, and 180 (62.7\%) did not.

Termination Rates. In keeping with the vast majority of turnover research (e.g., Hausknecht and Trevor 2011), for each month, we created an involuntary turnover rate for each unit by calculating the number of core employees who were terminated that month divided by the total number of core employees employed in the unit that month.

Time. To capture the natural baseline rate of change (i.e., slope) in turnover rates, we assigned a " 0 " to each unit for the first month in our observation period. For each subsequent month, we assigned a value that increases by 1 point (i.e., $1,2,3,4$, and so on). This coding represents a "floating" baseline to detect any potential linear change in turnover rates and is consistent with previous research using discontinuous growth modeling (Lang and Bliese 2009, Bliese and Lang 2016, Hale et al. 2016).

Transition. Transition captures the initial change in the level of turnover rates due to a leader exit. We assigned a " 0 " to months preceding the exit through
the month when the exit occurred. We assigned a " 1 " to all post-exit months. This coding strategy also follows prior research (Lang and Bliese 2009, Bliese and Lang 2016, Hale et al. 2016). A positive and statistically significant coefficient for transition (when controlling for Time) indicates that the turnover rate increases immediately after the leader's exit. In other words, the transition variable is interpreted relative to the baseline in turnover rates had the exit not occurred, which is consistent with our theoretical interest and predictions (Bliese and Lang 2016).

Post-Exit Trend. To capture the rate of change (i.e., slope) in turnover rates after a leader exit, we assigned " 0 " to each unit for any month preceding and through the month of a leader exit. For each subsequent month, and beginning by assigning a 0 for the first month after the leader's exit, we assigned a value to increase by 1 (i.e., $0,1,2,3,4$, and so on). This coding captures the monthly linear trend in the turnover rate following a leader exit over the longer-term, above and beyond the baseline rate of change prior to the exit (as captured by the Time variable). A positive and statistically significant coefficient for the post-exit trend (controlling for Time) indicates acceleration in the turnover rates trend relative to the trend had the exit not occurred.

Table 1 shows variable codes and interpretations. We illustrate an example unit that experiences a leader exit in measurement occasion 4 (i.e., Time $=3$ ). The actual occurrence and specific timing of leader exits in our data naturally varies by work unit. The starting and ending points of observation periods also vary by work unit. Our analytical approach is ideal for handling this type of data structure where discontinuities occur at different times (Bliese and Lang 2016).

Control Variables. We controlled for factors that could partially account for fluctuations in voluntary turnover rates and/or affect our interpretations of the relationships under study. We controlled for Unit size (number of employees) and Unit age (number of months since the opening date of the physical location). Metaanalytic findings show that older units tend to be more
stable, whereas unit size shows a wider range of effects (Heavey et al. 2013). Local Unemployment rate was controlled for because job alternatives in the local labor market influence turnover (Hulin et al. 1985, Gerhart 1990, Hom and Kinicki 2001). We expect local unemployment rates to be negatively correlated with employee voluntary turnover rates. To account for seasonality of labor-force flow, which is prevalent in the hospitality and food industry, we controlled for Month of the year via dummy codes. The Voluntary turnover rate of noncore employees was also controlled for to account for potential spillover effects onto core employees. We expect noncore voluntary turnover rate to be positively correlated with core voluntary turnover rates (Felps et al. 2009). We also controlled for the Termination rates of core and noncore employees as the turnover of these employees interrupts existing social relationships and the level of embeddedness that core members might have in the unit (Mitchell et al. 2001, Felps et al. 2009). These controls help us estimate leader-succession effects apart from other factors that might drive turnover.

## Analytic Strategy

In our theory, we predict discernible changes in turnover rates-in both their level and trend over timeacross different work units due to discrete events involving leader exits. We therefore used discontinuous growth modeling (Singer and Willett 2003, Bliese and Lang 2016), which is a specific application of random coefficient growth modeling commonly used to model the effects of discontinuous events (e.g., leader exits). Such an approach allows us to model change in turnover rates before and after a leader exit, accounts for our nested data structure (i.e., monthly turnover rates of the same unit), and allows us to examine both within- and between-unit changes in turnover rates.

This technique is prevalent in recent organizational behavior/human resource and psychology research that examines the effects of a variety of discontinuities, such as experiencing unemployment (Lucas et al. 2004), task changes (Lang and Bliese 2009), skill acquisition (Singer and Willett 2003), leader exits (Hale et al. 2016), work responsibility increases (Kramer and Chung 2015), undergoing a change in marital status (Lucas et al. 2003, Lucas 2005), and experiencing events associated with disability (Lucas 2007). Moreover, this analytical approach can model events that occur at different time points for each unit and among units that have different starting and ending times of observation. As Bliese and Lang (2016, pp. 583-584) noted, "Having the transition occur at different points for different entities produces a model that can be interpreted as if the transition points had occurred at the same point for each entity." In sum, discontinuous growth modeling is best suited to addressing our
research questions and accounts for our nested data structure (i.e., monthly turnover rates of the same unit).

We followed model-building procedures found in past research (Singer and Willett 2003, Lang and Bliese 2009, Bliese and Lang 2016, Hale et al. 2016) and used SAS Proc Mixed to estimate all models. Our data are monthly repeated measures of units over a 36-month period punctuated by leadership discontinuities. The dependent variable is the voluntary turnover rate of work unit $i$ at time (i.e., month) $j$. Our coding strategy (described above) allows us to model the change in turnover rates over time and test whether our hypothesized leader characteristics predict initial and / or longer-term change in unit-level turnover. We also specify random effects of Time, Transition, and the Post-exit trend, meaning that their effects were allowed to vary across units.

## Results

Table 2 contains the means, standard deviations, and correlations for all study variables. The correlations are suggestive of whether a relationship exists between any given construct with another but cannot be used to test our hypothesized longitudinal effects. As shown in Table 2, the average monthly voluntary turnover rate, across all units and all months, was $2.61 \%$.

Following the procedures recommended by Bliese and Lang (2016) and Bliese and Ployhart (2002), we first specified an intercept-only model to estimate the degree of variance in turnover rates that resided between units versus within units over time. The intraclass correlation coefficient associated with turnover rates was 0.13 , suggesting that $13 \%$ of the variance in turnover rates resided between units, whereas the remaining $87 \%$ was found within units over time. Next, time was examined to determine whether the fixed effect of change was statistically significant. The fixed effect for time was not statistically significant (Time, $0.01, p>0.05$ ), which suggests that, on average, turnover rates across all units did not naturally systematically increase or decrease over time. This result leaves open the possibility that we suspected-namely, that turnover would rise or fall in units depending on leader characteristics. Thus, we examined variation in the level-1 (i.e., unit-month) change terms. Against a baseline model that included a fixed intercept, a fixed rate of change before and after leader exit, and a fixed transition effect (intercept $=2.59, p<0.001$; Time, 0.01 , $p>0.05$; Transition, $0.05, p>0.05$; and Post-exit, -0.02 , $p>0.05)$, we estimated a model where Time, Transition, and Post-exit rates of change were allowed to vary across units. Using a log-likelihood model contrast method, we found significant between-unit variation in preleader-exit growth rate $\left(\chi^{2}(22)=69.97, p<\right.$ $0.001)$, transition $\left(\chi^{2}(25)=19.10, p<0.001\right)$, and postleader-exit growth rate $\left(\chi^{2}(29)=8.42, p<0.01\right)$.

Table 2. Means, Standard Deviations, and Correlations

|  | ariable | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Unit size | 111.89 | 17.34 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | Unit age (in months) | 145.87 | 95.37 | 0.32** |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Unemployment rate | 8.80 | 2.38 | 0.06** | 0.11** |  |  |  |  |  |  |  |  |  |  |
| 4 | Time | 10.82 | 6.76 | -0.08 ** | 0.03* | -0.12** |  |  |  |  |  |  |  |  |  |
| 5 | Transition | 0.52 | 0.50 | -0.06 ** | -0.01 | -0.09** | 0.80** |  |  |  |  |  |  |  |  |
| 6 | Post-exit trend | 2.91 | 3.84 | $-0.04 * *$ | 0.00 | -0.10** | 0.84** | 0.72** |  |  |  |  |  |  |  |
| 7 | Performance of departing leader | 3.52 | 0.70 | 0.06** | -0.12** | 0.03* | 0.02 | 0.04** | 0.05** |  |  |  |  |  |  |
| 8 | Replacement's experience with unit | 0.28 | 0.45 | $-0.03 *$ | -0.07** | 0.04** | 0.01 | 0.00 | 0.00 | 0.12** |  |  |  |  |  |
| 9 | Replacement's role experience | 0.38 | 0.48 | 0.20** | 0.11** | -0.01 | 0.02 | -0.02 | -0.01 | 0.02 | $-0.49^{* *}$ |  |  |  |  |
| 10 | Core voluntary turnover rate | 2.61 | 2.34 | $-0.04 * *$ | -0.11** | -0.09** | 0.00 | 0.00 | -0.01 | -0.04** | -0.01 | -0.01 |  |  |  |
| 11 | Core termination rate | 1.91 | 2.25 | $-0.07 * *$ | -0.09** | -0.09** | -0.02 | -0.01 | -0.02 | -0.09** | -0.04** | -0.02 | 0.02 |  |  |
| 12 | Noncore voluntary turnover rate | 2.39 | 2.71 | 0.01 | -0.10** | -0.07 ** | 0.00 | 0.02 | -0.01 | -0.04** | 0.00 | -0.01 | 0.22** | 0.01 |  |
| 13 | Noncore termination rate | 1.82 | 2.60 | -0.07 | -0.16** | -0.09** | -0.02 | 0.00 | -0.01 | $-0.04 * *$ | -0.01 | -0.03* | 0.01 | 0.33** | 0.01** |

Notes. Results based on 6,357 observations (unit level $n=287$ ). Transition is a nominal variable coded either 0 or 1 (see Table 1) and indicates months after a leader exit (e.g., across the combination of unit and time, $52 \%$ of the observations occurred after a leader exit and were coded as 1 ). Post-exit trend is also nominally coded (see Table 1) and represents the number of months since a leader exit.
${ }^{*} p<0.05 ;{ }^{* *} p<0.01$ (two-tailed).

These findings show that there was ample variability in turnover-level changes immediately following a leader exit and in the post-exit trend changes over time, warranting further investigation of factors that might explain such variability. Before formally modeling those, we tested for alternative error structures to address potential autocorrelation and heteroscedasticity and to increase the accuracy of standard error estimates for our key model coefficients (DeShon et al. 1998). Results of these tests showed that an unstructured error structure best fit our data. ${ }^{1}$

Before evaluating our hypotheses, we first provide main-effect-only models for both the transition and the post-exit phases, which are shown in Models 1 and 3, respectively, in Table 3. In Model 1 we tested the main effect of departing leader performance. We found that leader performance is indeed negatively related to unitlevel turnover ( $-0.17, p<0.05$ ). In Model 3, we tested the main effects of all four moderators (leader performance, unit experience, role experience, and termination rates). As shown in Model 3, the main effect of leaver performance on turnover rate was statistically significant and negative ( $-0.12, p<0.05$ ), whereas the main effects of replacement unit experience $(-0.10, p>0.05)$, replacement role experience $(-0.07, p>0.05)$, and core termination rate $(0.00, p>$ $0.05)$ were not.

Hypothesis 1 stated that turnover rates would spike immediately after a high-performing leader exits and drop immediately following the departure of a lowperforming leader. In Hypothesis 2, we predicted that leader performance would also impact the post-exit
trend in turnover rates such that turnover would trend upward over time when a high-performing leader leaves and trend downward over time when a low-performing leader leaves. In support of Hypothesis 1, we found that the exiting leader's performance was a significant predictor of the initial change in the level of turnover rates ( $0.28, p<0.01$; see Table 3, Model 2). More specifically, when the exiting leader was high performing (low performing), we found a statistically significant and initial increase (decrease) in turnover rates.

Furthermore, the exiting leader's performance explained additional variance in the post-exit trend (i.e., rate of change) in turnover rates over time (0.04, $p<0.01$; see Table 3, Model 4). For those units who lost a high (low)-performing leader, post-exit turnover rates trended upward (downward) with time. Hypothesis 2 was supported. The results of Hypotheses 1 and 2 are depicted in Figure 2.

In Hypotheses 3 and 4, we predicted that the postexit rate of change in turnover would differ across work units depending on replacement-leader characteristics. In Hypothesis 3, we tested the impact of replacement leader's experience in the unit-that is, the effect of an internal versus external hire-on the post-exit trend in turnover rates (see Table 3, Model 5). Contrary to our expectation, we found that in units with internal replacement leaders, postleader-exit turnover rates trended upward ( $0.05, p<0.01$ ). Those units whose replacement leaders are promoted from within experienced an upward trend in turnover rates relative to those units who hired externally. This result is depicted in Figure 3.
Table 3. Discontinuous Growth Model Results Predicting Unit-Level Turnover

| Fixed effects | Transition phase |  |  |  | Post-exit phase |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Model 1 |  | Model 2 |  | Model 3 |  | Model 4 |  | Model 5 |  | Model 6 |  | Model 7 |  |
|  | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE | Coef. | SE |
| Level 1 model |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| (Intercept) | $3.04{ }^{* * *}$ | 0.43 | $3.64 * * *$ | 0.48 | $3.03^{* * *}$ | 0.43 | $3.45 * * *$ | 0.45 | 3.07*** | 0.43 | $3.00^{* * *}$ | 0.43 | 3.04*** | 0.43 |
| Unit size | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 |
| Unemployment rate | $-0.07^{* * *}$ | 0.02 | $-0.07^{* * *}$ | 0.02 | $-0.07^{* *}$ | 0.02 | $-0.07 * * *$ | 0.02 | $-0.07^{* * *}$ | 0.02 | $-0.07 * * *$ | 0.02 | $-0.07 * *$ | 0.02 |
| Core termination rate | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | $-0.04 *$ | 0.02 |
| Noncore voluntary turnover rate | $0.10^{* * *}$ | 0.01 | 0.10*** | 0.01 | $0.10^{* * *}$ | 0.01 | 0.10*** | 0.01 | 0.10*** | 0.01 | 0.10*** | 0.01 | 0.10 *** | 0.01 |
| Noncore termination rate | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 | -0.02 | 0.01 |
| Time | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Transition | 0.01 | 0.11 | -0.99** | 0.36 | 0.01 | 0.11 | 0.02 | 0.11 | 0.01 | 0.11 | 0.01 | 0.11 | 0.01 | 0.11 |
| Post-exit trend | -0.03 | 0.01 | -0.03 | 0.01 | -0.03 | 0.01 | -0.16 *** | 0.05 | $-0.04 *$ | 0.02 | -0.01 | 0.02 | -0.04* | 0.02 |
| Post-exit trend $\times$ Core termination rate |  |  |  |  |  |  |  |  |  |  |  |  | 0.01* | 0.00 |
| Level 2 model |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Unit age | -0.00 *** | 0.00 | -0.00 *** | 0.00 | $-0.00^{* * *}$ | 0.00 | -0.00 *** | 0.00 | $-0.00^{* * *}$ | 0.00 | $-0.00 * * *$ | 0.00 | $-0.00 * * *$ | 0.00 |
| Departing leader performance | $-0.17^{*}$ | 0.07 | $-0.34^{* * *}$ | 0.09 | $-0.17^{*}$ | 0.07 | $-0.28 * * *$ | 0.08 | $-0.17^{*}$ | 0.07 | -0.17* | 0.07 | $-0.17^{*}$ | 0.07 |
| Replacement experience with unit |  |  |  |  | -0.10 | 0.12 | -0.10 | 0.12 | -0.26 | 0.14 | 0.10 | 0.12 | -0.09 | 0.12 |
| Replacement role experience |  |  |  |  | -0.07 | 0.12 | -0.07 | 0.12 | -0.08* | 0.12 | 0.03 | 0.13 | -0.07 | 0.12 |
| Transition $\times$ Departing leader performance |  |  | 0.28** | 0.10 |  |  |  |  |  |  |  |  |  |  |
| Post-exit trend $\times$ Departing leader performance |  |  |  |  |  |  | 0.04** | 0.01 |  |  |  |  |  |  |
| Post-exit trend $\times$ Replacement experience with unit |  |  |  |  |  |  |  |  | 0.05** | 0.02 |  |  |  |  |
| Post-exit trend $\times$ Replacement role experience |  |  |  |  |  |  |  |  |  |  | -0.03 * | 0.02 |  |  |
| Variance components |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Level 1: Within-unit | 4.32*** | 0.08 | 4.32*** | 0.08 | 4.32*** | 0.08 | 4.32*** | 0.08 | 4.32*** | 0.08 | 4.32*** | 0.08 | 4.32*** | 0.08 |
| Level 2: Initial status | $0.82{ }^{* * *}$ | 0.16 | 0.79*** | 0.16 | $0.82^{* * *}$ | 0.16 | 0.80 *** | 0.16 | 0.82*** | 0.17 | 0.83*** | 0.17 | 0.82*** | 0.16 |
| Level 2: Time | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Level 2: Transition | 0.68** | 0.28 | 0.69** | 0.28 | 0.68** | 0.28 | 0.68** | 0.28 | 0.69** | 0.28 | 0.70** | 0.28 | 0.68** | 0.28 |
| Level 2: Post-exit trend | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Goodness-of-fit |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -2 Log-likelihood (ML) | 27,920 |  | 27,91 |  | 27,91 |  | 27,910 |  | 27,91 |  | 27,91 |  | 27,9 |  |
| AIC | 27,98 |  | 27,98 |  | 27,98 |  | 27,98 |  | 27,98 |  | 27,98 |  | 27,98 |  |
| BIC | 28,10 |  | 28,10 |  | 28,11 |  | 28,11 |  | 28,11 |  | 28,12 |  | 28,11 |  |

Notes. $n=287$ units; number of observations $=6,357$. Bolded coefficients correspond to tests of Hypotheses 1-5. AIC, Akaike information criterion; BIC, Bayesian information criterion; Coef., coefficient; ML, maximum likelihood; SE, standard error.
${ }^{*} p<0.05 ;{ }^{* *} p<0.01 ;{ }^{* * *} p<0.001$ (one-tailed for hypothesis tests).

Figure 2. Effect of Exiting Leader's Performance on Unit-Level Voluntary Turnover


Notes. Example illustrates a leader departure at Time 3 and is based on results from Table 3, Model 1 (for pre-transition and transition) and Table 3, Model 2 (for post-transition period). All other predictors are set to their mean.

Hypothesis 4 stated that turnover rates would trend downward when replacement leaders had previous role experience as a formal leader and would trend upward when they did not. As shown in Table 3, Model 6, we found a significant negative effect for the replacement leaders' prior role experience ( $-0.03, p<0.05$ ), suggesting that post-exit turnover trended downward for units when the replacement GM was experienced. This finding supports Hypothesis 4 and is depicted in Figure 4.

Hypothesis 5 predicted that, relative to the pre-exit trend, turnover rates would trend upward as the termination rate increased. As shown in Table 3, Model 7, turnover rates trended upward as involuntary turnover rates increased ( $0.01, p<0.05$ ), thus providing support for Hypothesis 5. In sum, our findings reveal that characteristics of the outgoing and incoming leaders are critically important in understanding the effects of leader exits on remaining members' voluntary turnover.

Figure 3. Effect of Internal/External Replacement Leaders on Unit-Level Voluntary Turnover


Note. Example illustrates a leader departure at Time 3.

Figure 4. Effect of Replacement Leader's Role Experience on Unit-Level Voluntary Turnover


Note. Example illustrates a leader departure at Time 3.

## Supplementary Analyses

Predicting Noncore Employee and Total Staff Voluntary Turnover. To offer a parallel to existing research, which generally does not differentiate between core and noncore members, we tested leader-succession effects among noncore and total staff members. Core members are in closer contact with the leader, are more central to the workflow, and occupy jobs that are more complex than noncore employees. We found that the performance of departing leader was also statistically significant among noncore employees (Hypothesis 1:0.25
and Hypothesis 2: $0.05, p<0.01$ ), but the effects of replacement leader's unit experience, replacement leader's role experience, and noncore termination rate on post-exit noncore turnover trend were not ( 0.00 , 0.01 , and 0.00 , respectively, $p>0.05$ ), the latter of which may be attributable to insufficient statistical power. We also combined the two groups into a "total staff" and found results that closely mirror those found with our hypothesis tests. The effect of exiting leader's performance on the immediate effect of leader departure on total staff voluntary turnover is

Figure 5. Effect of Replacement Leader's Termination Rates on Unit-Level Voluntary Turnover


Note. Example illustrates a leader departure at Time 3.
statistically significant $(0.25, p<0.01)$, as is its effect on the relationship between leader departure and the postleader-exit trend in staff voluntary turnover ( $0.05, p<0.001$ ). We found that internal, rather than external, replacement hires increase the postleaderexit trend in staff turnover rate $(0.04, p<0.05)$. Also, the turnover trend increases with higher staff termination rates $(0.01, p<0.05)$. The only inconsistent result is that the effect for the replacement leader's role experience was directionally consistent but not statistically significant $(-0.02, p=0.29>0.05)$. In general, it seems that the significant effects of leader succession on total staff turnover are, to a large extent, driven by its effects on core members rather than noncore members.

Time Sensitivity of Effects. As mentioned above, we included units with at least 3 and not more than 12 months of data before and after the GM exit. To test of the sensitivity of these findings to various cutoffs, we also tested models with an upper-bound limit of 9,6 , and 3 months. With the 6 - and 3 -month caps, the effects of leader departures on both initial change and post-exit trend change in turnover do not vary across different units, perhaps because more time points are needed for effects to materialize (Mitchell and James 2001) or because of lack of sufficient statistical power. With the 9-month upper limit, the effects of leader exits on both the initial change and the post-exit trend in turnover rates do vary across units. The effect of exiting leader's performance on the initial effect of leader departure on turnover rates is statistically significant $(0.25, p<0.01)$, as is its effect on the relationship between leader departure and the post-exit trend in turnover rates $(0.04, p<0.001)$. Also, the post-exit turnover rates trended upward relative to the pre-exit trend for units with higher termination rates ( $0.01, p<0.05$ ). However, the influence of neither replacement leader's experience within the unit nor that of replacement leader's role experience is statistically significant ( 0.04 and 0.03 , respectively, $p>0.05$ ). These results suggest that the effects of leader exits become more detectable over relatively longer periods.

Simultaneous Model. Given the value of modeling interactions simultaneously to estimate each effect's unique contributions, we ran an analysis involving all interaction terms from the Post-exit phase (Hypotheses 2-5). We found most results to be consistent with those of our hypothesis tests. Specifically, Post-exit $\times$ Leaver performance (Hypothesis 2 ), $0.04, p<0.01$; Post-exit $\times$ Replacement unit experience (Hypothesis 3), 0.04, $p=0.11$; Post-exit $\times$ Replacement GM experience (Hypothesis 4), $-0.01, p=0.59$; and Postexit $\times$ Core termination rate (Hypothesis 5), $-0.01, p<$ 0.05 . Nevertheless, we hesitate to infer too much from these results, given moderate to high correlations
among the interaction terms stemming from shared component terms (e.g., post-exit trend). When modeled simultaneously, we found substantial multicollinearity, which results in highly unstable standard errors. Thus, for our formal hypothesis tests, and following previous research involving leader exits and discontinuous growth modeling (Hale et al. 2016), we ran and interpreted separate models for each hypothesis.

## Discussion

Remain long enough, and most employees will experience a leader exit. Because such exodus is fairly common, scholars have studied leader-succession consequences across a range of domains (e.g., Friedman and Saul 1991, Ballinger et al. 2010). To complement existing views, our aim was to articulate a novel account of the initial and longer-term effects of midlevel-leader exits on unit-level turnover. Building upon recent and seminal work (e.g., Gabarro 1987, Morgeson et al. 2015, Hale et al. 2016), we selected and explained why specific indicators of departing and incoming leaders' competence should affect unit-level turnover initially and in the longer term.

We found empirical support for most of our predictions. Specifically, turnover rates increased in the month subsequent to the exit of a high-performing leader and decreased when the exiting leader was a low performer. In the ensuing months, the trend in turnover rates: (a) increased when the exiting leader was a high performer, (b) increased when the incoming leader was promoted from within the unit, (c) decreased when the incoming leader possessed role experience, and (d) increased when the termination rate was high. At a broad level, our findings revealed predictable linkages between leader exits and subsequent turnover within work units.

## Theoretical Implications

Our study contributes to the leader-succession and turnover literatures in several ways. Contributing to the succession-outcomes literature, in which the evidence for broad succession effects is quite mixed (Kesner and Sebora 1994, Ballinger and Schoorman 2007), this study sheds light on the conditions under which succession has positive or negative effects. We identified moderators of leader-succession effects, such as the characteristics of the outgoing leader (i.e., job performance) and incoming leader (i.e., role experience, internal/external status, and termination rates), and provide empirical evidence showing that leader-succession effects are not uniform across settings. Perhaps most pronounced is our finding that initial turnover spikes in the wake of a high-performing leader exit (and falls after a low-performing leader exit). As leadership research demonstrates how great leaders can induce employees to stay (McClean et al. 2013, Yelamanchili 2018), our study complements this work
by demonstrating the converse-that leaders who build such loyalty may ironically prompt personnel instability when they themselves leave. We also observe that effects are not contained to the immediate near-term, but extend into the months following a leader exit. These findings advance leader-succession research by linking leader exits to unit-level turnover, a relationship neither discussed nor empirically evaluated at that level. This theorizing and evidence allows for inferences that complement existing views on CEO departures (Giambatista et al. 2005) and those that examine individual reactions (Ballinger et al. 2010).

We also advance the study of unit-level turnover, an area that has been primarily interested in documenting the consequences of turnover rates (e.g., Kacmar et al. 2006, Hausknecht et al. 2009). Here, we respond to calls from scholars (Heavey et al. 2013) to offer insight into unit-level antecedents, demonstrating that leader exits shape not just the level of turnover rates in the short term, but also the subsequent trends in turnover rates over time. We also account for the reality that departing leaders are replaced-a feature that provides a novel extension to existing work. In sum, given the wide-ranging effects of unit-level turnover on performance and productivity (Park and Shaw 2013), our insight that leader exits predict unit-level turnover is a valuable addition.

This research also complements turnover contagion theory, which has proposed that coworkers' jobembeddedness and job-searching behaviors influence employees' decision to quit through a process of social contagion (Felps et al. 2009). Our work complements the social-context emphasis of turnover-contagion theory by examining leader characteristics that influence employees' appraisals of an uncertain situation. Our findings suggest that it is not only the departure of coworkers that can create contagion effects, but that the departure of leaders can also influence quit decisions, perhaps less through social contagion and more through the potential for gain or loss associated with working under a new leader.

Our findings are also intriguing when considered within the theory and practice of leader development. Scholars and practitioners assert that the most potent means for developing leadership talent is through on-the-job work experiences (e.g., McCall 2004), and research has uncovered the characteristics of jobs that hold the most promise for developing leadership capabilities (e.g., McCall et al. 1988, McCauley et al. 1994). The implication of this seminal work and more recent research (e.g., Dragoni et al. 2009) is that individuals who demonstrate leadership potential should be moved into developmentally rich job assignments, ones similar to the GM roles held by our participants. Our findings clarify the tradeoff of moving leadership talent-although there may be a developmental benefit
for the individual leader and a longer-term benefit for the organization, there may be a more immediate cost to the unit in the form of disruption and turnover.

Finally, we offer a methodological contribution that allows for sharper inferences when studying leader succession-unit outcome relationships. By identifying the specific timing of leader exits across hundreds of work units, this study moves beyond cross-sectional views of leader succession and can identify how unitlevel turnover changes in response to leader exits in the near-term and longer-term, relative to the pre-exit periods. This methodology allows each work unit to serve as its own "control," holding constant work-unit characteristics while isolating the effects of leader departures. Using this approach, we document a distinct change in turnover rates as well as more gradual effects that follow leader exits. This methodology contrasts with much of the cross-sectional leader-succession literature and can provide a more nuanced approach toward identifying how leader exits affect units and organizations over time. This approach, along with our choice of controls, helps rule out alternative explanations for our results (e.g., that general economic conditions or stable unit characteristics drive both leader exits and unit turnover). Even though most of our hypotheses were supported, we found one relationship that was contrary to our expectations. Specifically, we found a rising trend in unit turnover when replacement leaders were promoted from within the unit and a decreasing trend for units that hired external replacement leaders (we expected the reverse). One possible explanation is that external hires, given stronger observable indicators of human capital (e.g., education and experience; Bidwell 2011), might have been perceived as more qualified than internal candidates. It is also possible that internal replacements were constrained by their existing social relationships and interpersonal dynamics. Individuals who were once colleagues working at the same job level may experience difficulties (e.g., dissolution of friendships or potential envy) adjusting to a new reporting structure when one member is promoted as the unit's leader. Relatedly, new managers are often unprepared for the succession event and find it stressful, which might impact the team members' willingness to stay (Hill 1992). In our sample, internal hires were less likely to have prior GM experience than external hires, the latter of whom were found to stabilize the units more effectively. We also reinforce the point that, although in our sample core, members would not be considered as replacements for exiting leaders, the contrary might be true for other types of teams and organization. Where members consider themselves as potential replacements to exiting leaders, the effect of leader exits on unit turnover may be even stronger than we found here because those who lose out in "horse-race" succession episodes tend to leave
the organization (Vancil 1987, Friedman and Olk 1995). Addressing these notions directly would be a valuable future research direction.

## Practical Implications

Our study suggests that organizations may need to better tailor their approach to managing leader-succession events. For example, one of the least desirable scenarios (in terms of how succession will affect future turnover) is when a high performer exits and is replaced by an internally promoted leader without role experience who starts out by terminating numerous staff. To illustrate our point more concretely, our findings suggest that when a unit loses a moderately high-performing leader (e.g., a leader with a performance score of 4 out of 5, which accounts for $48.1 \%$ of all existing leaders in our sample), the monthly turnover rate of $2.61 \%$ (our study mean) would increase by 1.4 percentage points during the transition (based on the Transition $\times$ Leaver performance interaction term coefficient of 0.28 shown in Model 2 multiplied by 4 , which is the leader's performance score). This $3.73 \%$ monthly turnover rate (i.e., summing 2.61 and 1.12 ) would then, according to our data, continue to increase by 0.16 percentage points for each month during the post-exit phase (based on the Post-exit trend $\times$ Leaver performance interaction term coefficient of 0.04 shown in Model 2 multiplied by 4). After 12 months, the unit's turnover rate would increase by 1.92 percentage points ( $0.16 \times 12$ months), moving then from $3.73 \%$ to $5.65 \%$. Generalizing from these monthly turnover rates to annualized rates helps place them into context: The original monthly turnover rate of $2.61 \%$, which equates to an annual turnover rate of $31.3 \%(2.61 \times 12)$, balloons to $67.8 \%$ when using the estimate based on a unit that has lost a high-performing leader $(5.65 \times 12)$. Indeed, our raw data reveal that some units suffer from a jump of more than 30 percentage points in their annual turnover rates after the loss of a high-performing leader.
From a cost perspective, and using effects based on performance losses associated with the exiting leader, we would see a 100 -employee unit lose an additional 36 workers over the year (67.8-31.3). Assuming that a modest $\$ 2,000$ per person estimate for recruitment, hiring, and training costs generates an excess of $\$ 72,000$ in turnover-related expenses. For an organization with hundreds of such units-for instance, the 138 units in our sample with such existing leaders (with performance score of 4 out of 5)-the overall cost is substantial. Thus, heavy support in terms of post-exit management (e.g., on-boarding, training, and communication) is clearly justified.

Our findings provide direction to organizations for how they can best manage leader succession. We show that several key factors influence unit stability during and after leadership-succession events. For
instance, when a high-performing leader exits, it would be helpful to enhance onboarding of the new leader so that he or she can reduce uncertainty and generate positive appraisals among remaining members. In contrast, replacing poor-performing leaders-typically viewed as functional in and of itself-has additional benefits in terms of reduced unit-turnover rates. When leaders are promoted from within the unit, although other research suggests that organizations may expect to see higher performance and retention of that person (Bidwell 2011), we show here that they may need additional specialized training so that they are able to competently take charge of their units in such a way that embeds employees to the unit rather than creates turnover risks. In selecting replacements, if at all possible, organizations would be well advised to place greater weight on having role experience so that replacements are prepared in critical leadership functions. Crosstraining could also help ensure that replacement leaders enter the role with adequate experiences.
The results of this study can also benefit both exiting and incoming leaders. The exiting leader can play an important role in creating a smooth transition for the remaining members by conducting better "handoffs" to the new person-for example, detailing how they interpreted higher-level directives into actionable strategies for their unit, identifying the most critical challenges for the role, and sharing strategies for managing unit members. Incoming leaders should recognize that the followership may already have a view on the likelihood of the new leader's ability to make their jobs easier or more difficult. Both leaders need to realize that members' likelihood of quitting depends on their characteristics and behaviors, and thus they should proactively and consciously manage members' expectations about their work situations.

## Limitations and Future Research Directions

There are clear advantages to using data from a single organization with standardized operations and HR practices, as it helps rule out omitted variables related to characteristics of the industry, organization, or group task and structure that may influence the relationships of interest. Different organizational and industry settings may involve different replacement timelines, operations, and turnover-rate baselines (Ton and Huckman 2008). We realize that these factors could impact both the magnitude and timing of leader-succession effects. For example, because in our sample almost all replacements occurred within days or weeks, we were unable to test whether the length of time the manager role was vacant affected unit turnover rates. The standardized and centralized operations in our study precludes opportunities such as these (Ton and Huckman 2008).

In addition, we utilized a rich, longitudinal data set that we constructed from our partner organization's
archival records. This enabled our testing of leader competence effects on initial changes in turnover levels and longer-term changes in turnover trends. At the same time, these data have limitations. For example, it is possible that some managers coded voluntary and involuntary turnover differently (e.g., when "constructive dismissals" or "force outs" are coded as voluntary turnover events; Campion 1991). Furthermore, we could not obtain continuous measures of role and unit experience for our sampled replacement leaders because of our fixed observation window. Consequently, we cannot comment on how much experience is needed for a smoother transition between leaders. In addition, going forward, researchers should test the effects of leader characteristics on unit turnover resulting from leader exits in different organizations and industries. For example, the buffering effect of replacement leaders' role experience on post-exit turnover may be weaker or even reversed in certain contexts because role experience might constrain leaders to using "tried and true" methods and thus slow their adaptation to change.

Although we grounded our reasoning in uncertaintymanagement theory, we were unable to directly test the mechanisms that we believe underlie these effects. Valuable extensions to this work could measure the psychological reactions from employees such as their job perceptions (e.g., insecurity or stress) and affective reactions (e.g., uncertainty or hope). It would also be valuable to supplement supervisors' ratings of unit leaders (e.g., performance) with subordinate perceptions of their leaders. Although subordinate ratings of performance tend to be positively correlated with superior ratings (Atwater and Yammarino 1992), unit members and supervisors might judge a unit leader's behavior differently. Moreover, instead of using leader performance as a proxy for leader behaviors, direct measures of both the departing and replacement leaders' behaviors would be valuable.

## Conclusion

This study furthers understanding of how and when leader succession affects unit turnover-an important and costly behavioral consequence. Our analysis of longitudinal data from 287 work units and 6,357 unitmonths demonstrates that the initial and longer-term impact of leader exits depends on characteristics of outgoing and incoming leaders. Given the prevalence of leader succession, and our limited knowledge about its effects on unit-turnover rates, we hope this extension to the literature inspires additional inquiry into this common, and sometimes costly, phenomenon.

[^0]for a quadratic effect for time or post-exit (results available from the authors).

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[^0]:    Endnote
    ${ }^{1}$ We tested for curvilinear effects of time and post-exit by testing a quadratic term main effect as well as interactive effects between quadratic terms and the various moderators. We found no evidence

