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Short communication

Does it matter how I behave before I step into the leader role? Intrapersonal behavioral shift in temporary leadership role transition and its effect on perceived leadership effectiveness

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ABSTRACT

Although leader behavioral adaptability is generally considered a strength, there may be situations where large abrupt changes in behavior diminish perceptions of leadership effectiveness. We argue that in teams with rotating leadership, within-person behavioral shift in relationship- and task-oriented behaviors when transitioning from a nonleader to a leader role will negatively influence follower perceptions of leadership effectiveness. We also contend that this effect is stronger when teams receive behavior-focused training, and are thus more attuned to others' behaviors. To test our hypotheses, we conducted a randomized controlled intervention study with 183 student teams. Results from multilevel polynomial regression analysis on the overall sample showed that a substantial shift in relationship-oriented behaviors negatively affected perceived leadership effectiveness, while the corresponding effect for task-oriented behaviors was not significant. While the predicted pattern of relationships was not found in the two subgroups, in control group teams an increase in task-oriented, or a decrease in relationship-oriented behaviors, by leaders following role transition was generally viewed positively, which was not the case for intervention teams. Implications of these findings for research, theory and practice are discussed.

Introduction

Leadership is a dynamic process, that often involves the switching of leader and follower roles between and within individuals (e.g., DeRue & Ashford, 2010; Jaser, 2021; McClean et al., 2019; Sy & McCoy, 2014), as well as change and variability in leader behavior (e.g., Johnson et al., 2012; Kelemen et al., 2020; Liao et al., 2018). This is reflected in the growing scholarly interest in individuals transitioning into (e.g., Falls & Allen, 2020), and switching between these roles (Sy & McCoy, 2014). Leadership role switching refers to the ''intrapersonal process of dynamically switching between leader and follower roles'' (Sy & McCoy, 2014, p. 121), which commonly occurs in rotating, shared and distributed forms of leadership, for example in project and self-managed teams (D'Innocenzo et al., 2021; Lorinkova & Bartol, 2021; Zhu et al., 2018). With agile and self-organizing teamworking practices growing in popularity (de Borba et al., 2019; Li et al., 2021; Strode et al., 2022), formal leader role rotation will likely become more commonplace due to its benefits for team performance over emergent leadership (Erez et al., 2002). Our research examines how shifts in task- and relationship-oriented behaviors during transitions from nonleader-to-leader roles influence perceived leadership effectiveness in teams with rotating leadership.

To date, research has considered how leadership transitions influences followers (e.g., Ballinger & Schoorman, 2007; Li et al., 2020), the leader's personality (Li et al., 2021), and what challenges they bring for new leaders (Benjamin & O'Reilly, 2011; Falls & Allen, 2020). These studies pertain to permanent, long-term, leader role occupancy, while the dynamics of temporary, short-term, leadership role transitions are yet to be addressed. This is important to investigate as behavioral shifts in role switching likely accentuate the immediacy and perceptibility of leadership enactment (e.g., DeRue & Ashford, 2010). During role transitions, new leaders may be tempted to assert themselves by acting differently (Sy & McCoy, 2014), or feel pressure to adopt behaviors that are more aligned with the leader role (Li et al., 2021). While relatively small changes in the quantity and relative focus of the incumbent leader's behavior may be expected and accepted by followers, temporary leaders may inadvertently unsettle their relationship with their team by immediately acting in an overtly different manner (De Cremer,

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2003; Suurd Ralph & Barling, 2022). Our research adopts an events-based approach to studying leader behavior (Hoffman & Lord, 2013), to propose that substantial behavioral shifts following a nonleader-to-leader role transition in rotating leadership settings will be received negatively by the followers, as reflected in their rating of leadership effectiveness. We conceptualize behavioral shift to mean the proportional change in a person's task- and relationship-oriented behaviors once in a leader role as compared to pre-leadership behavior; that is, in this context, behavioral shift is specifically a change in one's behavioral focus on tasks or relationships, rather than changes in behavior quantity.

In addition to leadership, team training can have a sizeable influence on team outcomes (Salas et al., 2008). We draw on social information processing theory (Lord & Maher, 1993) to consider whether behavior-focused team development interventions (TDIs) strengthen the negative effect of the behavioral shift on effectiveness ratings, as such training highlights one's own and others' behaviors in team interactions. As the prevalence of teamworking in organizations continues to grow (Kaplan et al., 2016), TDIs have become increasingly common, with team training being a widespread and effective type of intervention (Hughes et al., 2016; Salas et al., 2008; Shuffler et al., 2018). In the absence of such team training, a new leader's behavioral shift may be perceived inaccurately or even go unnoticed, thus having little effect on how the leader is perceived. This is because automatic cognitive processes favor efficiency over granularity when information is being processed (Lord et al., 2020; Lord & Hall, 2003), unless there is clear motivation and a personal benefit for the observer to direct their attention to more granular behavioral information (Cowan, 1988). We therefore argue that followers who have received behavior-focused TDIs will be more likely to judge a new leader harshly when their behavior shifts during a leadership role transition. Our research seeks to investigate this by adopting a randomized intervention versus control design, with the intervention group receiving a behavior-focused TDI.

Our research contributes to the literature in three main ways. First, we address criticisms of existing leadership behavior studies (Banks et al., 2021; Behrendt et al., 2017; Hemshorn de Sanchez et al., 2021) by using a pre/post event-based approach and observational methodology to measure behavior directly as coded in real time by trained observers, in line with recent methodological advances and best-practice recommendations (e.g., Güntner et al., 2023). In doing so, we capture the actual behaviors used in follower and leader roles to assess how behavioral shift influences follower-rated leadership effectiveness, in the context of distinct person- and group-level events (Hoffman & Lord, 2013), namely fast-paced transitions in leader role occupancy. While a range of trigger events have been covered in leadership literature (Hoffman & Lord, 2013; McClean et al., 2019), stepping into a leadership position is to date unexplored as a trigger event. Moreover, studying the effect of leader behavior change from an events perspective is an underutilized approach (Keleman et al., 2020), even though it has several benefits over studying aggregate behaviors (Hoffman & Lord, 2013). In taking an event-based approach to studying leader behavior dynamism we therefore contribute a novel 'trigger' event to the study of 'shift' in leadership behavior literature (McClean, 2019).

Second, we provide a theoretical explanation for why changing behavior when taking up a leadership role in the context of rotating, or otherwise fast-changing, leadership can negatively influence follower perceptions of leadership effectiveness. Leader dynamism has been mainly studied in terms of positive trajectories and outcomes, which has left a lacuna in our understanding of potential negative implications of behavioral changes as part of leadership role transitions (McClean et al., 2019). Additionally, while much is known about the significance of pre-leadership behaviors for leader emergence (e.g., MacLaren et al., 2020), this is the first study to explore their implications for perceived leadership effectiveness, following transition into a temporary leadership role. We also extend understanding of task- and relationship-oriented behaviors as predictors of leadership effectiveness by considering their relative importance as a proportion of pre-leadership and in-role leader behaviors following a temporary leadership role transition.

Finally, we use a randomized intervention vs control group design to examine the effect of behavior-focused training, known to improve team processes (Konradt et al., 2015), as a boundary condition of the relationship between behavioral shift during role transition and perceived leadership effectiveness. This allows us to better understand when behavioral shift is most likely to affect follower perceptions of leadership effectiveness, and specifically to elucidate the effect of behaviorally focused TDIs on perceived leadership effectiveness. Introducing team-level training intervention extends the literature on the role of follower-related factors for leader behavior dynamics (Schurer Lambert et al., 2012; Matta et al., 2017).

Theoretical background

Teams often rely on their team members for leadership (Lee & Paunova, 2017), either emergent (Gerpott et al., 2019), rotating (Erez et al., 2002) or shared/distributed, where different team members provide leadership at different times (Adriasola & Lord, 2021). Within-team shifts in leadership involve an additional dimension to leadership dynamism, beyond changes of leaders or intrapersonal changes in leader behavior; namely, shifts in the behavior of a team member when transitioning into the temporary leader role. We adopt an event-based lens to build on the evidence that leader behavioral consistency is advantageous and explore whether this benefit extends to behavioral consistency during temporary leadership role change in teams.

Empirical evidence points to the frequent fluctuation in leader behaviors (Kelemen et al., 2020) confirming that, while traits may determine average behavior, different situations, events, and contexts drive intrapersonal behavioral changes (Furr & Funder, 2021; Fleeson & Noftle, 2008). Albeit such behavioral shifts may be necessary and sometimes desirable (McClean et al., 2019), evidence shows that, overall, within-person behavioral consistency, rather than change, is beneficial for a range of leadership outcomes (De Cremer, 2003; Matta et al., 2017; Richardsen & Piper, 1986; Suurd Ralph & Barling, 2022), including perceived leadership effectiveness (Johnson et al., 2012). Research on behavioral shift is confined to leadership role incumbents, hence the implications of behavioral shifts when stepping into a temporary leader role are not fully understood, even though leader role changes are a common occurrence in specific settings, such as in self-managing teams (Adriasola & Lord, 2019; Lord et al., 2020; Sy & McCoy, 2014).

According to Sparrowe (2005), leader consistency is not necessarily the repetition of the same behavior(s) by the leader, rather it is constancy in terms of their narrative self, while responding to events and changes. In applying this argument to the event of transitioning from a nonleader-to-leader role, we propose that it is not necessarily the continuation of the same behaviors that will lead to positive perceptions of the leader, but the constancy in the focus or orientation of the behavior, which would signal internal consistency. Accordingly, in the context of our study, we define behavioral shift in leadership role transition as *the relative proportionality of one's behavior (*i.e.*, task- and relationship-orientation) when in a leadership position compared to their behavior prior to taking the leader role*. That is, we are intentionally omitting the quantity of behaviors from our conceptualization, as it is widely evidenced that individuals in leadership roles tend to exhibit more (verbal) behaviors compared to nonleaders (e.g., MacLaren et al., 2020). Instead, we are focusing on the relative *pattern* of dynamic leader behaviors, within the broader theoretical framework of 'shift', referring to literature "which documents behavioral change following discrete events or interventions" that act as a potential 'trigger' for behavioral change (McClean et al., 2019, p. 483).

Applied to the context of role transitions, taking up a leader role will trigger the activation of leadership schemas (Lord & Maher, 1993) in the new leader, which in turn may be followed by a corresponding behavioral enactment to reflect this schema. This is known as the Perception-

Behavior Link (Sy & McCoy, 2014) and represents a claim of the leader identity by the new role holder (DeRue & Ashford, 2010), and a signal to others that the leader has endorsed their new role. Although such behavioral change may be appropriate and commensurate with the role change, we argue that, if it represents a major deviation in the new leader's behavior, it may come with a short-term backlash, which may be accentuated in the context of project teams that need consistency and predictability to facilitate sensemaking (Richardsen & Piper, 1986).

Behavioral shift during leader role transition: An events-based perspective

Drawing on event-level theorizing (Hoffman & Lord, 2013) we propose that transitioning into a leader role, i.e., gaining a new leader, from the team's perspective, is a *micro-event*, as it is time-bound, *static*, as it does not evolve over a long period, *familial*, as actors likely have an existing understanding of what it entails, *ordinary*, as it is common in organizational life, and *current*, thus likely involving active cognitive processing of event-related information. Therefore, followers will likely be attentive to the details of the event, making it unlikely that they will misjudge the links between behavioral stimuli and outcomes (Hoffman & Lord, 2013). At the same time, they will expect little disruption to the team's functioning from the event, and the new leader would be expected to minimize any distraction caused by the event by focusing on the team's goal pursuit. New leaders who introduce uncertainty and ambivalence by shifting their behavioral focus (Suurd Ralph & Barling, 2022), will not be thought of positively by the team members as the behavioral shifting necessitates that followers reappraise their initial schema of the leader (Lord et al., 2020). Therefore, individuals whose behavior shifts when transitioning from nonleader-to-leader roles should be rated less favorably in terms of leadership effectiveness by followers who have had the opportunity to observe or work with them prior to the role transition.

Task- and relationship-oriented behaviors and leadership effectiveness

Hogan and Kaiser (2005) identify two approaches to conceptualizing *leadership effectiveness*: as the actual performance of the leader and their unit, and as the leader's perceived effectiveness in the eyes of their followers. We adopt the latter conceptualization in order to capture the effect of behavioral shift during leadership role transition on the followers' appraisals of their leader. In selecting the focal behaviors for our study we draw on popular behavioral classifications (e.g., Behrendt et al., 2017; DeRue et al., 2011) that encapsulate behaviors that are prevalent in leader and team between-member interactions (e.g., Schlamp et al., 2021), so that we can draw comparisons of individuals' behaviors as team members (pre-leadership) and in-role as leaders. Consequently, we adopted a task- (a.k.a. initiating structure) and relationship-oriented (a.k.a. consideration) typology of behaviors, which have been linked to important outcomes, including leadership effectiveness (DeRue et al., 2011) and emergence (Schlamp et al., 2021). Relationship-oriented behaviors involve actions aimed at facilitating and improving group social interaction, while task-oriented behaviors refer to actions to achieve a group objective (Behrendt et al., 2017; DeRue et al., 2011; Judge et al., 2004).

Leader relationship-oriented behavior is an important antecedent of leadership outcomes, in terms of the absolute degree of such behavior (e.g., leadership effectiveness, satisfaction with the leader; DeRue et al., 2011; Yukl et al., 2019), the provision of such behavior relative to follower needs (Schurer Lambert et al., 2012) and its within-leader fluctuation (justice climate, extra role behaviors; Tremblay et al., 2018). Relative to task-oriented, relationship-oriented behaviors are stronger predictors of leadership effectiveness, follower job satisfaction and satisfaction with the leader (DeRue et al., 2011), but this effect is not always a straightforward positive relationship. For example, Trembley and colleagues (2018) found that the effect of relationship-oriented behaviors on justice climate remained strong over time, while their effect on team extra role behaviors decreased. Moreover, Schurer Lambert and colleagues (2012) reported that positive deviations in consideration behaviors provided by the leader, compared to that needed by the follower, had a positive influence on follower attitudes, while very large deviations had a negative effect on follower trust in the leader. The authors propose that excess relationship-oriented behavior may have negative implications because followers perceive the leader as manipulative and that specific conditions may activate skepticism in followers regarding the leader's motives for exhibiting excessive relationship-oriented behaviors (Schurer Lambert et al., 2012). We extend these arguments to propose that the relational focus pre-leadership, as well as during leadership, will likely be welcomed by the team, but a significant shift in the relative proportion of such behaviors may be perceived as attempts by the leader to ingratiate themselves with the followers, in order to secure favor and recognition as the leader, and extract more effort from the team. Combined with our rationale for the benefits of behavioral consistency, we hypothesize that, although a small increase in relationship-oriented behavioral focus may not be considered negatively by the followers, major deviations will likely lead to poorer perceived leadership effectiveness.

H1a: Substantially shifting the proportion of one's relationship-oriented behavior when taking a leader role will result in poorer leadership effectiveness ratings, as compared to staying consistent.

Task-oriented behaviors have also been associated with positive leadership outcomes, showing a similar pattern of effects on outcomes (DeRue et al., 2011; Schurer Lambert et al., 2012; Tremblay et al., 2018; Yukl et al., 2019). Relative to relationship-oriented behaviors, task-oriented behaviors are stronger predictors of group performance (DeRue et al., 2011) and, for younger leaders, are more effective in preventing staff turnover (Buengeler et al., 2016). Again, the positive effect of leader task-oriented behaviors on outcomes is nuanced, as Trembley et al. (2018) report that both high and low levels were associated with decreases in procedural justice climate and follower extra-role behavior over time, with moderate levels of task-oriented behavior leading to an increase of both. In their study, high levels of task-oriented behaviors were consistently associated with increases in perceptions of distributive justice. Potential reasons for the negative influence of both excessively low and high task-behaviors could be that followers are feeling unsupported in task completion, and perceptions of being micromanaged, respectively (Tremblay et al., 2018). This is consistent with findings by Schurer Lambert and colleagues (2012) who report that both deficient and excessive levels of task-oriented behaviors by the leader, compared to that needed by the follower, were negatively associated with a host of follower affective outcomes, including trust in the supervisor. They argue that insufficient use of task behaviors may indicate that the leader does not value and support collective goal achievement, while excessive task-focus may be perceived as the leader interfering with the followers' work and restricting their autonomy, indicative of an authoritarian leadership style (Redeker et al., 2014). We extend this line of reasoning to propose that when stepping into a leader role, changing one's behavior to either significantly increase or decrease a focus on the task will signal to the team that the new leader is either disinterested in shared goal achievement or has authoritarian tendencies.

H1b: Substantially shifting one's task-oriented behavior focus when taking a leader role will result in poorer leadership effectiveness ratings, as compared to staying consistent.

The role of behavior-focused team training

How a leader's behavioral shift is interpreted will depend on the followers' expectations and schemas. For instance, Schlamp and colleagues (2021) found that observer-rated task- and relationship-oriented behaviors were associated with team-rated leader emergence only for male leaders, indicating that the same pre-leadership behavior was interpreted differently by followers, contingent on their gender-based

leadership schemas. We extend this theorizing to propose that another follower-related factor, partaking in behavior-related training, will influence how they interpret behaviors to judge leadership. Specifically, followers' selective attention (McIntyre & Graziano, 2016) will be directed to the team members' pre-leadership and leader behavior more readily if they have received behavior-focused TDIs (Konradt et al., 2015), making them more attuned to behavioral shifts. Selective attention direction requires effort and motivation (Cowan, 1988), and is more likely when the receiver is aware of the significance of the stimuli for critical goal attainment (McIntyre & Graziano, 2016). Learning of the importance of behaviors for communication, collaboration and goal attainment as part of TDIs should therefore enhance team member's motivation to direct their attention to others' behavior. TDIs are "systematic activit[ies] aimed at improving requisite team competencies, processes, and overall effectiveness" (Lacerenza et al., 2018, p.518). TDIs often involve training supported by feedback and reflection (Hughes et al., 2016; Tannenbaum & Cerasoli, 2013), which directs participant attention to past behaviors and reactions, thus improving self and other behavioral awareness (Carden et al., 2022; Konradt et al., 2015; Popov et al., 2023). While such interventions are effective in producing positive team-level responses (Anseel et al., 2009; Gabelica et al, 2014; Konradt et al., 2015), their implications for team perceptions regarding each other's and the leaders' behavioral shifts remain unknown.

Similar conclusions can be derived from social information processing frameworks. Lord (1985) describes five stages involved in processing information about leadership: attention/comprehension, encoding, storage and retention, information retrieval, and judgment. Initial encoding of (pre-leadership) behaviors will influence later perceptions of behaviors and outcomes, and later information retrieval about earlier behaviors will be influenced by recent observations and information, such that memories of earlier behaviors will be distorted to align with recent conclusions (Uleman, 1991). Both processes thus work to converge perceptions of early and later behaviors in the mind of the observer, and inhibit the observers' ability to distinguish between earlier and recent behaviors and accurately perceive any changes. When teams are engaged in cognitively demanding tasks requiring much controlled information processing, they turn to automatic processing of leadership-related information; this relies on simplified categorization-based processes for matching observed behaviors against pre-existing leadership schemas (Lord & Alliger, 1985), making team members less attuned to subtle behavioral shifts. Thus, although we expect behavioral shift to be detrimental to leadership ratings, such shift will be perceived more readily under specific conditions that prompt the observer to switch from automatic (preconscious) to controlled (conscious) social information processing (e.g., Lord & Maher, 1993).

Specifically, we expect that much of the time changes in behavior when transitioning into a leader role may not be fully assimilated by their observers or followers. Accurate information about a person's observed behavior is only temporarily stored in episodic memory before the observer makes a categorization about the observed person and stores this generalized classification in semantic memory (Lord et al., 2020). Any behavioral shift when transitioning to a leader role will only influence followers' leadership effectiveness judgements, if the before and after behaviors are accurately contextualized and remain stored in observers' episodic memory (Lord & Hall, 2003). However, through social learning, the observer will be able to be more behaviorally aware and motivated to engage in controlled inferences about the nature and consistency of the behavior of the target (FeldmanHall & Shenhav, 2019). TDIs will result in such social learning; we, therefore, expect that sensitizing team members to behaviors and their importance for teams through TDIs will increase the salience and perception accuracy associated with leader behavioral change and lead to stronger effects of leader behavioral shift on leadership effectiveness ratings.

H2: The negative effect of relationship-oriented (H2a) and task-oriented (H2b) behavioral shift during leader role transition on perceived leadership effectiveness will be stronger for leaders in teams that have participated in behavior-focused TDIs.

Methods

Sample and procedure

We deployed a multisource randomized controlled intervention design with observer coding, capable of capturing dynamics and processes not accessible through cross-sectional and survey-based designs (Antonakis, 2017). We collected data as part of a larger research project on team dynamics at a UK university with a sample of students engaging in a face-to-face five-day team project with a daily rotating leader role. We opted for a one-day rotation frequency in order to provide sufficient opportunity for the incumbent leader to demonstrate their effectiveness in the role, while also enabling all team members to experience leading. The one-day time frame was also methodologically appropriate for studying leadership role transitions as a micro-event using a real-time coding methodology, in line with best-practice recommendations for studying events and processes (Fisher et al., 2017; Hoffman & Lord, 2013), because it allows for accurate inferences about the causal effect of behavioral shifts in the context of the role changes.

Behavioral data was collected by trained observers, one per team, using real-time coding. This approach overcomes the challenges associated with follower- or self-rated leader behaviors, such as using measurement scales that confound behaviors with effectiveness (Banks et al., 2021; Hemshorn de Sanchez et al., 2021; Uleman, 1991). Behavioral shift was considered in terms of observed changes in the proportion of team members' actual task- and relationship-oriented behaviors when transitioning from a nonleader to a leader-role. Data on leadership effectiveness was collected using paper-and-pencil surveys at the end of each of the three observed days, rated by all nonleader team members.

We used a randomized controlled intervention to evaluate whether leader behavioral shift is more strongly associated with leadership effectiveness ratings when team members have received a behavior-focused TDI. The participating teams were divided into two groups: a control group (CG) and an intervention group (IG). The intervention was designed as part of a broader project aimed at enhancing the awareness of team members' use of verbal behaviors (see supplementary materials for details), on the premise that being attuned to behaviors will improve team functioning.

We obtained data from 1059 first- and second- year undergraduate students (77 % male), who were enrolled on different engineering degrees. They were divided into 191 teams of 5 or 6 members (104 teams of 6), 8 teams were excluded from analysis, 7 due to missing data on leadership effectiveness and one due to low interrater reliability, resulting in complete data from 183 teams. Teams of 6 had two members in the leader role on one of the days; data collected on these days was excluded from analysis. The teams were divided into hubs (i.e., rooms) of 4 to 7 teams, with hub facilitators introducing the tasks, assisting as needed during sessions and summarizing the activities at the end of the day. Participants were from seven geographical regions; the UK (67 %), Asia (17 %), other European countries (9 %), Africa (6 %), the Middle East (2 %), the Americas (1 %), and Australia (<1%). Allocation of conditions was random at the level of the hub to avoid cross-contamination between teams; 54 teams were assigned to CG and 129 to IG (there were substantially more in the IG because two variations of the intervention were tested, but the difference between these variations was not relevant to this study).

The hub facilitators tasked the participants to act as leader for one day; teams decided the order in which they would rotate as leaders in a manner of their own choosing. Some teams created a leader schedule for the full week; others chose their leader ad-hoc on a daily basis. Guidance for leaders was provided on the first day, specifying they were responsible for setting goals, organizing tasks, monitoring progress, motivating the team to achieve the day's deliverables and taking responsibility for

outcomes. In assigning the day's leader the teams acknowledged this person as the role holder for the day, formally reporting the name of the leader in an online form at the end of the day, as well as to the observer, on the days data was collected. At the end of the week, each team delivered a presentation and submitted a project report.

Data was collected on three days: Monday (Day 1), Tuesday (Day 2) and Thursday (Day 4). Day 1 leaders were excluded from analysis, as pre-leadership behaviors could not be observed. Trained observers coded team members' behaviors against a predefined set of behavioral categories. The observers had been through a 4-step funnel selection and training process which accounted for over 18 h of training. To determine interrater reliability 15 teams were randomly selected for simultaneous coding by two observers. The overall interrater intraclass correlation coefficient was 0.69, which was improved to.71 after removing one team with particularly low interrater reliability,[1] indicating good reliability in standard coding designs (Koo & Li, 2016) and excellent reliability for real-time coding (Schermuly & Scholl, 2012). Information on observer selection and training, as well as reliability calculations is provided in the supplementary materials. Observed sessions ranged from 104 to 345 min per day, averaging 242 min of coded observation per team per day.

Measures

Pre-leadership and leader behaviors

In studying behavioral shifts we sought to avoid the drawbacks associated with popular leader behavior measurement tools (Banks et al., 2021; Hemshorn de Sanchez et al., 2021; Hughes et al., 2018; Uleman, 1991) by using trained independent observers to code behaviors in real time, using an iPad application, against 15 mutually exclusive behaviors commonly occurring in teamwork (Farley et al., 2018). These were subsequently independently classified by three of the authors into behaviors that are relationship-oriented, task-oriented or neither/both (see supplementary materials); the authors had full agreement in their classifications. From this, four variables were created through aggregation: (1) pre-leadership relationship-oriented behavior proportion; (2) leader relationship-oriented behavior proportion; (3) pre-leadership task-oriented behavior proportion; (4) leader task-oriented behavior proportion. Pre-leadership relationship-oriented behavior was calculated as all relationship-oriented behaviors as a *proportion* of all observed behaviors by that individual in a nonleader role, i.e., on observed day(s) prior to taking the leader role, and similarly for the other three variables.

Although behaviors were classified into three equal categories, the majority (90 %) of coded behaviors happen to fall under the task or relationship umbrella, meaning that in practical terms as one increases in proportion, the other would likely decrease. Our data shows an increase in verbal behaviors when in the leader role; participants spoke significantly longer when they were leader compared with pre-leadership (averages of 22 % and 17 % of the time respectively, $p < .001$). This change in overall verbal behavior volume is indicative of the validity of our study design, showing that participants embraced their leader role and responsibilities when incumbent in the leader role, supported by past research showing increased airtime is associated with leader emergence (MacLaren et al., 2020).

Perceived leadership effectiveness

Perceived leadership effectiveness was measured with the item "Today's leader was effective", adapted from Ragins' (1989) 5-item instrument of Perceived Leadership Effectiveness, on a scale from 1 = Strongly Agree to 7 = Strongly Disagree. By referencing the period ('today') for which effectiveness is rated, we followed best practice for making causal inferences in event-related research (Hoffman & Lord, 2013). We aggregated the team responses on each day to capture the team's assessment of the leader's effectiveness on that day. Inter-rater agreement and reliability were adequate: the mean r_{WG} was 0.77 (compared with a null distribution), indicating moderately high agreement, ICC(1) was 0.26, representing a high level of consensus and ICC(2) was 0.61, indicating adequate reliability for the aggregated values.

Although there is growing support for using single-item measures for capturing global constructs (e.g., Matthews et al., 2022; Nagy, 2002), such as leadership effectiveness, we took a further step to establish the validity of the single-item measure. We conducted a pilot study with a sample of 324 employed individuals recruited from the Mechanical Turk, compensated at U.S. $3.00 each. After removing participants who failed one or both attention checks, the final sample was 294 respondents, 57.8 % male, with an average age of 34.2 years (SD = 13.1). Most respondents had been working in their organization for 3 to 5 years (48.6 %) and worked full-time (75.9 %). Of the participants' managers, 72.1 % were male. The item used in our main study correlated highly with the rest of the Ragins' (1989) scale ($r = 0.92$), thus showing adequate validity.

Control variables

We controlled for gender because it is associated with how behaviors influence leader emergence (Schlamp et al., 2021), being male predicts leader emergence (Eagly & Karau, 1991), and being female predicts other-rated leadership effectiveness (Paustian-Underdahl et al., 2014). We also controlled for whether students' first language was English, whether they were in their first or second year of studies, and whether the participant was leader on Day 2 or Day 4. Since language was highly collinear with ethnicity; we opted to control for language due to its relevance for verbal behaviors.

Control vs intervention

The CG engaged in the same teamwork as the IG, had the rotating leader role, had their interactions observed and coded on Days 1, 2 and 4, and provided leadership effectiveness ratings. At the end of the week they received behavioral data for their entire team, as part of the research project debrief.

The intervention draws on the assumption that video-based training on collaborative behaviors, accompanied by structured facilitated reflection and feedback, will result in improved behavioral awareness (Handke et al., 2022; Ong et al., 2022; Schippers et al., 2020). Multi-method TDIs are generally recommended over single-method (Salas et al., 2007), and their various components tend to have both individual and additive overall effects on learning (Phielix et al., 2011). When team members engage reflection regarding their team-mates' behaviors as nonleaders, and then as leaders, they will be able to decipher any behavioral shifts and draw on these in making judgments about leadership effectiveness.

The IG received behavioral training that involved watching two videos (Days 1 and 2), where some of the team communication behaviors were introduced and demonstrated, alongside prompts to practice the behaviors and set goals regarding future behaviors. In addition, the observers facilitated reflection at the end of Day 1, twice during Day 2 and at the end of Day 4, by asking questions such as: Is everyone contributing? Would you like to do something different tomorrow? Of the 132 teams, 64 also received feedback on their behaviors (e.g., how many times each member engaged in each of the 15 behaviors). This variation in the intervention was a part of the broader project and we do not predict different outcomes for our hypotheses between these sub-conditions. We tested this expectation by conducting additional analysis and found no significant differences in our hypothesized relationships for either relationship- or task-oriented behaviors.

[1] The exclusion of this team did not lead to any meaningful difference in the results found.

Analysis

Due to the hypotheses referring to the difference in behavior as leader and pre-leader, and the nested structure of the data, a multilevel polynomial regression approach with response surface methodology was used (Edwards, 2001; Shanock et al, 2010). Specifically, we examined individual team members (level 1), nested within teams (level 2). Whether the individual was leader on day 2 or day 4 of the task was included as a fixed effect, as were the other control variables. To test H1a and H1b, the ratings of leadership effectiveness were compared along the line of disagreement; that is, where leader behavior increases and pre-leadership behavior decreases, or vice versa. To test H2, a similar analysis was used, but with intervention group (CG or IG) as a binary moderator, and the line of disagreement probed for the two conditions if moderation was found.

Findings

Table 1 gives the means, standard deviations, and intercorrelations of all study variables at the individual level. We report data from 183 teams and 339 leaders on Days 2 and 4. Leader effectiveness was significantly positively correlated with the proportion of overall pre-leadership relationship-oriented behaviors, but not with task-oriented behaviors. Given these are relative values, not representing the extent or quantity of such behaviors, we cannot make inferences about whether each behavior predicts effectiveness ratings; what we can observe though is that an overall pre-leadership relative focus on relationship building may be beneficial for future leaders.[2]

The means show that relationship-oriented behaviors were used slightly less when participants were leaders (14 % of the time) than pre-leadership (18 %). A paired-samples *t*-test shows that the difference is statistically significant [difference = 4 %, 95 % CI = (3 %, 5 %), $p < .001$ (338 degrees of freedom)]. Task-oriented behaviors were slightly more common when participants were leaders (79 %) than pre-leadership (72 %) [difference = 6 %, 95 % CI = (5 %, 7 %), $p < .001$ (338 degrees of freedom)].

Table 2 shows the results of multilevel polynomial regression testing H1a for relationship-oriented behaviors and H1b for task-oriented behaviors. As is standard practice in polynomial regression, variables were centered around their midpoints (16 % for relationship-oriented, and 75 % for task-oriented behaviors, which were the overall mean values across leaders and nonleaders). The quadratic model fitted significantly better than the linear model for both relationship- ($\Delta\chi2 = 27.0$, $\Delta df = 3$, $p < .001$) and task-oriented behaviors ($\Delta\chi2 = 30.4$, $\Delta df = 3$, $p < .001$). The resulting surface for relationship-oriented behaviors is shown in Fig. 1 (to aid interpretation, the behavior variables are shown using their original percentage values).

Also shown in Table 2 are the standard four tests across the lines of congruence and incongruence (Shanock et al., 2010); a1 tests whether there is a linear trend along the line of congruence, where behaviors as leader and pre-leadership coincide; a2 tests whether there is a linear trend along the line of incongruence, where behavior as leader differs maximally from pre-leadership behavior; a3 tests whether there is a quadratic relationship along the line of congruence; and a4 tests whether there is a quadratic relationship along the line of incongruence. As H1a predicts that substantially shifting the proportion of one's relationship-oriented behaviors when taking a leader role will result in poorer leadership effectiveness ratings compared to staying consistent, a4 was used to test this. The expected value of leadership effectiveness along the line of incongruence has a significant curvature [a4 = −33.7, 95 % CI (−65.6, −1.82), p = .038], and is shown in Fig. 2. Note that although the values of relationship-oriented behaviors range from 0 % to 50 % (reflecting the actual range of the data due to a positive skew), the line of incongruence here is plotted from 0 % to 32 %, as it is centered around the mean value of 16 %, so these represent the actual possible extreme values on this line. Overall, because a4 was significantly different from zero, this means H1a is supported.

Hypothesis 1b predicts that substantially shifting the proportion of one's task-oriented behaviors when taking a leader role will result in poorer leadership effectiveness ratings compared to staying consistent. The polynomial regression response surface for task-oriented behaviors is shown in Fig. 3 and leadership effectiveness along the line of incongruence for task-oriented behaviors is shown in Fig. 4. Overall, the analysis showed that the curvature along the line of incongruence does not reach statistical significance [a4 = −27.3, 95 % CI (−58.9, 4.3), p = .090]. Therefore, H1b is not supported.

We conducted moderated multilevel polynomial regression analysis to assess whether the negative effect of relationship- (H2a) and task- (H2b) oriented behavioral shift on leadership effectiveness ratings would be stronger for leaders in teams that have participated in behavior-focused TDIs, compared to control group teams (Table 3). Importantly, the introduction of the interaction terms resulted in a significantly better fit for both relationship-oriented ($\Delta\chi2 = 30.9$, $\Delta df = 5$, $p < .001$) and task-oriented behaviors ($\Delta\chi2 = 34.8$, $\Delta df = 5$, $p < .001$), showing a significant moderated effect. To examine the nature of this moderation, we plotted the surfaces for each condition (Figs. 5 and 6).

In relation to H2a, Fig. 5 (a and b) indicates that there were relatively similar effects for both groups along the line of incongruence for relationship-oriented behaviors. The curvature was not significant for neither the control [a4 = −44.5, 95 % CI (−125.5, 35.6), p = .273], nor the intervention group [a4 = −33.5, 95 % CI (−69.0, −1.9), p = .063]. The lack of significant curvature along the line for incongruence for both conditions means that H2a was not supported, as the hypothesized pattern of change upon shift of behaviors was not found. However, there was a significant main effect in the control group along the line of incongruence [a2 = 6.2, 95 % CI (0.3, 12.1), p = .040], suggesting that when teams have not had a TDI, using proportionally fewer relationship-oriented behaviors after becoming leader is associated with higher leadership effectiveness ratings.

For H2b, i.e., task-oriented behaviors (Fig. 6a and b), the results are very similar. Specifically, the curvature was not significant in the control [a4 = −44.8, 95 % CI (−94.8, 5.2), p = .078], or the intervention group [a4 = −31.4, 95 % CI (−71.5, −8.8), p = .125]. Therefore hypothesis 2b was not supported, because (as with hypothesis 2a) the effects of behavioral shift were not as predicted. However, there was a significant main effect in the control group along the line of incongruence [a2 = −8.4, 95 % CI (−13.5, −3.2), p = .002]. This suggests that when proportionally more task-oriented behaviors are used as leader compared to pre-leadership, and the team have not had a TDI, leadership effectiveness ratings are higher.

Post-hoc analysis

Mounting evidence indicates that the effect leader behaviors have on follower assessments is dependent on leader prototypicality (e.g., Buengeler et al., 2016; Sauer, 2011; Schlamp et al., 2021). We conducted post-hoc moderation analyses to explore whether leader prototypicality played a role in follower responses to leader behavioral shift, using as indicators of prototypicality: language (native English speaker vs other), nationality (British vs other) and gender. Moderated polynomial regression results showed no significant effects for language or

[2] Please note the pattern of correlations of leader behaviors, as a proportion of all team behaviors, with perceived leadership effectiveness is in line with prior research (DeRue et al., 2011; Judge et al., 2004); leadership effectiveness is positively correlated with both task-oriented ($r = 0.34$, $p < .001$) and relationship-oriented leader behaviors ($r = 0.18$, $p < .001$). The correlation of effectiveness ratings with pre-leadership behaviors, as a proportion of all team behaviors, is also positive for task-oriented ($r = 0.23$, $p < .001$) and relationship-oriented behaviors ($r = 0.24$, $p < .001$).

Table 1
Means, standard deviations and intercorrelations of study variables.

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Leadership effectiveness	5.80	1.04									
2. Relationship-oriented behaviors as leader	0.14	0.09	0.07								
3. Relationship-oriented behaviors pre-leadership	0.18	0.09	0.13*	0.47**							
4. Task-oriented behaviors as leader	0.79	0.11	−0.06	−0.82**	−0.41**						
5. Task-oriented behaviors pre-leadership	0.72	0.11	−0.08	−0.46**	−0.82**	0.56**					
6. Intervention condition[1]	0.71	0.45	−0.07	0.07	−0.03	0.02	−0.08				
7. Leader on day 2[1]	0.51	0.50	−0.02	0.05	−0.05	−0.09	0.07	−0.02			
8. Year 2 student[1]	0.46	0.50	0.03	−0.05	−0.08	0.11*	0.09	0.08	0.01		
9. Gender[2]	0.76	0.43	−0.03	−0.01	−0.07	−0.01	0.02	−0.02	0.02	0.13*	
10. English as first language[1]	0.76	0.43	0.15**	0.25**	0.25**	−0.26**	−0.22**	0.05	0.06	0.02	−0.03

*p < .05; ** p < .01.
Notes. Behavior indicators reflect the proportion of a certain type of behavior in relation to the person's overall behavioral displays in the role (as leader and pre-leadership, as nonleader).
Correlations shown are at the individual level (ignoring nested structure of data); sample size is 342, but only 339 for variables that involve pre-leadership.
[1] Coded as 1 = Yes, 0 = No.
[2] Coded as 1 = Male, 0 = Female.

Table 2
Results of multilevel polynomial regression.

Dependent variable:	Leader effectiveness	
Behavior as independent variable:	Relationship-oriented behaviors	Task-oriented behaviors
	Coefficient (95 % CI)	Coefficient (95 % CI)
Intercept	5.69 (5.33, 6.05)***	5.68 (5.32, 6.05)***
Leader on day 2[1]	−0.10 (−0.31, 0.12)	−0.06 (−0.27, 0.15)
Year 2 student	0.12 (−0.12, 0.36)	0.13 (−0.11, 0.36)
Gender[2]	−0.01 (−0.27, 0.25)	−0.02 (−0.28, 0.24)
English as first language[1]	0.28 (0.01, 0.55)*	0.31 (0.05, 0.58)*
Behavior as leader	−0.25 (−1.87, 1.37)	0.64 (−0.91, 2.19)
Behavior pre-leadership	2.61 (0.78, 4.45)**	−2.15 (−3.93, −0.36)*
Behavior as leader squared	−10.60 (–23.18, 1.98)	−5.58 (−16.97, 5.82)
Behavior as leader*Behavior pre-leadership	10.87 (−5.84, 27.58)	6.89 (−9.20, 22.98)
Behavior pre-leadership squared	−12.24 (–22.52, −1.97)*	−14.84 (−24.74, −4.94)**
Surface tests:		
Line of congruence: linear ($a_1 = b_1 + b_2$)	2.36 (0.50, 4.22)*	−1.51 (−2.93, −0.08)*
Line of incongruence: linear ($a_2 = b_1 - b_2$)	2.86 (−0.06, 5.78)	−2.79 (−5.82, 0.24)
Line of congruence: quadratic ($a_3 = b_3 + b_4 + b_5$)	−11.97 (−24.27, 0.33)	−13.53 (–22.91, −4.15)**
Line of incongruence: quadratic ($a_4 = b_3 - b_4 + b_5$)	–33.71 (−65.60, −1.82)*	−27.31 (−58.94, 4.32)
% reduction in −2 restricted log likelihood	3.7 %	3.8 %

* $p < .05$; ** $p < .01$; *** $p < .001$.
Notes. Sample size at level 1 (team member) is 339; sample size at level 2 (team) is 183.
Estimation used restricted maximum likelihood. Confidence intervals were based on normal standard errors.
[1] Coded as 1 = Yes, 0 = No.
[2] Coded as 1 = Male, 0 = Female.

nationality. Gender moderated the relationship between relationship-focused behavioral shift and effectiveness regarding a2 (difference in a2 = 7.5, p = .044), showing that men's effectiveness ratings reached a maximum when the proportion of their relationship-oriented behaviors was higher pre-leadership than when in the leader role. In contrast,

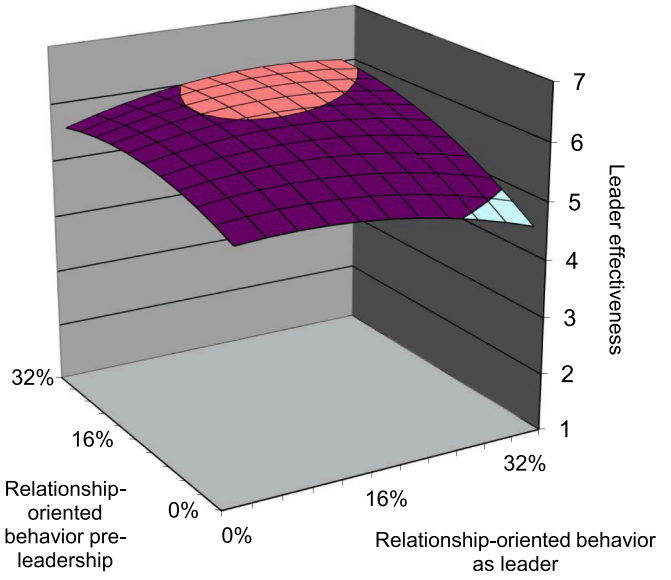

Fig. 1. Polynomial regression response surface for relationship-oriented behaviors.

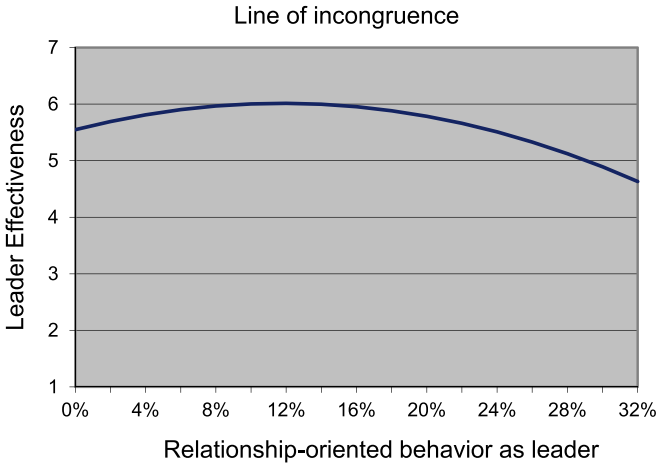

Fig. 2. Leadership effectiveness along the line of incongruence for relationship-oriented behaviors.

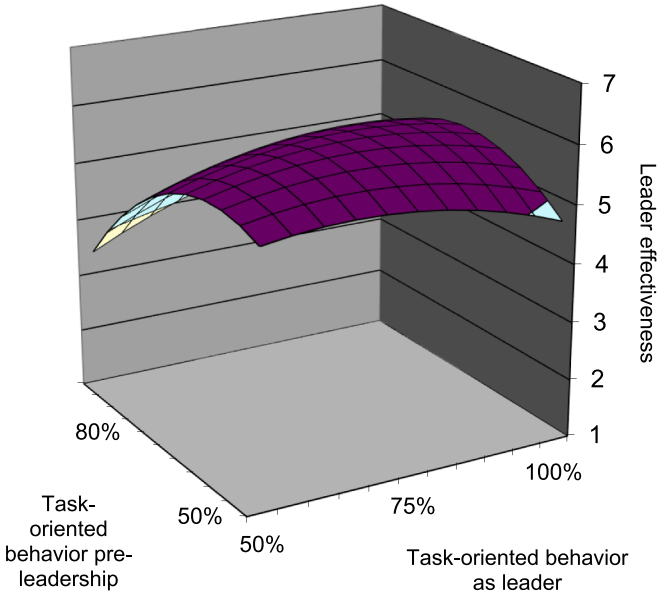

Fig. 3. Polynomial regression response surface for task-oriented behaviors.

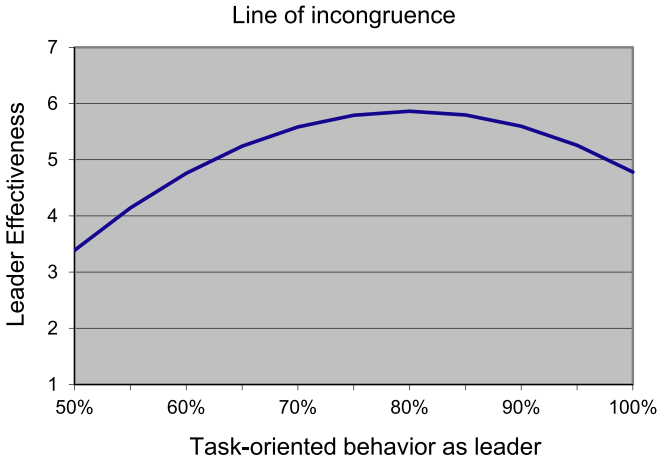

Fig. 4. Leadership effectiveness along the line of incongruence for task-oriented behaviors.

women's effectiveness ratings reached a maximum when the proportion of relationship-oriented behaviors as leader was close to that exhibited pre-leadership.

Discussion

We respond to recent calls to return to the study of behavior in leadership while also addressing two principal methodological challenges: use of proxy measures of behavior (e.g., perceptions), and conflation of behaviors with outcomes (Banks et al., 2021; Hemshorn de Sanchez et al., 2021). We achieve this by using direct measures of behavior coded by trained observers external to the team, as well as adopting a time-lag commensurate with the event of interest (Hoffman & Lord, 2013; McClean et al., 2019) – leader-role transitions in rotating leadership settings.

Our findings indicated that notable shifts in relationship-oriented behaviors when transitioning from a non-leader to a leader role were related to lower leadership effectiveness ratings. This was true whichever the direction of deviation (i.e., whether relationship-oriented behaviors increased or decreased). However, this effect did not hold for shifts in task-oriented behavior.

We did not find support to indicate that shifts in behavior upon adopting a leadership role were related to more detrimental leadership effectiveness ratings when teams had participated in a behavior-focused TDI, compared to control teams. However, it was interesting to note that in the control teams, an increase in the proportion of task-oriented behaviors, and a corresponding decrease in relationship-oriented behaviors by leaders compared with prior behaviors was generally associated with higher leadership effectiveness ratings by followers. Deviations in the opposite direction, i.e., large decrease in task- and increase in relationship-oriented behaviors, were associated with lower leadership effectiveness ratings. In conclusion, where no training occurs, behavioral shifts in one, but not both directions, are perceived negatively by followers.

Table 3
Results of moderated multilevel polynomial regression.

Dependent variable:	Leader effectiveness	
Behavior as independent variable:	Relationship-oriented behaviors	Task-oriented behaviors
	Coefficient (95 % CI)	Coefficient (95 % CI)
Intercept	5.64 (5.16, 6.13)***	5.62 (5.15, 6.09)***
Leader on day 2[1]	−0.11 (−0.32, 0.11)	−0.05 (−0.26, 0.15)
Year 2 student[1]	0.14 (−0.11, 0.38)	0.13 (−0.10, 0.37)
Gender[2]	−0.02 (−0.28, 0.24)	−0.04 (−0.30, 0.22)
English as first language[1]	0.28 (0.00, 0.55)*	0.31 (0.05, 0.57)*
Behavior as leader	3.77 (−0.06, 7.60)	−5.87 (−9.31, −2.43)***
Behavior pre-leadership	−1.66 (−4.53, 1.21)	2.00 (−0.44, 4.45)
Behavior as leader squared	−11.12 (−43.03, 20.79)	−20.79 (−39.08, −2.50)*
Behavior as leader*behavior pre-leadership	17.43 (−24.90, 59.77)	9.26 (−17.43, 35.94)
Behavior pre-leadership squared	0.23 (−23.81, 24.27)	4.15 (−15.63, 23.93)
Intervention condition[1]	0.04 (−0.39, 0.46)	0.10 (−0.30, 0.49)
Intervention condition*behavior as leader	−1.48 (−5.82, 2.86)	4.76 (0.72, 8.80)*
Intervention condition*behavior pre-leadership	1.94 (−1.46, 5.33)	−1.89 (−5.04, 1.26)
Intervention condition*behavior as leader squared	0.01 (−33.67, 33.68)	6.85 (−14.83, 28.52)
Intervention condition*behavior as leader*behavior pre-leadership	−5.48 (−51.92, 40.97)	1.86 (−32.11, 35.82)
Intervention condition*behavior pre-leadership	−15.29 (−43.59, 13.01)	−14.70 (−39.12, 9.73)
% reduction in −2 restricted log likelihood	6.8 %	7.3 %

* $p < .05$; ** $p < .01$; *** $p < .001$.
Notes. Sample size at level 1 (team member) is 339; sample size at level 2 (team) is 183.
Estimation used restricted maximum likelihood. Confidence intervals were based on normal standard errors.
[1] Coded as 1 = Yes, 0 = No.
[2] Coded as 1 = Male, 0 = Female.

Theoretical implications

Our study introduces a novel approach to studying behavioral shift in the context of rotating leadership by considering the role of pre-leadership behaviors and capturing behavioral shift in the events of leadership role transition. Although past research has not explored

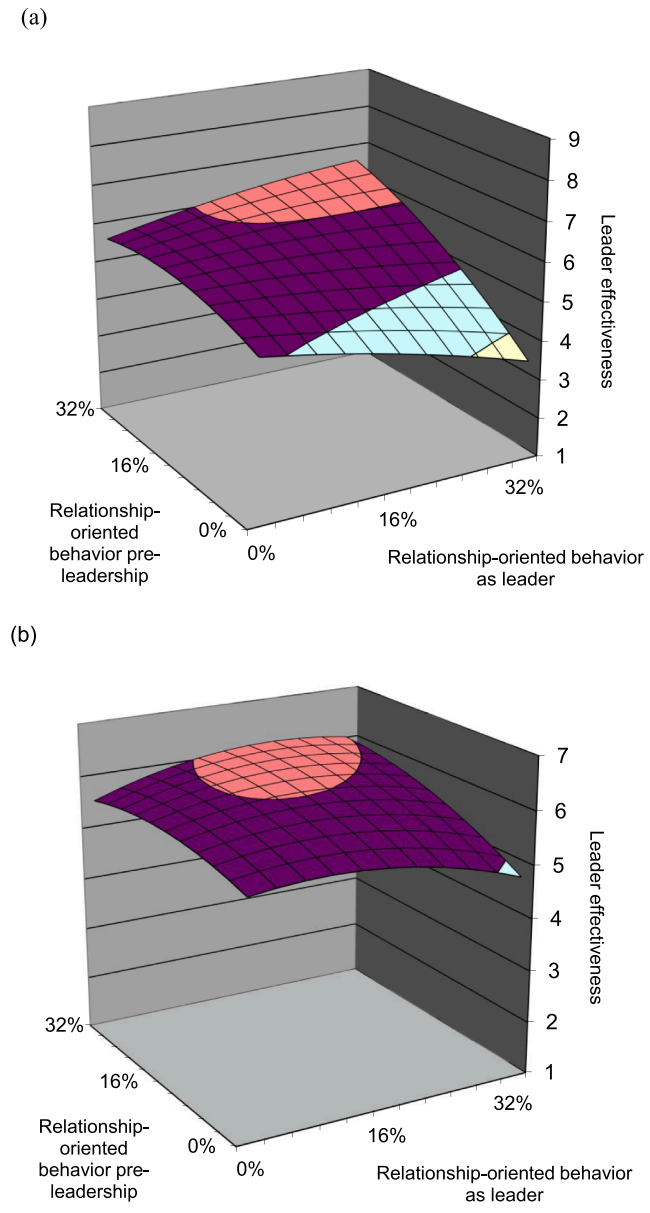

Fig. 5. Polynomial regression response surface for relationship-oriented behaviors for (a) control and (b) intervention groups.

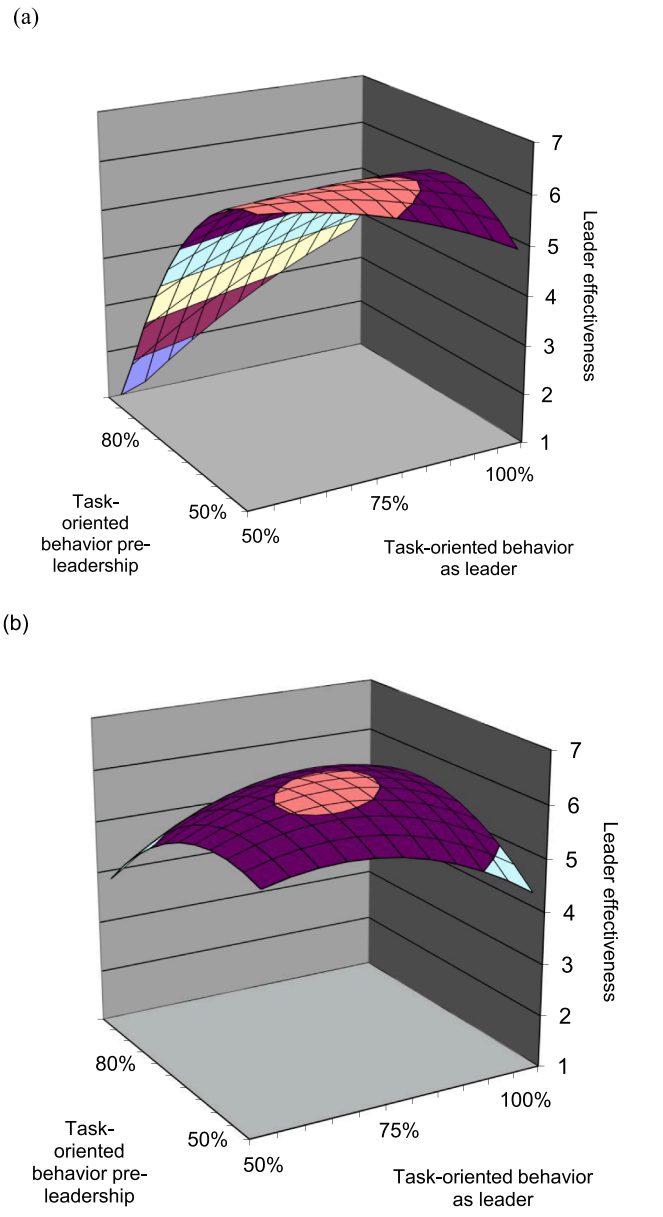

Fig. 6. Polynomial regression response surface for task-oriented behaviors for (a) control and (b) intervention groups.

behavioral shift specifically during role transition, leader inconsistencies in different contexts are known to have a negative impact on followers and organizations (e.g., De Cremer, 2003; Johnson et al., 2012; Schurer Lambert, et al., 2012, Suurd Ralph, 2022; Tremblay et al., 2018). We build on the evidence regarding the effects of leader behavior inconsistency by finding that large deviations (both increases and decreases) in relationship-oriented behavior when entering a leadership role are associated with lower leadership effectiveness ratings (H1a) – albeit, this was not the case for shifts in task-oriented behaviors (H1b). This could be because shifts in relationship-oriented behaviors are particularly relevant in signaling a lack of internal constancy in the leaders' narrative self and authenticity (Sparowe, 2005), causing feelings of ambivalence in the followers (Suurd Ralph & Barling, 2022) and indicating that the leader may be distracted away from collective goal pursuit, especially if the shift towards a more relational focus comes at the expense of task focus (Schurer Lambert et al., 2012).

In general, our findings partially corroborate past research evidence, outside the context of fast-rotating leadership, by Schurer Lambert et al. (2012), who also found that major deviations in leader behavior (from that needed by followers) had detrimental outcomes. However, while they report that a modest excess in in-role relationship-oriented behaviors was beneficial for follower trust in the leader, we find the opposite. Specifically, our data shows that a modest decrease in relationship-oriented behaviors following transition into a leader role may not be detrimental for follower perceptions of the leader, and for male leaders may even be beneficial. While it could be an artefact of our study setting involving short-term teams comprised of engineering students, this contradiction can also potentially be reconciled when we consider the context of leader role transition from an event-based perspective (Hoffman & Lord, 2013).

Past studies of behavioral shift in leadership have considered a variety of potential trigger events (McClean et al., 2019), including leadership development interventions (e.g., Antonakis et al., 2011) and career transitions (Benjamin & O'Reilly, 2011). The majority of shift

studies consider events that influence the leader themselves (McClean et al., 2019). Two notable exceptions are the studies of Li and colleagues (2020) and Zhao and colleagues (2016) who studied an event at the team level; namely, leadership succession. Li et al. (2020), report that staff turnover increases following the departure of a high performing leader, while Zhao et al. (2016) found that teams respond differently to a new leader's transformational leadership style, depending on their previous leader's level of transformational leadership. While we did not find the same pattern in our data (i.e., previous leaders' effectiveness did not have a negative effect on the new leader's effectiveness ratings), we take Zhao et al.'s (2016) findings to indicate that leadership role transitions are important team-level events, with implications for follower cognitions and responses. Consistency, or even a small decrease, in relationship-focused behaviors, while negative in other contexts (Schurer Lambert et al., 2012), may be acceptable immediately after stepping into a short-term leader role, because it signals that the leader is not trying to gain favor through relationship building and ingratiation as their main priority, which may otherwise distract the team from their goal pursuit. In short-term project teams with rotating leadership, such as the teams in our study, this may be even more salient due to the tight time frame each leader has to help the team progress on the task. Working against a shared goal under time pressure is facilitated by task-focused leadership (Maruping et al., 2015), and one implication of this could be that shifts in the leader's proportional relationship-focused behaviors, especially when they are increased, add unwelcome complexity and additional social information for the team to process. This could be received as a distraction by the team members and by extension a detriment to their perception of the leader's effectiveness.

What is notable about leader role transitions as conceptualized in our research is that, based on Hoffman and Lord's (2013) event taxonomy, they fall in the categories of 'personally relevant', and potentially 'extraordinary' for the leader, but not for the team members judging the leader. As such, the same event may have different implications for leader vis á vis follower cognitions. While we did not directly assess this in our study, focusing on such a nuanced event enriches the events-based approaches to studying leadership. Hoffman and Lord (2013) suggest that in situations where the same event may be interpreted differently by different groups, the onus is on the leader to assist in the team's sense-making. Specifically, they conclude that "in some situations, it may be more effective for leaders to behave consistently and create a source of stability and a common frame of reference and a common identity for followers [… L]eaders become more effective as they evolve into predictable, consistent responders and in doing so, provide valuable structure for their followers" (Hoffman & Lord, 2013, p. 568). Our findings reinforce this conclusion, with regards to relationship-oriented behaviors.

Our theorizing on the effect of shift for task- and relationship-oriented behaviors during leader role transition resulted in hypotheses proposing the same effect for both types of behavior. The hypothesized effect was confirmed for both increases and decreases in relationship-oriented behavior, while changes in task-oriented behavior did not have an effect on leader effectiveness ratings. This suggests that extant knowledge on the effects of task- and relationship-oriented behaviors on leadership effectiveness (e.g., Lanaj & Hollenbeck, 2015; DeRue et al., 2011) and emergence (e.g., Gerpott et al., 2019; Schlamp et al., 2021) cannot be extrapolated directly to situations pertaining to formal transitions from nonleader-to-leader roles in rotating leadership settings. Specifically, while the overall use of both types of behaviors, in absolute terms, has been shown to be beneficial for both leader emergence and effectiveness (DeRue et al., 2011; Judge et al., 2004), including in our sample (see Footnote 1), during temporary role transitions it is important that relationship-oriented behaviors are maintained in terms of their relative weight or overall proportion. What is more, while overall relationship-oriented behaviors may be generally positive for outcomes (DeRue et al., 2011), during role transitions a moderate proportional decrease in such behaviors may be preferable, especially for male leaders.

With respect to our second hypothesis, we did not find support for the influence that the behavior-focused TDI has on the relationship between incongruence and perceived leadership effectiveness. In the intervention group, there was no significant effect of shift in either task- or relationship-oriented proportional behaviors on leadership effectiveness. However, interestingly, in the control group an increase in task- and a decrease in relationship-oriented behaviors both resulted in higher leadership effectiveness ratings, while shifts in the opposite direction led to lower ratings. One potential interpretation of this pattern of results is that task-oriented behaviors are significant at all stages of teamworking, while relationship-oriented behaviors become important only after a certain period (Gerpott et al., 2019). The non-significant findings we report for the intervention group indicate that in teams that have taken part in a TDI a more nuanced understanding of leader behavioral shifts may be at play, enabling them to interpret leader behavior based on a shared understanding of what the team needs from their leader, rather than within-leader changes. Evidence shows that teams that have received TDIs supported by reflection and feedback tend to develop stronger shared mental models and are more coordinated in adapting to changes and new strategies (Konradt et al., 2015). As such, they may be more capable of procuring leader behaviors that support their goal pursuit, making overall leader behavioral shifts less relevant to assessments of leader effectiveness.

The implication of these findings for TDIs is that behavior-focused team training may have particular benefits for leadership practices in teams where this role rotates because the leader's effectiveness is not strongly reliant on them maintaining behavioral consistency. Instead, leaders can adapt to the new role and adopt behaviors commensurate with the affective and performance needs of the team at any given time, which require different behavioral inputs (DeRue et al., 2011). In contrast, in teams that have not had training, behavior change may have implications for perceived leader effectiveness, allowing less liberty and flexibility to the leader to respond to the team's situation and project requirements. In such teams, leaning towards a stronger relational focus, at the expense of a focus on task, compared to pre-leadership, will potentially result in lower leadership effectiveness ratings, even though an overall higher proportion of relationship-oriented and relatively lower proportion of task-oriented behaviors were generally favorable for leadership effectiveness both in terms of pre-leadership and in-role behaviors.

Research on unintended consequences of TDIs is sparse (see Hughes et al., 2016) and our findings point to the need for a more systematic study of such consequences in general, and for leadership effectiveness perceptions in particular. While our study indicates that social cognitive skills may be facilitated by behavior-focused TDIs (e.g., Gabelica et al., 2014; Hughes et al., 2016; Konradt et al., 2015; Phielix et al., 2011), they may also be developed in other circumstances, such as through extended experience working in teams, team coaching, team building, or team processes such as reflection and debriefing (Lacerenza et al., 2018). In broad terms our findings regarding the effects of the intervention teach us that followers' perception and interpretation of changes in behaviors of leaders after being appointed is not only a function of the leader's behaviors themselves, but also of follower cognitions. This is in line with past research that demonstrates that follower and team characteristics have an influence on which specific leader behaviors may be effective and to what degree (e.g., Lorinkova et al., 2013).

Practical implications

Short-term project teams, with rotating or otherwise fast changing leadership, are likely to experience a high degree of flux and turbulence. During unsettling events, employees rely on their leaders for sense-making and consistency (Hoffman & Lord, 2013; Richardsen & Piper, 1986), which can be particularly challenging when the events punctuating the team's work are changes in leadership. We found that shifting

the use of relationship-oriented behaviors used when adopting a leader role was negatively related to leadership effectiveness. This suggests that incoming leaders of rotating teams should be cautious about making tangible alterations in how they relate to their peers, as a degree of relational consistency may be valuable at least in the initial stages of a leadership transition. In addition, organizations spend considerable effort and resources on TDIs (Salas et al., 2008) across settings and industries (e.g., military, aviation, Burke et al., 2003; healthcare, Weaver et al., 2014; education, Rapp & Mathieu, 2007). While TDIs are unlikely to have team learning objectives that are specifically about leader behavior changes, our findings show that even a generalized behavior-focused training intervention may have implications for how followers perceive their leader. While we expected such training to make teams harsher when judging leaders who demonstrate a behavioral shift when entering the role, we found that in teams that received a behavior-focused TDI, leader behavioral shift did not have a significant bearing on their perceived effectiveness. This means that there is a potential leadership benefit for teams that have had a TDI which allows the leader to adapt their behavior to the needs of the situation.

Limitations and future research

While teams with rotating/fast-changing leadership are present in organizational settings (Breevaart et al., 2014; Davis & Eisenhardt, 2011), the bulk of the evidence on the role of leadership in such settings comes from student project teams (Doblinger, 2022; Erez et al., 2002), as in our study. While there are benefits to such a simulated teamworking setting in that it avoids the confounding effects of organizational factors (Tu et al., 2018), unlike permanent employees, student members of short-term project teams do not have a long history of prior interactions with one another, or extensive experience of teamworking, and they may be reluctantly accepting the leader role due to the project guidance, rather than their own motivations. Additionally, the imbalanced design used in this study may have meant it was more difficult to detect differences between those teams with and without a TDI. Further, we recognize that given the study is based mostly on observational data, there is a risk of endogeneity bias. While the use of separate source data – observers coding behaviors, and other team members rating leader effectiveness – mitigates this to some extent, there is still some risk that confounding variables (e.g. team members' personality or intelligence, or length of meetings) may affect both leader behaviors and effectiveness ratings, or may affect observers' coding.

What is more, students' perceptions of what constitutes leader effectiveness may differ from those of organizational members. Further research should seek to replicate our findings in more naturalistic organizational settings, including longer term teams with permanent or emerging leaders (e.g. Gerpott et al., 2019) or where leadership rotates on a less frequent basis, against a wider range of outcomes that rely on dynamic leadership (e.g. innovation, Rosing, et al., 2011), as well in reverse role transitions, i.e., leader-to-nonleader (Falls & Allen, 2020). Future research should also further probe the role of leader prototypicality (van Knippenberg, 2011), status (Sauer, 2011) and demographic characteristics (Buengeler et al., 2016; Schlamp et al., 2021) in influencing the effect of leader behaviors on follower perceptions of leadership, with gender being a particularly pertinent moderator, as per our *post hoc* analysis findings and evidence from prior research (Schlamp et al., 2021). Similarly, follower (Oc et al., 2023) and situational (Oc, 2018) characteristics are likely to influence how leader behavioral shifts are perceived in the context of rotating leadership as well as other pertinent events that teams encounter; future research should endeavor to capture these to give a more complete picture of how leader behavioral shift influences outcomes, as well as which behaviors and direction of shift are more relevant in different contexts and for different followers.

The TDI deployed in our study was a generalized, multi-component form of team behavior-focused training, not specifically designed to target leadership-related behavioral perceptions. While we suggest that its effect on the relationship between behavioral shift during leadership role transitions on ratings of leadership effectiveness is due to team member reliance on controlled, rather than automatic, information processing (Lord et al., 2020), we did not measure and test this assumption explicitly. Future research should therefore investigate which elements of TDIs are the most influential for leadership-related judgments by team members, and which specific cognitive skills are developed to modify team member cognitions regarding each other and their leaders. Future research should further establish whether leader prototypicality schemas (Lord, 1985) could be overridden by receiving TDIs with teams developing a more nuanced and contextualized understanding in team leader behavioral variation as a result of training.

Our results suggest that in teams that receive TDIs, leaders may have greater scope to adopt behaviors that respond to the needs of the team. In contrast, this possibly means that teams that have not experienced behavioral training may have a fixed expectation of members to use more task-focused behaviors when taking the leader role and move away from relationship-focused ones. This potentially increases the demands on the incoming leader to maintain a good balance between task- and relationship-oriented behaviors while in the team member role and to subsequently target their behavioral shift in the preferable direction. However, further research is needed to determine whether TDIs can allow individuals greater latitude over the behaviors they use when adopting a leader role in real-world settings.

Conclusion

Our research provides a starting point for the study of behavioral shift in nonleader-to-leader role transitions, in contexts where rotating leadership is commonplace. We highlight the implications of behavioral shift during role switching on leadership effectiveness, as well as the influence team training has on how followers respond to new leader behavior change. Our study opens the door for other researchers to explore how changes in behavior during role transitions influence leader and follower outcomes across a broader range of contexts and time spans.

CRediT authorship contribution statement

Daria Naieli Hernandez Ibar: Writing – review & editing, Writing – original draft, Visualization, Validation, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Anna Topakas:** Writing – review & editing, Writing – original draft, Visualization. **Samuel Farley:** Writing – review & editing, Writing – original draft, Visualization, Methodology, Conceptualization. **Jeremy Dawson:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Project administration, Methodology, Formal analysis, Data curation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.

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Data availability

Data will be made available on request.

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