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How we get along depends on how you make me feel: An episodic perspective on leader–follower emotional entrainment and daily interaction quality

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Abstract

Leader–follower relationships are a cornerstone of leadership research. Considering recent developments that point to emotions as key determinants of dyadic relationships, we shift the focus of this literature to the episodic interplay of leader emotional expressions and follower emotional reactions for the emergence of high-quality interactions. Specifically, we develop an *emotional entrainment perspective* stating that the trajectory of leader emotional expressions and corresponding follower emotional reactions over the course of a day gives rise to follower perceptions of their interaction quality with their leader. We glean additional insights by examining follower attachment styles as a moderator. Results of an experience sampling study ($N_{employees} = 72$, $N_{days} = 479$) demonstrate that emotional entrainment of high-activated emotions (joy and fear) predicts end-of-day interaction quality contingent on followers' (avoidant and anxious) attachment styles. Future avenues for research on the emergence of high-quality leader–follower relationships are discussed.

KEYWORDS
attachment styles, experience sampling study, interaction quality, leader–follower emotional entrainment, within-day latent growth modelling

INTRODUCTION

The quality of leader–follower relationships is one of the most-researched phenomena in the field of leadership (Zhao & Li, 2019). This is not least because high-quality relationships between leaders and followers promote a myriad of positive organizational outcomes (e.g., trust, job satisfaction, or

performance; Loi et al., 2011, Martin et al., 2016, 2019). However, despite considerable knowledge about the positive consequences of high-quality relationships, our understanding of how such relationships develop (Gottfredson et al., 2020), and what concrete leader–follower exchanges give rise to better or worse relationship quality is still remarkably underdeveloped (Banks et al., 2021; Hemshorn de Sanchez et al., 2022).

This lacuna is surprising given one of the foundational assumptions of leader-member exchange (LMX) theory is that relationship quality emerges as a result of recurring, episodic interactions between leaders and followers (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995). Scholars only recently discovered the utility of an episodic lens for the study of LMX, suggesting that leader emotional expressions during leader–follower interactions may play a crucial role in the development of high-quality relationships (Cropanzano et al., 2017; Puranik et al., 2021; Silard & Dasborough, 2021). Extant empirical research on emotions and LMX reflects this incomplete application of LMX theory and so far has yielded contradictory results. On the one hand, prior work focused on the consequences of static alignment of leader and follower emotions (i.e., aggregated emotions over time or emotional tone) for LMX (Gooty et al., 2019) and demonstrated that leader–follower alignment in *positive* (but not negative) emotional tone predicts LMX. On the other hand, more recent work (e.g., Bartels et al., 2022) reported that while leader emotional expressions predict follower-felt emotions via emotional contagion (i.e., leader emotions engendering corresponding follower emotions; Hatfield et al., 1992), only *negative* (but not positive) emotional contagion influences the quality of LMX.

Drawing from affective events theory (Weiss & Beal, 2005; Weiss & Cropanzano, 1996) and models on dyadic entrainment (Ancona et al., 2001; Cropanzano et al., 2017), we argue that prior contradictory findings may be reconciled by (1) adopting an *episodic lens* to gauge how emotions impact leader–follower relationships, (2) focusing on the quality of *leader–follower interactions* as the microfoundation of relationship quality, and (3) exploring relevant *boundary conditions* that shape how leader emotions are perceived by followers and influence their interaction quality. In doing so, we aim to make three contributions to the LMX literature.

First, existing empirical work (Bartels et al., 2022; Gooty et al., 2019) has neglected that emotional processes operate at an episodic level and are therefore best studied by looking at leader–follower interactions as they occur across a workday (Cropanzano et al., 2017; Hofmans et al., 2019; McClean et al., 2019). Yet, crucially, nonverbal exchanges in (online) meetings, while standing next to the watercooler, or during fleeting encounters in the hallway can substantially impact the quality of leader–follower relationships (Puranik et al., 2021). The first contribution of our research is to study *leader–follower emotional entrainment* (i.e., a process where two interacting oscillating systems assume the same emotional pattern over time; Chartrand & Bargh, 1999), which offers an episodic lens for the study of the empathic bond between leaders and followers (Jian, 2022). We specifically aim to advance emotional entrainment as a dynamic process that explains how leader and follower emotions co-evolve.

Second, adopting an episodic approach to explore emotional entrainment also necessitates to study its corresponding short-term impact on the quality of leader–follower relationships (Hofmans et al., 2019). While prior work shows that leader–follower relationship quality exhibits considerable temporal variability (Bartels et al., 2022; Dimotakis et al., 2023; Ellis et al., 2019), the crux of this extant research on short-term changes in leader–follower relationships is that most studies operationalized the construct as LMX. LMX, however, was originally not devised to describe temporal variability in relationship change (Scandura & Meuser, 2022). More recently, Liao et al. (2019) pointed to a way forward by adopting an episodic lens on leader–follower relationships that did not use the LMX construct but instead focused on episodic exchanges between leaders and followers. Building on this line of work, our second contribution is to link episodic leader and follower emotions with *interaction quality*. We contribute to the paradigm shift away from leadership styles and toward studying leader behaviour (Banks et al., 2021; Fischer & Sitkin, 2023) and argue that perceptions of interaction quality more appropriately capture the short-term impact of emotional entrainment.

Third, although the extant research suggests that leader emotions *can* have a relational impact on followers, this does by no means imply that followers' interactional perceptions *must* always be impacted

by the leader emotional expressions they observe. In fact, various context factors can shape the relational imprint leader behaviours leave on followers (Lee et al., 2015; Thomas et al., 2013). In line with this, affect and LMX scholars consistently call for more empirical work on the social-contextual factors that influence the way relationship quality is swayed by leader emotions (Bartels et al., 2022; Cropanzano et al., 2017; Gooty et al., 2019; Silard & Dasborough, 2021). Responding to these calls, our third contribution is to examine the role that followers' attachment styles – a key yet underresearched indicator of one's relationship-related mindset (Bowlby, 1969; Wu & Parker, 2017) – play for how both leader–follower emotional entrainment is elicited and subsequent perceptions of interaction quality are shaped. We argue that followers high in attachment avoidance (i.e., the degree to which individuals feel uncomfortable with closeness in relationships) are less receptive to emotional entrainment because they tend to protect themselves from becoming too affected by others' emotions (Hazan & Shaver, 1994; Wu & Parker, 2017). In contrast, followers high in attachment anxiety (i.e., the degree to which individuals worry and ruminate about being rejected or abandoned by interaction partners) are more receptive to emotional entrainment because of their high sensitivity to interpersonal emotional expressions as signs of approval (Campbell et al., 2005; Wu & Parker, 2017). Figure 1 depicts our theoretical model.

The impact of within-day trajectories of leader emotional expressions and follower emotional states (leader–follower emotional entrainment) on interaction quality

Although the view that a follower's perception of a high-quality relationship with their leader is shaped by recurring, emotionally charged interactions is core to relational approaches to leadership (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995), previous research has predominantly focused on cognitive constructs, such as competence or personality, as determinants of LMX (Dulebohn et al., 2012). Taking stock of this, recent theorizing (Cropanzano et al., 2017; Silard & Dasborough, 2021) highlighted that affect received little attention in the academic discourse on the development of relationships at work. We posit that dyadic emotional entrainment can explain the dynamic role of affect across repeated leader–follower interactions during a workday. Affective events theory (AET; Dasborough, 2006; Weiss & Cropanzano, 1996) suggests that leader behaviours can trigger affective events and corresponding
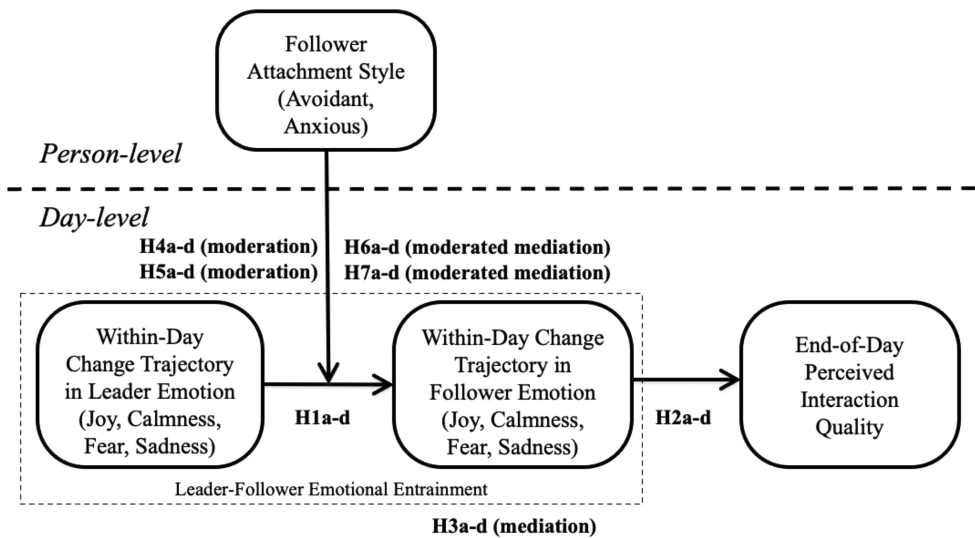

FIGURE 1 Theoretical model of how and when leader–follower emotional entrainment influences end-of-day perceived interaction quality.

emotional reactions (i.e., fairly intense, relatively short-term affective states, Eberly & Fong, 2013). The significance of leaders as creators of affective events can be explained by their central role for followers in that they typically occupy key decision-making positions and have greater access to relevant organizational resources, thus making followers attuned to their emotional expressions (van Knippenberg & van Kleef, 2016).

However, AET remains silent on how leader emotional expressions impact follower affective states over time beyond outlining the general possibility of affective cycles. Here, models on dyadic entrainment (Ancona et al., 2001; Cropanzano et al., 2017) allow for the more specific prediction that leader emotional expressions will shape followers' temporally dynamic affective reactions through *emotional entrainment*. Social or dyadic entrainment involves the modification of an individual's activity cycle by another actor, such that both activity cycles become ever more synchronized and end up oscillating in a similar rhythm (Ancona et al., 2001; Chartrand & Bargh, 1999; McGrath & Kelly, 1986). Although as a process emotional contagion and emotional entrainment share similarities, such as the emotional spillover between leader and follower (e.g., Volmer, 2012), important differences exist. Specifically, emotional entrainment represents a dynamic emotional spillover between a leader and a follower that has a cumulative effect and results in synchronized emotions over time (Chartrand & Bargh, 1999; Cropanzano et al., 2017). Emotional contagion, in comparison, reflects a one-off transferral of emotion from leader to follower (Elfenbein, 2014; Hatfield et al., 1992), the effect of which may be fleeting and dissipate over the course of a day (Cropanzano et al., 2017). Put simply, if leaders display joy during an interaction, followers are likely to experience joy as an uplifting affective reaction; however, the affective impact of a single joyful exchange may be fleeting and dissipate shortly after the interaction (Cropanzano et al., 2017; Silard & Dasborough, 2021). Applied to an episodic perspective, we propose that when leaders repeatedly display the same emotional expression across multiple interactions over the course of a day, this should impact followers' affective reaction cycle in such a way that the temporal trajectory of followers' affective reactions becomes gradually entrained to the temporal trajectory of leader emotions. Revisiting our earlier example, given followers experience joyful affective reactions when observing leader joy, if a leader repeatedly displays joy across multiple interactions during the day, the fluctuations of leader joy expressions should predict the corresponding fluctuations of follower affective reactions of joy, thus resembling a within-day emotional entrainment process between leader and follower. Research shows that work relationships are not stable but built through interactions between leaders and followers on a daily basis (Fairhurst & Connaughton, 2014; Fairhurst & Uhl-Bien, 2012), thereby supporting our emotional entrainment perspective.

Theorizing on leader–follower relationships also suggests that differences in an emotion's core properties, specifically in terms of valence (i.e., positive vs. negative) and activation (low vs. high) need to be considered in the emotional entrainment process (Cropanzano et al., 2017; Silard & Dasborough, 2021). Adopting this view, we focus on the temporal trajectories of leader expressions and follower affective reactions of joy, calmness, fear, and sadness. We study emotional entrainment involving these emotions because (a) they cover the full spectrum of the affect circumplex in terms of valence and activation as well as (b) prior research has not only shown that leader expressions of these emotions engender corresponding follower affective reactions (Bono & Ilies, 2006; Johnson, 2008; Kish-Gephart et al., 2009; Visser et al., 2013), but that follower emotions can also exhibit change trajectories throughout the day (Arnold & Sonnentag, 2023). We thus hypothesize:

> **Hypothesis 1.** Within-day trajectories of leader emotional expressions regarding (a) joy, (b) calmness, (c) fear, and (d) sadness will be positively related to within-day trajectories of corresponding follower-felt emotions, thus representing an emotional entrainment process.

Historically, LMX has been described as the quality of the relationship between leader and follower "built over time as a function of many repeated episodes of social interaction" (Graen & Uhl-Bien, 1995; He et al., 2017, p. 539). Yet, said social-interactional basis of LMX has only ever been theoretically implied rather than explicitly studied, thereby neglecting the dynamic interpersonal processes that

reflect some of the very foundational assumptions of LMX theory (Cropanzano et al., 2017; Hofmans et al., 2019). We posit that an episodic exploration of leader–follower emotional entrainment should examine its effects on episodic interaction quality because this enables capturing the short-term relational impact of emotions.

According to AET, the affective reaction cycles followers experience as a result of leader-induced affective events can impact their interaction quality with leaders (Lee et al., 2015). Followers may evaluate episodic exchanges with leaders and form judgements congruent with their affective state at the time (Weiss & Cropanzano, 1996; see also Forgas, 1995). Likewise, entrainment models suggest that followers interpret their affective state in response to the leader emotional expressions in light of "what may follow as the relationship progresses" (Cropanzano et al., 2017, p. 238). Based on this, we argue that followers use the changing trajectory of felt emotions across the day to evaluate their interaction quality with their leader.

In addition, followers' perceived interaction quality should differ depending on the specific emotions they experience (Cropanzano et al., 2017; Silard & Dasborough, 2021). Positive high-activated emotions, such as joy, are associated with the experience of interest and motivation, which should elicit perceptions of satisfying and effective interactions (Ilies et al., 2005). When followers experience joy across multiple daily interactions during emotional entrainment, memories consistent with that emotion are stimulated (Bono & Ilies, 2006). This ensures that positive aspects of daily leader–follower interactions play a more prominent role in the follower's judgement when considering their interaction quality at the end of the day. Similarly, although lower in activation, experiencing feelings of calmness indicates that things are moving in the right direction during interactions with the leader. Specifically, as a result of emotional entrainment across multiple leader–follower interactions, calmness may imply leader's attunement to followers' needs and wants and thus affords followers a sense of security as challenging tasks may accumulate during the day (Silard & Dasborough, 2021). Evidence for a link between calmness and perceived interaction quality also comes from the mindfulness literature that demonstrates a link between mindfulness, calmness, and job satisfaction (Hülsheger et al., 2013; Wongtongkam et al., 2017).

In contrast, experiencing negative emotional entrainment over the course of the day signals goal incongruence and a potential violation of the leader's expectations (Gooty et al., 2019). Particularly, the entrainment of high-arousal negative emotions, such as fear, can elicit "flight" reactions, making followers more inclined to quit interactions with their leader (Kiewitz et al., 2016; Kish-Gephart et al., 2009), thus negatively impacting perceived interaction quality. Although less intense, followers who are entrained with sadness also view interactions in a more negative light, meaning they are less satisfied and feel less effective during such social encounters (Lench et al., 2016; Porath & Pearson, 2012). We hypothesize:

> **Hypothesis 2.** Within-day trajectories of follower-felt emotions predict followers' perceived interaction quality with their leader at the end of the day. Specifically, within-day trajectories in felt joy (H2a) and calmness (H2b) are positively related to end-of-day interaction quality, whereas within-day trajectories in felt fear (H2c) and sadness (H2d) are negatively related to end-of-day interaction quality.

Combining Hypotheses 1 and 2, we propose a mediated episodic relationship between trajectories of leader emotional expressions and follower perceptions of interaction quality through follower trajectories of felt emotions over the course of a day. Specifically, integrating notions of AET and emotional entrainment, we suggest that the more consistently leaders express certain emotions across multiple interactions, the more likely will followers' resulting episodic affective reactions reinforce their initial relational impression of the leader and result in a conclusive evaluative judgement concerning their perceived interaction quality.

Given that judgements regarding interaction quality are related to the specific emotion followers experience (Cropanzano et al., 2017; Silard & Dasborough, 2021), we argue that leader–follower emotional entrainment of joy and calmness will positively predict followers' perceived interaction quality with the leader. In contrast, leader–follower emotional entrainment of fear and sadness will negatively

affect followers' assessment of their interaction quality with the leader. Based on this rationale, we hypothesize:

Hypothesis 3. Within-day leader–follower emotional entrainment of joy (H3a) and calmness (H3b) is positively related to interaction quality at the end of the day, whereas within-day leader–follower emotional entrainment of fear (H3c) and sadness (H3d) is negatively related to interaction quality at the end of the day.

The role of attachment styles for leader–follower emotional entrainment

The literature on leader emotions (van Knippenberg & van Kleef, 2016) as well as emotions and LMX (Silard & Dasborough, 2021) converge in suggesting that the impact of emotional exchanges during interactions is not uniform but can differ from person to person depending on how emotions are perceived and interpreted. Similarly, AET (Weiss & Beal, 2005; Weiss & Cropanzano, 1996) and theorizing on dyadic entrainment (Cropanzano et al., 2017) suggests that individual dispositions influence the way affective events shape affective reactions and subsequent work attitudes, such as interaction quality with one's leader.

Building on this, we propose followers' attachment styles as a relationship-relevant disposition that impacts the shape of leader–follower emotional entrainment. The attachment literature (Bowlby, 1969) suggests that individuals are born with an innate desire to seek closeness to and support from others. It states that depending on whether or not efforts to seek connection with significant others are successful, a secure or insecure attachment style develops that guides behaviours in future relationships (Bowlby, 1969; Harms, 2011). Besides its application in developmental psychology, the last decade has seen several calls to apply attachment theory in a work context (Fein et al., 2020; Thomas et al., 2013). Applied to leader–follower relationships, attachment styles are typically described as trait-like characteristics along two orthogonal dimensions of adult attachment (i.e., attachment avoidance and attachment anxiety, Brennan et al., 1998; Wu & Parker, 2017) that shape a followers' information processing, such as their attentiveness to and interpretation of their leader's emotions and behaviours (Fein et al., 2020; Harms, 2011). We propose that follower differences in attachment avoidance and attachment anxiety influence the strength of leader–follower emotional entrainment during repeated interactions over the course of a workday.

Avoidantly attached followers are typically less invested in the relationship with their leader and eschew overly close contact because of their preference to stay independent (Brennan et al., 1998). Avoidant attachment develops when individuals have learned in their relationships with primary caregivers that closeness may lead to negative consequences, such as rejection, which results in the development of a tendency to keep their distance from others (Bowlby, 1969; Wu & Parker, 2017). Applied to this research, leader emotional expressions should be less facilitative of emotional entrainment for followers with high attachment avoidance given their preference for not getting too close to work-related attachment figures such as leaders (Harms, 2011). We thus predict that followers high in attachment avoidance may be less reactive to leader emotional expressions. We hypothesize:

Hypothesis 4. Follower attachment avoidance moderates the within-day leader–follower emotional entrainment process. For followers with high levels of attachment avoidance, leader–follower emotional entrainment of joy (H4a), calmness (H34), fear (H4c), and sadness (H4d) will be weaker as compared to those with low levels of attachment avoidance.

In comparison, followers with high levels of attachment anxiety worry about being rejected or abandoned by their leader as they tend to view themselves as insufficient for deserving high-quality relationships (Fein et al., 2020; Wu & Parker, 2012). Anxious attachment develops because individuals have experienced inconsistencies in their relationships with primary caregivers, leading to the development

of ambivalent and anxious attitudes towards relationships (Bowlby, 1969; Wu & Parker, 2017). As a result, anxiously attached individuals are overreactive to cues in daily interactions with others as they expect them to disproportionately feature signals about a potential rejection (Campbell et al., 2005). This attention to cues in relationships concerns both positive and negative aspects, turning their life into an emotional roller coaster compared to individuals with low attachment anxiety (Collins & Read, 1990; Harms, 2011). Accordingly, for followers high in attachment anxiety leader emotional expressions should facilitate stronger emotional entrainment across their daily interactions because of their high sensitivity to emotional cues. We hypothesize:

> **Hypothesis 5.** Follower attachment anxiety moderates the within-day leader–follower emotional entrainment process. For followers with high levels of attachment anxiety, leader–follower emotional entrainment of joy (H5a), calmness (H5b), fear (H5c), and sadness (H5d) will be stronger as compared to those with low levels of attachment anxiety.

Combining our previous arguments, we posit that attachment styles (i.e., attachment avoidance and attachment anxiety) moderate the strength of how leader–follower emotional entrainment relates to followers' perceived interaction quality with their leader. Thus, depending on followers' attachment styles, the trajectory of leader emotional expressions during leader–follower interactions should differentially relate to followers' end-of-day interaction quality via the trajectory of follower-felt emotions. We additionally propose:

> **Hypothesis 6.** Follower attachment avoidance moderates the indirect relationship between within-day leader–follower emotional entrainment of joy (H6a), calmness (H6b), fear (H6c), and sadness (H6d), and follower interaction quality at the end of the day. Specifically, for followers with higher levels of attachment avoidance, the indirect effect will be weaker as compared to those with lower levels of attachment avoidance.

> **Hypothesis 7.** Follower attachment anxiety moderates the indirect relationship between within-day leader–follower emotional entrainment of joy (H7a), calmness (H7b), fear (H7c), and sadness (H7d), and follower interaction quality at the end of the day. Specifically, for followers with higher levels of attachment anxiety, the indirect effect should be stronger as compared to those with lower levels of attachment anxiety.

METHOD

Sample and procedure

We tested our model using an experience sampling design (Beal, 2015), adopting a within-day approach to be able to model the episodic emotional entrainment process between leaders and followers throughout the day. Study participants were recruited via Prolific, a leading provider of high-quality data (Peer et al., 2017). Participants were pre-screened to be full-time employees and to have a direct supervisor. Participants received a financial reward of up to a maximum of £33,50 if all surveys were completed.

We collected all data electronically via online surveys. Upon registration, participants received a link to an informed consent form which provided them with information about the survey and data management. Next, participants filled in a pre-survey that assessed demographic characteristics and trait variables (e.g., attachment styles). On the subsequent Monday following pre-survey completion, the experience sampling period commenced for two consecutive weeks (i.e., 10 working days). For each working day (i.e., Monday – Friday) during the 2-week period, participants had to indicate their estimated start and finish time. In line with participants' identified start and finish times, they received four surveys per day in 2-hourly intervals: two (i.e., survey 1), four (i.e., survey 2), six (i.e., survey 3), and

eight (i.e., survey 4) hours after participants started work. In case of non-response within the first hour after receiving a survey, a reminder was sent. In total, participants had 2 h to respond until the survey was deactivated. Each daily survey included episodic assessments of leader as well as follower emotions, as well as perceived interaction quality in the fourth daily survey.

Initially, 84 participants completed the pre-survey; however, 12 participants who did not complete any daily survey had to be excluded, resulting in a final person-level sample of $N = 72$ (person-level response rate: 86%) who completed 594 daily surveys. Importantly, among the daily surveys, we excluded those in which participants reported either having had no interaction or improbable interaction times (i.e., more than 8 h during the 8-h experience sampling period) with their leader during that day. This procedure resulted in a final day-level sample of $N = 497$ (day-level response rate: 69%). These person- and day-level response rates correspond with those of previously published daily diary studies (Gabriel et al., 2019). The average completion times for daily surveys were 11:53 for Survey 1, 13:52 for Survey 2, 15:56 for Survey 3, and 17:56 for Survey 4. Participants in our study worked in a variety of different industries, including teaching and education, health, manufacturing, and information technology. Regarding demographic characteristics, our sample was 46% female with an average age of 37.65 years ($SD = 9.47$), and the average job tenure in participants' current organization was 8.20 years ($SD = 6.99$).

Measures

Adult attachment (pre-survey)

We asked participants to respond to a scale that had been used in the work context before by Wu and Parker (2017) to measure attachment anxiety (four items; $\alpha = .68$) and attachment avoidance (six items; $\alpha = .75$). An example item for attachment anxiety is: 'I often worry that others do not really like me', and for attachment avoidance: 'I am somewhat uncomfortable being close to others'. Response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

Episodic leader emotional expressions and follower-felt emotions (daily surveys)

We used a shortened 12-item scale developed by Warr et al. (2014) to assess follower perceptions of their leader's episodic emotional expressions as well as their own episodic felt emotions. The scale specifically assesses joy (i.e., high-activated positive emotion), calmness (i.e., low-activated positive emotion), fear (i.e., high-activated negative emotion), and sadness (i.e., low-activated negative emotion). To capture episodic leader emotions, we asked participants to rate their leader's emotional expression in the last few hours since they arrived at work (for survey 1) *or* in the last few hours since they completed the last survey (for surveys 2–4). To measure episodic follower-felt emotions, participants should rate how they felt since they arrived at work in the morning (for survey 1) *or* in the last few hours since they completed the last survey (for surveys 2–4). Response options for both perceived leader emotional expressions and follower-felt emotions ranged from 1 (*not at all*) to 5 (*a great deal*). Example items for joy include 'joyful' and 'excited', for calmness 'calm' and 'relaxed', for fear 'worried' and 'anxious', and for sadness 'depressed' and 'dejected'. Cronbach's α within the day ranged from .88 to .90 for leader joy, .93 to .94 for leader calmness, .91 to .93 for leader fear, and .96 to .97 for leader sadness, was consistently .90 for follower joy, as well as ranged from .92 to .94 for follower calmness, .93 to .94 for follower fear, and .94 to .96 for follower sadness.

Episodic interaction quality (end-of-day)

We used a three-item measure of episodic interaction quality developed by Liao et al. (2019) at the end of the day (averaged α across days = .87). Participants were asked to rate how they perceived their

interactions with their leaders in the last few hours since they completed the last survey. Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Items include 'I was satisfied with the interactions I had with my leader' and 'The interactions I had with my leader were effective'.

Analytical strategy

Due to our study design, our data structure involved three levels of analysis. At Level 1 (i.e., the within-day level), followers' perceptions of episodic leader emotional expressions and their own emotions were measured across the day, and episodic interaction quality at the end of the day. These daily measurements were nested within days at Level 2 (i.e., between-day level), which, in turn, were also nested within 72 individuals at Level 3 (i.e., between-person level). Specifying the repeated measurements of episodic leader emotional expressions and follower-felt emotions as two parallel within-day processes using latent growth modelling enabled us to analyse our three-level data structure in a multilevel latent growth model (see e.g., Preacher, 2011). We followed recommendations by von Soest and Hagtvet (2011) on mediation for latent growth modelling and combined them with those by various scholars on mediation and moderation within multilevel structural equation modelling (Bauer et al., 2006; Preacher et al., 2010). All analyses were conducted with Mplus Version 8 using maximum likelihood estimation with robust standard errors.

We tested our proposed hypotheses by specifying a 1-1-1 moderated mediation model (Preacher et al., 2010). As part of the a-path, we modelled leader–follower emotional entrainment by specifying relations between the trajectory of episodic leader emotional expressions (e.g., leader expressions of joy at T_0-T_3) and the trajectory of corresponding episodic follower-felt emotions (e.g., follower-felt joy at T_0-T_3) as repeated random slopes on the within-person level. Doing so produces an average random slope that reflects the episodic emotional entrainment processes over the course of a day (see Butner et al., 2005 for a similar approach). Additionally, we defined a linear second-order latent growth model for episodic follower-felt emotions, including latent variables resembling within-day changes (i.e., the slope growth factor) and the respective starting value (i.e., the intercept growth factor).[1] Both intercept and slope growth factors for follower-felt emotions were added to the b-path of the model predicting episodic interaction quality at the end of the day (von Soest & Hagtvet, 2011). In line with our cross-level interaction hypothesis, we added attachment avoidance and attachment anxiety to the between-level part of our model as predictors of the average random slope for leader–follower emotional entrainment across the day.[2]

Following recommendations for ESM data (Ohly et al., 2010), we grand-mean centred Level 2 predictors and person-mean centred Level 1 predictors. We calculated the magnitude of hypothesized (moderated) mediation effects using the formula recommended by Bauer et al. (2006). To test the significance of our hypotheses involving (moderated) mediation, we used the Monte Carlo method to create 95% confidence intervals (CI) with 20,000 replications around the point estimates of the (moderated) mediation effects (Preacher & Selig, 2012).

RESULTS

Table 1 reports the descriptive statistics and correlations among study variables. Using null models to partition the amount of variance in our Level 1 variables into within- and between-person portions

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[1]Following the approach of recent dynamic growth modelling research concerning felt emotions (Min et al., 2021), we specified a linear trajectory for within-day follower-felt emotions. However, and in line with recommendations by Bliese and Ployhart (2002), we also examined an alternative curvilinear trajectory. Results suggested that the linear models fit the data better than the curvilinear models for all four emotions. More detailed analysis results are available upon request.

[2]Informed by prior theorizing (Cropanzano et al., 2017; van Knippenberg & van Kleef, 2016), in supplemental analyses we also tested whether trait epistemic motivation, trait empathy, or susceptibility to emotional contagion moderated our proposed interrelationships – however, no significant interaction was detected. Detailed results are available from the main author upon request.

TABLE 1 Means, standard deviations, and intercorrelations among study variables[a].

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Day-level predictors																	
1. Leader calmness T_0	3.47	.88															
2. Leader calmness T_1	3.43	.76	.25**														
3. Leader calmness T_2	3.45	.82	.09*	.24**													
4. Leader calmness T_3	3.42	.84	.22**	.17**	.30**												
5. Leader joy T_0	2.98	.85	.62**	.16**	.04	.10*											
6. Leader joy T_1	2.96	.82	.40**	.55**	.23**	.22**	.43**										
7. Leader joy T_2	2.93	.84	.11*	.20**	.53**	.24**	.19**	.33**									
8. Leader joy T_3	2.96	.83	.22**	.20**	.20**	.51**	.20**	.37**	.37**								
9. Leader sadness T_0	1.18	.35	−.12**	−.08	−.03	−.11*	−.04	−.05	−.08	−.04							
10. Leader sadness T_1	1.24	.44	−.03	−.14**	−.13**	−.13**	.01	−.08	−.11*	−.10*	.21**						
11. Leader sadness T_2	1.24	.41	−.09*	−.10*	−.20**	−.08	−.05	−.16**	−.13**	−.16**	.14**	.12**					
12. Leader sadness T_3	1.22	.36	−.06	−.05	−.08	−.21**	.00	−.08	−.06	−.07	.21**	.19**	.18**				
13. Leader fear T_0	1.40	.42	−.20**	−.16**	−.09*	−.15**	−.13**	−.16**	−.13**	−.15**	.68**	.14**	.17**	.11*			
14. Leader fear T_1	1.49	.51	−.09	−.27**	−.21**	−.13**	−.08	−.19**	−.22**	−.11*	.27**	.74**	.12**	.20**	.26**		
15. Leader fear T_2	1.48	.51	−.10*	−.13**	−.30**	−.16**	−.09*	−.18**	−.17**	−.23**	.08	.08	.75**	.17**	.17**	.19**	
16. Leader fear T_3	1.47	.49	−.06	−.09	−.14**	−.32**	−.03	−.03	−.09*	−.15**	.17**	.24**	.18**	.78**	.13**	.24**	.22**
17. Follower calmness T_0	3.47	.87	.19**	.08	.08	.11*	.20**	.20**	.10*	.09*	−.10*	.03	.03	.06	−.08	−.03	.01
18. Follower calmness T_1	3.40	.85	.16**	.24**	.11*	.14**	.14**	.23**	.08	.10*	−.02	−.04	−.01	−.08	−.04	−.06	−.06
19. Follower calmness T_2	3.37	.92	.12**	.17**	.23**	.17**	.08	.14**	.14**	.18**	−.10*	−.08	−.03	−.03	−.17**	−.14**	−.12**
20. Follower calmness T_3	3.44	.88	.05	.10*	.17**	.30**	−.02	.08	.13**	.18**	−.05	−.07	−.06	−.03	−.14**	−.11*	−.12**
21. Follower joy T_0	2.79	.87	.09	.04	.05	.05	.22**	.14**	.11*	.09	−.12**	.00	.05	.06	−.08	−.03	.02
22. Follower joy T_1	2.83	.87	.17**	.15**	.07	.06	.20**	.31**	.13**	.12**	−.04	.01	.10*	.07	−.04	−.06	.03
23. Follower joy T_2	2.72	.85	.11*	.08	.15**	.13**	.19**	.21**	.26**	.20**	−.11*	.04	−.06	.01	−.15**	−.08	−.13**
24. Follower joy T_3	2.76	.89	.07	.09*	.14**	.23**	.09*	.19**	.22**	.36**	.05	−.07	.06	.03	−.02	−.06	−.02
25. Follower sadness T_0	1.30	.63	−.10*	−.03	−.09*	−.13**	−.17**	−.10*	−.01	−.06	.21**	.12**	.11*	.08	.16**	.07	.09
26. Follower sadness T_1	1.26	.61	−.10*	−.05	−.01	−.06	−.11*	−.12*	.00	−.04	.06	.06	.03	.02	.05	.08	.04
27. Follower sadness T_2	1.26	.63	−.06	−.08	−.05	−.03	−.07	−.10*	−.03	−.08	.06	.08	.14**	.01	.10*	.11*	.16**
28. Follower sadness T_3	1.25	.62	−.05	−.06	−.05	−.06	−.06	−.08	−.08	−.06	.08	.00	.03	.09*	.13**	.02	.07
29. Follower fear T_0	1.58	.73	−.14**	−.12**	−.09*	−.12**	−.15**	−.15**	−.08	−.08	.24**	.11**	.11**	.04	.28**	.13**	.15**
30. Follower fear T_1	1.55	.73	−.07	−.17**	−.07	−.05	−.07	−.18**	−.02	−.03	.13**	.05	.03	.06	.17**	.16**	.13**
31. Follower fear T_2	1.53	.72	−.05	−.13**	−.14**	−.12**	−.03	−.12**	−.14**	−.11*	.10*	.07	.14**	.05	.15**	.14**	.24**
32. Follower fear T_3	1.50	.67	−.07	−.15**	−.17**	−.16**	−.03	−.12**	−.15**	−.13**	.09	.02	.11*	.11*	.16**	.10*	.18**
33. Follower interaction quality T_3	3.90	.68	.07	.05	.16**	.33**	.09*	.08	.17**	.30**	−.08	−.06	−.06	−.20**	−.13**	−.07	−.10**
Person−level predictors																	
34. Follower attachment avoidance	3.68	1.09	−.17**	−.04	−.03	.03	−.19**	−.09*	−.07	−.04	.14**	.07	.13**	.04	.18**	.14**	.14**
35. Follower attachment anxiety	3.16	1.36	−.16**	−.05	.05	.01	.14**	.25**	.29**	.30**	.06	.02	−.02	−.07	.08	.08	−.02

Note: Correlations among the day-level variables represent group-mean centred relationships at the within-person level of analysis. Day-level variables were aggregated to provide correlations with person-level variables.

[a]Day-level $N = 497$; Person-level $N = 72$.

*$p < .05$; **$p < .01$.

revealed that a substantial proportion of variance existed at the within-person level for all study variables, ranging from 29% for follower sadness (T0) to 75% for leader fear (T0), and including 48% for interaction quality (T3), indicating that multilevel modelling is appropriate. A multilevel confirmatory factor analysis (MCFA) was also conducted to ensure that our study variables are conceptually distinct. At the within-person level, we included perceived leader emotional expressions and felt follower

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
.05																		
−.02	.39**																	
−.01	.31**	.39**																
−.07	.26**	.32**	.47**															
.03	.54**	.27**	.18**	.12**														
.10*	.41**	.51**	.28**	.26**	.54**													
.02	.22**	.30**	.41**	.30**	.40**	.43**												
−.04	.16**	.16**	.24**	.41**	.24**	.34**	.42**											
.11*	−.35**	−.17**	−.12**	−.17**	−.33**	−.23**	−.13**	−.13**										
.05	−.20**	−.23**	−.15**	−.14**	−.16**	−.28**	−.09	−.14**	.56**									
.03	−.15**	−.16**	−.27**	−.22**	−.11*	−.11*	−.23**	−.12**	.44**	.49**								
.07	−.11*	−.07	−.15**	−.28**	−.13**	−.10*	−.15**	−.20**	.43**	.40**	.60**							
.08	−.46**	−.23**	−.21**	−.24**	−.31**	−.24**	−.20**	−.12**	.63**	.38**	.38**	.32**						
.09	−.32**	−.40**	−.28**	−.21**	−.22**	−.31**	−.18**	−.10*	.42**	.56**	.31**	.25**	.57**					
.09	−.15**	−.23**	−.42**	−.31**	−.12*	−.17**	−.25**	−.15**	.34**	.29**	.55**	.34**	.42**	.43**				
.20**	−.12**	−.11*	−.25**	−.45**	−.11*	−.13**	−.24**	−.34**	.35**	.30**	.45**	.63**	.41**	.35**	.50**			
−.27**	−.01	.08	.05	.17**	−.02	.04	.14**	.26**	−.10*	−.04	−.07	−.16**	.01	−.01	−.10*	−.20**		
.05	−.32**	−.27**	−.31**	−.29**	−.44**	−.38**	−.36**	−.33**	.46**	.47**	.44**	.40**	.36**	.34**	.32**	.30**	−.15**	
−.02	−.38**	−.30**	−.25**	−.22**	−.13**	−.04	.02	.06	.38**	.37**	.30**	.29**	.41**	.36**	.30**	.31**	−.04	.38**

emotions of joy, calmness, fear, and sadness across the day (T0–T3) and perceived interaction quality at the end of the day (T3). At the between-person level, we included attachment avoidance and attachment anxiety. MCFA results demonstrate acceptable model fit (Browne & Cudeck, 1993; Hu & Bentler, 1999) for the first-order 35-factor model ($\chi^2(4258) = 8363.57$, $p = .00$, CFI = .89, RMSEA = .04, SRMR = .04)

as well as superior model fit compared with alternative models.[3] Thus, MCFA results support the distinctive factor structure of our study variables.

Hypothesis tests

Multilevel growth modelling results are presented in Table 2. Due to the computationally intensive nature of moderated mediation models involving latent variables (Preacher et al., 2016) and to facilitate the convergence of our models, we tested our hypotheses for each emotion (i.e., joy, calmness, fear, and sadness) separately. Hypothesis 1 predicted an emotional entrainment effect between the trajectory of the leader emotional expressions and the corresponding trajectory of follower-felt emotions over the course of the day. Our results showed that the trajectories of leaders emotional expressions of joy (μ_{rs} = .25, SE = .04, t = 6.29; p = .00), calmness (μ_{rs} = .22, SE = .03, t = 6.68; p = .00), fear (μ_{rs} = .18, SE = .03, t = 5.69; p = .00), and sadness (μ_{rs} = .11, SE = .05, t = 2.13; p = .033) were indeed positively related to corresponding trajectories of follower-felt emotions over the course of a day. Put differently, follower-felt emotions fluctuated in the same rhythm as leader emotional expressions over the course of a day, which supports our emotional entrainment argument as proposed by Hypothesis 1. Descriptive change trajectories for leader–follower emotional entrainment of joy, calmness, fear, and sadness are depicted in Figure 2.

Furthermore, Hypothesis 2a–d proposed that the trajectory of follower-felt emotions throughout the day (i.e., the slope growth factor for follower-felt emotions) predicts followers' perceived interaction quality with their leader at the end of the day. Specifically, Hypothesis 2a and b predicted that within-day increases in follower-felt positive emotions (i.e., joy and calmness) are positively related to inter-action quality at the end of the day whereas Hypothesis 2c and d suggested that within-day increases in follower-felt negative emotions (i.e., fear and sadness) are negatively related to interaction quality at the end of the day. Supporting Hypothesis 2a and c, within-day increases in follower-felt joy (γ = 1.80, SE = .75, t = 2.39; p = .017) and fear (γ = 22121.94, SE = .97, t = −1.99; p = .046) were related to perceived interaction quality at the end of the day in the hypothesized direction. However, our results did not support Hypothesis 2b and d as neither within-day increases in follower-felt calmness (γ = .90, SE = .54, t = 1.66; p = .10) nor sadness (γ = −.91, SE = .82, t = −1.11; p = .27) were related to perceived interaction quality at the end of the day.

Hypothesis 3a–d involved mediated relationships, specifically that the trajectories of positive leader emotional expressions of joy (H3a) and calmness (H3b) are positively associated with interaction quality at the end of the day via the trajectories of the corresponding follower-felt emotions. Furthermore, we hypothesized that the trajectories of negative leader emotional expressions of fear (H3c) and sadness (H3d) will be negatively related to interaction quality at the end of the day via the trajectories in the corresponding follower-felt emotions. Our results indicate that the indirect effect of the trajectory of leader joy expressions on interaction quality at the end of the day via the trajectory of follower-felt joy is positive and significant (indirect effect = .44, 95% CI Low = .071; CI High = .922). In a similar vein, our results showed a negative, significant indirect effect of the trajectory of leader fear expressions on interaction quality at the end of the day via the trajectory of follower-felt fear (indirect effect = −.35, 95% CI Low = −.782; CI High = −.006). Taken together, Hypothesis 3a and c are supported. Given the nonsignificant results of Hypothesis 2b and d, we did not test for mediation, and Hypothesis 3b and d are not supported.

Hypothesis 4a–d proposed that follower attachment avoidance moderates the leader–follower emotional entrainment process, such that followers with high attachment avoidance are less receptive to

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[3]Alternative MCFA model 1 combined all episodic emotions items on Level 1 (i.e., joy, calmness, fear, and sadness at T0-T3) for leaders and followers, respectively, to one factor (χ^2(4750) = 27429.51, p = .00, CFI = .40, RMSEA = .10, SRMR = .11), and alternative MCFA model 2 that combined all leader emotional expressions items and all follower emotions items to a single leader and follower emotions factors as well as combining attachment avoidance and attachment anxiety on Level 2. This model, however, did not converge.

TABLE 2 Within-day multilevel growth modelling results.

Joy

	Emotional entrainment – slope			Follower joy – intercept			Follower joy – slope			Follower interaction quality – T$_3$ (end-of-day)		
	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z
Person-level												
Intercept	.246	.039	6.291***	2.072	.143	14.453***	−.015	.020	−.742	3.042	.554	5.496***
Emotional entrainment[a] – Slope										.030	.238	.124
Follower joy – Intercept										1.565	2.442	.641
Follower joy – Slope										.059	.103	.573
Follower attachment avoidance	−.056	.028	−1.991*							−.117	.087	−1.342
Follower attachment anxiety	.025	.014	1.856							.406	.124	3.271**
Residual variance	.021	.007	2.845**	.432	.084	5.167***	.018	.005	3.587**			
Day-level												
Follower joy – Intercept										.329	.219	1.501
Follower joy – Slope										1.795	.751	2.289*
Residual variance	.004	.003	1.465	.169	.036	4.762***	.022	.008	2.729**	.302	.036	8.312***

Calmness

	Emotional entrainment – Slope			Follower calmness – Intercept			Follower calmness – Slope			Follower interaction quality – T$_3$ (End-of-day)		
	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z
Person-level												
Intercept	.216	.032	6.677***	2.663	.146	18.256***	−.007	.019	−.363	2.383	.807	2.952**
Emotional entrainment[a] – Slope										.158	.271	.583
Follower calmness – Intercept										1.930	4.661	.414
Follower calmness – Slope										.006	.133	.042
Follower attachment avoidance	−.051	.024	−2.138*							−.026	.125	−.207
Follower attachment anxiety	.006	.015	.377							.294	.098	3.016**
Residual variance	.013	.005	2.744**	.466	.099	4.698***	.015	.005	3.259**			

(Continues)

TABLE 2 (Continued)

Calmness	Emotional entrainment – Slope			Follower calmness – Intercept			Follower calmness – Slope			Follower interaction quality – T_3 (End-of-day)		
	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z
Day-level												
Follower calmness – Intercept										−.005	.108	−.051
Follower calmness – Slope										.900	.542	1.660
Residual variance	.000	.001	.512	.167	.034	4.970***	.013	.007	1.950	.325	.042	7.771***

Fear	Emotional entrainment – Slope			Follower fear – Intercept			Follower fear – Slope			Follower interaction quality – T_3 (End-of-day)		
	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z
Person-level												
Intercept	.181	.032	5.687***	1.322	.092	14.415***	−.028	.010	−2.667**	3.926	.102	38.626***
Emotional entrainment[a] – Slope												
Follower fear – Intercept										.655	.280	2.339*
Follower fear – Slope										11.525	13.907	.829
Follower attachment avoidance	.051	.034	1.524							−.022	.109	−.199
Follower attachment anxiety	.045	.022	2.022*							−.021	.068	−.315
Residual variance	.014	.008	1.741	.386	.159	2.424*	.002	.002	.739	.278	.192	1.448
Day-level												
Follower fear – Intercept										−.121	.166	−.725
Follower fear – Slope										−1.940	.973	−1.993*
Residual variance	.017	.009	1.841	.139	.043	3.232**	.013	.005	2.364*	.303	.044	6.883***

TABLE 2 (Continued)

Sadness	Emotional entrainment – Slope			Follower sadness – Intercept			Follower sadness – Slope			Follower interaction quality – T$_3$ (End-of-day)		
	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z
Person-level												
Intercept	.111	.052	2.126*	1.135	.127	8.963***	−.011	.018	−.611	4.407	.154	28.576***
Emotional entrainment[a] – Slope										.128	.176	.726
Follower sadness – Intercept										15.978	.012	1308.10***
Follower sadness – Slope										.001	.117	.005
Follower attachment avoidance	.074	.097	.765							.028	.084	.332
Follower attachment anxiety	.099	.061	1.638									
Residual variance	.058	.103	.560	.186	.127	1.461	.001	.002	.513	.251	.186	1.354
Day-level												
Follower sadness – Intercept										−.238	.239	−.993
Follower sadness – Slope										−.913	.820	−1.114
Residual variance	.026	.009	2.944**	.058	.031	1.871	.008	.003	3.030**	.353	.051	6.885***

[a]The emotional entrainment slope denotes the relationship of the time-variant predictor leader emotional display (i.e., joy, calmness, fear, and sadness, respectively) with corresponding follower-felt emotions modelled as the mean of repeated random slopes over time. Estimates are unstandardized *p < .05; **p < .01; ***p < .001.
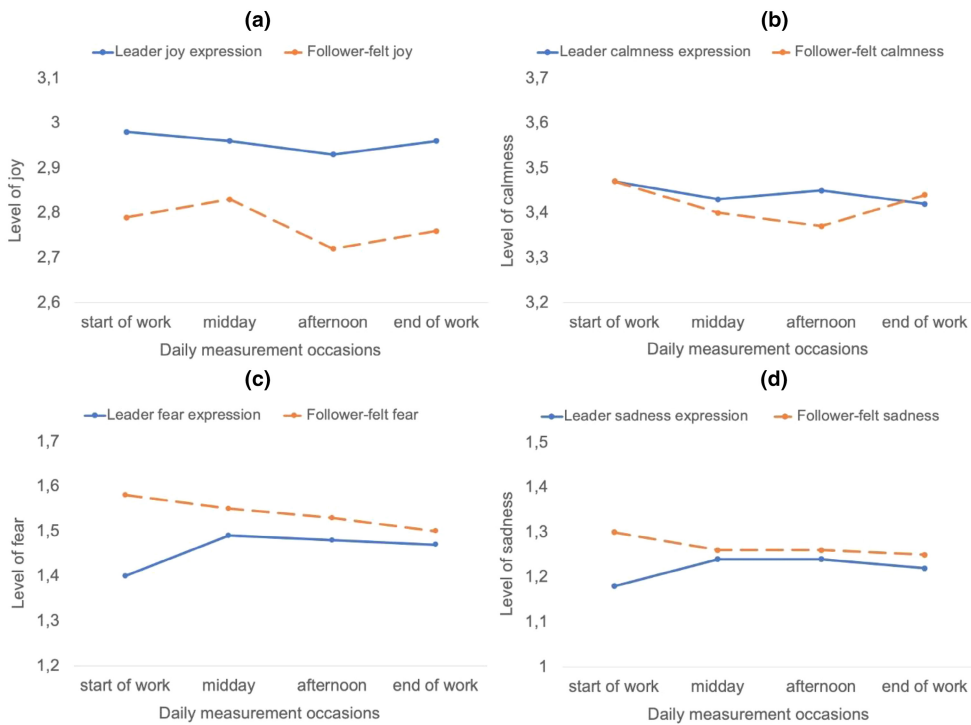
FIGURE 2 Descriptive change trajectories of leader–follower emotional entrainment of joy (a), calmness (b), fear (c) and sadness (d) across the day.

their leader's emotional influence during repeated leader–follower interactions than those with low attachment avoidance. Our results showed that follower attachment avoidance did exhibit a cross-level moderating effect for leader expressions of joy ($\gamma = -.06$, $SE = .03$, $t = -1.99$; $p = .046$) and calmness ($\gamma = -.05$, $SE = .02$, $t = -2.14$; $p = .032$). In both cases, the relationship between the trajectories of positive leader emotional expressions and corresponding trajectories of follower-felt emotions were stronger for followers with low (-1 SD above the mean; $\gamma_{Joy} = .31$, $SE = .05$, $t = 6.50$; $p = .00$; $\gamma_{Calmness} = .27$, $SE = .04$, $t = 6.36$; $p < .001$) as opposed to high levels of attachment avoidance (+1 SD above the mean; $\gamma_{Joy} = .19$, $SE = .05$, $t = 3.60$; $p = .00$; $\gamma_{Calmness} = .16$, $SE = .04$, $t = 3.97$; $p = .00$). However, we did not find a cross-level interaction effect for leader fear ($\gamma = .05$, $SE = .03$, $t = 1.52$; $p = .13$) and sadness ($\gamma = .07$, $SE = .10$, $t = .77$; $p = .44$). Therefore, our results support Hypothesis 4a,b but not Hypothesis 4c,d.

Hypothesis 5a–d proposed that follower attachment anxiety moderates leader–follower emotional entrainment such that followers with higher attachment anxiety react more strongly to their leader's emotional influence during interactions over the course of the day, thereby leading to a stronger emotional entrainment effect compared with followers with lower attachment anxiety. Our results revealed that follower attachment anxiety produced a cross-level moderating effect solely for leader expressions of fear ($\gamma = .05$, $SE = .02$, $t = 2.02$; $p = .043$). Specifically, the relationship between the trajectory of leader fear expressions and the corresponding trajectory of follower-felt fear was stronger for followers with high (+1 SD above the mean; $\gamma_{Fear} = .24$, $SE = .04$, $t = 5.50$; $p = .00$) as opposed to low levels of attachment anxiety (−1 SD above the mean; $\gamma_{Fear} = .12$, $SE = .04$, $t = 2.72$; $p = .006$). However, we did not find cross-level interaction effects for leader expressions of joy ($\gamma = .02$, $SE = .01$, $t = 1.85$; *ns.*), calmness ($\gamma = .01$, $SE = .02$, $t = .38$; $p = .71$), or sadness ($\gamma = .10$, $SE = .06$, $t = 1.64$; $p = .10$). Our findings support Hypothesis 5c but not Hypothesis 5a,b,d. Figure 3a–c illustrates the patterns of significant cross-level interaction effects.

Hypothesis 6a–d predicted that follower attachment avoidance moderates the indirect relationship between the trajectory of leader emotional expressions and interaction quality at the end of the day via
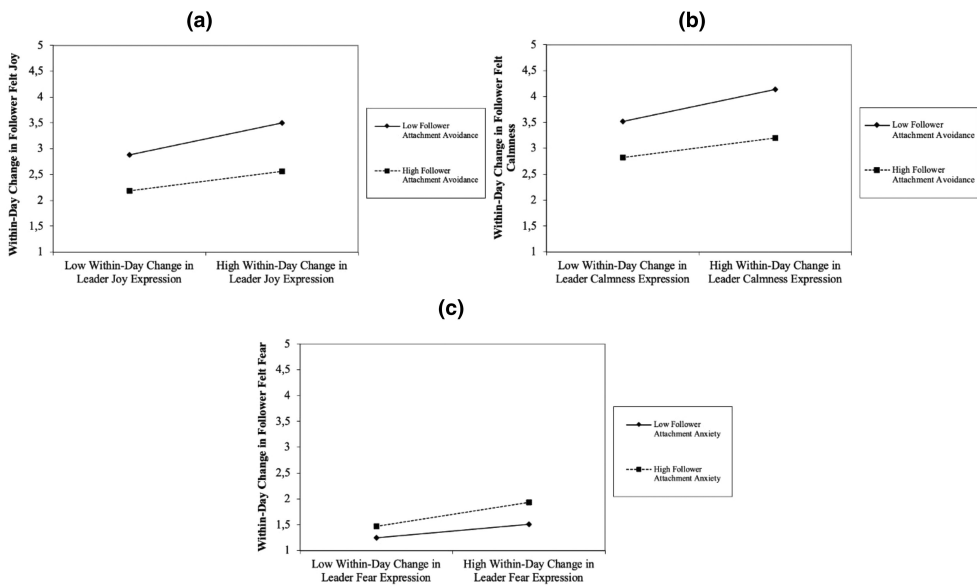
FIGURE 3 Moderating effects of follower attachment styles on the relationship between within-day change trajectories in leader emotional expressions and within-day change trajectories in corresponding follower-felt emotions. *Note*: (a) Moderating effect of attachment avoidance on the within-day change trajectory in leader expressions and follower feelings of joy, (b) Moderating effect of attachment avoidance on the within-day change trajectory in leader expressions and follower feelings of calmness, and (c) Moderating effect of attachment anxiety on the within-day change trajectory in leader expressions and follower feelings of fear.

the trajectory of follower-felt emotions. Due to the results of previous hypothesis tests (Hypotheses 2b and 4c,d), we solely tested this proposed moderated mediation model for leader emotional expressions of joy. Our results showed that the positive indirect effect of the trajectory of leader joy expressions on interaction quality at the end of the day via the trajectory of follower-felt joy was weaker for followers with high (+1 SD above the mean; conditional indirect effect = .33, 95% CI Low = .043; CI High = .749) as opposed to low (−1 SD below the mean; conditional indirect effect = .55, 95% CI Low = .087; CI High = 1.12) levels of attachment avoidance. Thus, our findings support Hypothesis 6a, but Hypothesis 6b–d do not receive support.

Finally, Hypothesis 7a–d proposed that follower attachment anxiety moderates the indirect relationship between the trajectories of leader emotional expressions and interaction quality at the end of the day via the trajectories of follower-felt emotions. Likewise, due to previous hypothesis tests (e.g., Hypothesis 2d as well as 5a,b), the proposed moderated mediation model was solely tested for leader fear expressions. Our findings demonstrate that the negative indirect effect of the trajectory of leader fear expressions on interaction quality at the end of the day via the follower trajectory of felt fear was stronger for followers with high (+1 SD above the mean; conditional indirect effect = −.47, 95% CI Low = −1.037; CI High = −.008) as opposed to low (−1 SD below the mean; conditional indirect effect = −.23, 95% CI Low = −.616; CI High = .002) levels of attachment anxiety. Thus, our findings support Hypothesis 7c, but Hypothesis 7a,b,d do not receive support.

DISCUSSION

Recent theorizing highlighted that the LMX field needs to adopt a dynamic temporal lens, focus on the role of positive and negative emotions, and take a closer look at interaction episodes (Cropanzano et al., 2017; Hofmans et al., 2019; Silard & Dasborough, 2021). Integrating AET with dyadic entrainment

models, we delineate an emotional entrainment process proposing that the trajectories of followers' felt emotions (joy, calmness, fear, sadness) oscillate in line with the trajectories of observed leader emotional expressions over the course of the day, thereby effectively colouring their evaluation of their interaction quality at the end of the day. However, only trajectories of followers' felt high-activated emotions (i.e., joy, fear) predicted perceived interaction quality with their leader, whereas trajectories of low-activated emotions (i.e., calmness, sadness) did not. Drawing from AET and attachment theory, we additionally identify followers' attachment style as a boundary condition that modulates the effect of emotional entrainment on followers' perceived interaction quality.

Theoretical implications

Our findings offer a number of implications for emotions and LMX theory. First, our research responds to calls for a more episodic view of emotional exchanges as they occur in leader–follower relationships (Cropanzano et al., 2017; Hofmans et al., 2019). We extend prior work that focused on the static benefits of affect, including alignment in global affective tone (Gooty et al., 2019) as well as research on the relational consequences of between-day or between-week variability in leader and follower emotions (Bartels et al., 2022; Dimotakis et al., 2023). Although these studies have advanced our understanding of the role of affect for leader–follower relationships, their overly static temporal perspective did not allow for (a) capturing leader and follower emotions closer to when they occur in real-life interactions and (b) tracking the within-day evolution of emotional exchanges over multiple leader–follower interactions. Emotional entrainment explains the formation of a daily empathic bond between leaders and followers, which in our view represents the bedrock of high-quality relationships.

Our differential findings for high- and low-activated emotions also indicate that scholars studying leader–follower relationship quality as influenced by affective events are well-advised to refrain from aggregating several emotions with different activation levels to an overall measurement of positive or negative affect. Instead, the results of our work can be interpreted in line with a signal-strength perspective on emotions (Adam & Brett, 2018). Accordingly, the higher the activation level of an expressed emotion, the stronger the effect on the outcome. Our results provide initial support for this idea and show that the entrainment of high-activated emotions, such as joy or fear, has greater signal strength, which can explain its influence on follower perceptions of interaction quality compared to calmness or sadness as low-activated emotions.

Beyond our work on emotional entrainment facilitated by leaders consistently displaying the same emotion, there may also be value in examining the relational consequences of complex or inconsistent leader emotional displays (i.e., the alternation between two or more emotional expressions; Stollberger, Guillaume, et al., 2023). Such leader emotional inconsistency could foster emotionally ambivalent entrainment over time that may have detrimental consequences for relationship quality (Zhang et al., 2022). Conversely, often-alternating leader emotional displays may be too inconsistent for followers to emotionally synchronize to and thus may not lead to emotional entrainment. Testing these ideas as part of future research on emotional entrainment holds the promise to elucidate the impact of more complex leader emotional displays on followers' relational perceptions.

Second, by focusing on followers' perceived interaction quality with their leader as a short-term marker of relationship quality, we embraced seminal theorizing that has long suggested that LMX development is the result of repeated episodes of social interaction between leader and follower (Graen & Uhl-Bien, 1995; He et al., 2017). In doing so, our approach to use an experience sampling design to empirically retrace the steps of early LMX theorizing has the potential to refine the way LMX is studied moving forward (Aguinis & Edwards, 2014). Our findings show that the emotional entrainment of high-activated emotions, such as joy or fear, impacts follower perceptions of interaction quality. Accordingly, the activation level of leader and follower emotions combined with repeated interactions over time is key to produce a lasting relational impact.

Third, we add to AET (Weiss & Cropanzano, 1996) and dyadic entrainment models (Ancona et al., 2001; Cropanzano et al., 2017) by examining attachment styles as a boundary condition that

modulates the leader–follower emotional entrainment process with differential consequences for perceived interaction quality. Although prior work on affect and LMX highlighted how leader and follower emotions impact relationship quality (Bartels et al., 2022; Gooty et al., 2019), examining when this is more or less likely received little research attention. We introduce follower attachment as a relational disposition that colours followers' perceptions of leader emotional expressions over time, thereby impacting the relational consequences of emotional entrainment. We extend AET (Weiss & Cropanzano, 1996) and dyadic entrainment models (Cropanzano et al., 2017) by demonstrating that relationship-specific factors, such as attachment styles, can influence the emotional entrainment process.

Because LMX represents a relational approach to leadership, we believe future research would benefit from drawing more from work on close relationships and the work–family literature to further refine LMX theorizing (see Thomas et al., 2013 for a similar reasoning). Specifically, we know that emotions experienced at work can spill over to the family domain (Song et al., 2008), and that leader's positive experiences at home predict positive leader behaviours at work (Lin et al., 2021). Recent research also shows that relational factors, such as having a compassionately loving partner at home, can facilitate positive experiences that motivate greater engagement and creativity at work (Stollberger et al., 2022). Hence, in addition to focusing on more stable attachment styles, a positive and loving family environment of leaders or followers may also more proximally influence their emotional entrainment at work and subsequent interaction quality. Leveraging relationship science to inform LMX theory may therefore be one of the most exciting pathways for future work on what impacts the development of high-quality leader–follower relationships in organizations.

Practical implications

Our findings point to the importance of leader emotional expression as affective events that have the power to shape their interaction quality with followers each and every day. As such, our findings convey an empowering message to leaders: The relationship with their followers is not "set in stone" but instead changes on a daily level and is strongly impacted by the leaders' own high-activated emotional expressions. To improve their interaction quality, leaders should not solely adapt their nonverbal and emotional leadership but also ensure that such displays are perceived as authentic. In fact, faking emotions has been shown to hurt leader–follower relationship quality (Glasø & Einarsen, 2008). Therefore, we recommend selecting leaders who are adept at regulating their own emotions as well as train leaders in this skill so that they can (a) authentically display positive emotions and (b) act as "emotion shields" for their followers (Silard & Dasborough, 2021, p. 1198), that is, by actively avoiding situations involving high-activated negative emotions to avert a negative relational impact.

Furthermore, given that it is often challenging to explicitly focus recruitment and selection of employees based on whether they have a secure attachment style (Manning, 2003), leaders can work on how they interact with insecurely attached employees. Specifically, leaders could be supported to recognize individuals with an anxious or avoidant attachment style and adapt their behaviour to promote the effectiveness of leader–follower interactions. For example, anxiously attached followers could be supported by building a trusting relationship over time and taking particular care not to induce anxious and fearful reactions. Likewise, given that avoidantly attached followers have more subdued emotional reactions to leader positive emotional expressions, leaders may want to display positive emotions, such as joy or enthusiasm, with greater expressive intensity to create a lasting positive impression during leader–follower interactions (Stollberger, Shemla, et al., 2023).

Limitations

Our study is not without limitations. First, we focused on followers' perception of leader emotional expression and did not complement this with leaders' self-ratings. We made this design choice

because prior work shows suggests that leaders tend to more freely express their emotions, whereas followers tend to adapt their emotions to the context (van Kleef & Lange, 2020). As such, it is followers' perception of leader emotional expressions that is behaviourally important and relevant for the emotional entrainment process. Nevertheless, it would be interesting to explore how leader's actual emotional expressions correspond to followers' perceptions thereof to understand the extent to which emotional entrainment can be instrumentally practiced to change one's relationship quality (Hansbrough et al., 2015). In a similar vein, although we focused on leader-initiated emotional entrainment in line with relevant theory (e.g., Cropanzano et al., 2017), a bi-directional process may also be theoretically plausible whereby followers' emotional expression trajectories influence the trajectories of leaders' emotional reactions over time. Future research may uncover whether and how bi-directional or solely follower-initiated emotional entrainment impacts interaction quality. Furthermore, our work focused on the entrainment of incidental (i.e., emotions that lack a situational target or are ambiguous) as opposed to integral emotions (i.e., emotions targeted at a person or directly related to the situation in which they are expressed; van Kleef et al., 2010). From a theory-building perspective, focusing on incidental emotions is preferable as it allows for the exploration of emotional entrainment independent of any contextual variations (e.g., leader verbal communication or the situational context) that may confound its effects (see Stollberger, Guillaume, et al., 2023 for a similar argument). Yet, we encourage future researchers to build on our work by integrating contextual layers to see how they impact emotional entrainment.

Second, although we established the utility of adult attachment as a theoretically derived moderator of leader–follower entrainment of calmness, joy, sadness and fear, it may be fruitful to explore whether alternative predispositions, such as regulatory focus, moderate the entrainment of other emotions, such as enthusiasm (i.e., promotion focus) or agitation (i.e., prevention focus; Venus et al., 2013), given their unique influence on these emotions.

Third, despite our deliberate temporal sequencing of surveys, given the correlational nature of our study design, some causal ambiguity remains. Future research may therefore want to complement our approach with a field intervention from which clearer causal claims can be derived. For example, scholars could design a within-person positive affect intervention in which they ask the leader on some days to deliberately display certain emotions, whereas on others remain as neutral as possible in their nonverbal style during leader–follower interactions (see Schweitzer et al., 2023 for a similar short-term emotions intervention).

Fourth, we focused on followers who have already worked with their leader for a longer time period (i.e., established dyads). But, prior research suggested that a follower's perceived relationship with their leader becomes more stable for those who have worked together for a considerable period of time (Ellis et al., 2019). While our focus on mature dyads thus offers a more conservative test of our propositions, it would be worthwhile studying whether the entrainment patterns we detected differ between more and less mature leader–follower dyads.

CONCLUSION

We shifted LMX and affect research from a focus on global emotional tone or affective states to a more fine-grained emotional entrainment perspective. Our work highlights the importance of considering leader and follower emotions as an episodic process determining follower perceptions of interaction quality with their leader. We hope that this study inspires a microdynamic way of thinking about leader–follower relationships in organizations.

AUTHOR CONTRIBUTIONS
Jakob Stollberger: Conceptualization; methodology; writing – original draft; data curation; formal analysis; resources. **Fabiola H. Gerpott:** Conceptualization; writing – review and editing. **Wladislaw Rivkin:** Conceptualization; writing – review and editing; data curation.

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The authors have no conflict of interest to report.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon request.

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