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RESEARCH ARTICLE

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It is Monday again: Weekend sleep differentially relates to the workweek via reattachment on Monday

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Summary

The weekend constitutes an important recovery period for employees. However, psychologically reattaching to work on Monday can be difficult because employees must transition from their private to their work role. Building on boundary theory and integrating a sleep and circadian perspective, we shed light on this transition by investigating antecedents and outcomes of Monday reattachment. We propose that three weekend sleep characteristics differentially relate to reattachment on Monday: weekend sleep quality, catch-up sleep (extended sleep duration on the weekend), and social sleep lag (differences in sleep times workweek vs. weekend). Successful reattachment on Monday should, in turn, be related to lower levels of exhaustion and higher task performance during the workweek. We conducted a weekly diary study with 310 employees (933 weeks) over four workweeks. Two-level path models demonstrated that higher weekend sleep quality was indirectly related to lower levels of workweek exhaustion via higher levels of Monday reattachment. In contrast, higher catch-up sleep was related to higher levels of workweek exhaustion via lower levels of Monday reattachment. Accordingly, we demonstrate that Monday reattachment can set the tone for the entire workweek, but the capability to reattach can depend on weekend sleep as a core recovery process.

KEYWORDS
exhaustion, micro-role transition, reattachment, sleep, task performance

1 | INTRODUCTION

Monday is likely at the top of the list when thinking of unpopular days of the week. While the weekend offers 2 days of leisure and thereby constitutes a central opportunity for employee recovery (Fritz, Sonnentag, et al., 2010), returning to work on Monday implies refocusing on work with all its joys and sorrows. Not surprisingly, employees' mood hits bottom on Monday—the infamous Blue Monday effect (Hülsheger et al., 2022; Weigelt et al., 2021). From a psychological perspective, readjusting to work on Monday can be challenging because the transition from the weekend to the workweek constitutes a micro-role transition (Ashforth et al., 2000). During this micro-role transition, employees must shift their focus from their private role during the weekend to their work role during the workweek. Psychological *reattachment* describes such a transition experience when employees mentally reconnect to work, for example,

Two changes in affiliation occurred since this research was conducted: Monika Wiegelmann now works at the Boston Consulting Group, Germany, and Theresa J. S. Koch now works at the University of Vienna, Austria.

by reflecting on work and thinking about work-related goals before actually starting work (Sonnentag & Kühnel, 2016).

While research has emphasized that switching off from work during the weekend is relevant for employees' well-being and organizational behavior (Fritz, Sonnentag, et al., 2010; Steed et al., 2021), we know little about how effectively tuning into work on Monday (i.e., reattachment) can relate to the entire workweek in terms of well-being and job performance. Previous research has centered around day-level reattachment, demonstrating that morning reattachment can shape daily behavior and experiences (Fritz et al., 2021; Sonnentag et al., 2020; Sonnentag & Kühnel, 2016). Building on these results, researchers have acknowledged that reattachment also matters after extended nonwork periods (e.g., during the COVID-19 pandemic, Yuan et al., 2021). However, even though the common week schedule forces employees to transition from their private to their work role every Monday, the way in which Monday reattachment shapes the following workweek remains unclear.

At the same time, understanding the preconditions of Monday reattachment is crucial to enable employees to master the transition from the weekend to the workweek effectively. As a fundamental recovery process, sleep during the weekend can relate to how employees reattach to their work on Monday. While organizational research has started to acknowledge the relevance of sleep quality for work (Litwiller et al., 2017), the timing and consistency of sleep also largely affect humans' health and well-being (Chaput et al., 2020; Leger et al., 2020). Thus, to portray sleep as the multi-faceted experience it is, we draw upon circadian research (Borbély, 1982; Borbély et al., 2016) and disentangle the unique roles of different weekend sleep characteristics for the reattachment process.

Accordingly, combining the tenets of boundary theory (Ashforth et al., 2000) with a circadian perspective and sleep research (Borbély, 1982; Borbély et al., 2016; Mullins et al., 2014), this study focuses on weekly antecedents and outcomes of Monday reattachment. We investigate how three weekend sleep characteristics differentially shape how employees reattach to work on Monday. On the one hand, high-quality sleep during the weekend might enable employees to restore energetic and cognitive resources (Leong & Chee, 2023) that can be used to effectively reattach to work on Monday. On the other hand, sleep inconsistency in terms of sleeping longer during the weekend (catch-up sleep) and at different times than during the workweek (social sleep lag) might hinder the transition from the weekend to the workweek because employees' workweek and weekend rhythms are set more widely apart (Chaput et al., 2020). In turn, successfully reattaching to work on Monday should enable employees to perform better on their work tasks and be less exhausted during the workweek. Thus, we propose that weekend sleep characteristics differentially relate to the workweek via reattachment on Monday. Figure 1 displays our full conceptual model.

This study offers significant contributions to both research and practice. First, our study contributes to research on micro-role transitions by focusing on the role of reattachment for the following workweek. Building on boundary theory (Ashforth et al., 2000), we consider a new time frame and propose that Monday reattachment can matter for the entire following workweek because it serves as a micro-role transition between the private role during the weekend and the work role during the workweek. Accordingly, we suggest that experiences on Monday set the tone for well-being and performance during the upcoming workweek. While previous research has mainly focused on day-level reattachment processes (Sonnentag et al., 2020; Sonnentag & Kühnel, 2016), the transition between the weekend and the workweek might imply an even higher need to reattach to work because the period during which employees are disconnected from work is longer. Thus, reattachment after a weekend might be more complex and—at the same time—even more critical than after work-free evenings, highlighting the need to understand the workweek consequences of Monday reattachment.

Second, our study integrates a circadian perspective into the recovery literature by disentangling the role of three different sleep characteristics for employees' reattachment. While sleep quality is a frequently examined sleep indicator in organizational research (e.g., Barnes et al., 2015; Liu et al., 2021), sleep characteristics focusing on circadian aspects have largely been neglected (with few exceptions, e.g., Kühnel et al., 2016). However, building on circadian research (Roenneberg et al., 2003), not only the quality but also the timing and consistency of one's sleep matter. As circadian preferences can lead to large differences in sleep behavior between the weekend

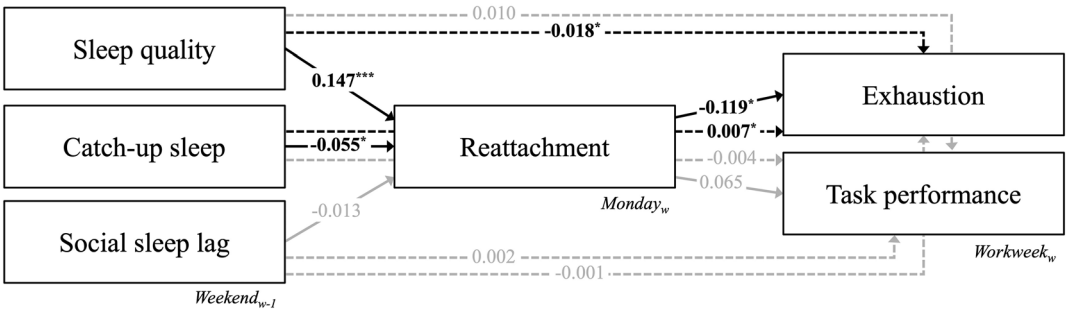

FIGURE 1 Conceptual model including within-person results from two-level path analysis. *Note.* Solid lines indicate direct paths (Hypotheses 1 to 3). Dashed lines indicate indirect paths (Hypotheses 4 to 6). Black and bold = significant paths that were in line with our hypotheses. Direct paths from the predictors (sleep quality, catch-up sleep, and social sleep lag) to the outcomes (exhaustion, task performance) were specified in our analyses but omitted from the figure for clarity reasons. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

and the workweek (Leger et al., 2020; Wittmann et al., 2006), it is relevant to better understand how these differences in sleep behavior affect employees when returning to work on Monday. An inconsistency in sleep duration and timing might decrease employees' cognitive functioning (e.g., Chaput et al., 2020; Smevik et al., 2023) and thus, also relate to their workweek. Using a weekly diary design and focusing on differences between employees' workweek and weekend sleep enables us to investigate sleep characteristics that usually cannot be assessed in daily diary designs (i.e., weekend catch-up sleep) or have so far mostly been operationalized as stable between-person differences (i.e., social sleep lag, Kühnel et al., 2016; Völker et al., 2024). Accordingly, we paint a more nuanced picture of the role that sleep plays in organizational behavior by focusing on weekend sleep quality as well as weekly sleep inconsistency.

Third, we contribute to reattachment research by investigating what facilitates and hinders Monday reattachment. While initial studies have demonstrated the relevance of daily reattachment for employees' well-being and behavior (Fritz et al., 2021; Sonnentag et al., 2020), knowledge on the preconditions of reattachment is largely missing (Schleupner et al., 2023). By investigating weekend sleep characteristics as antecedents of reattachment, our study provides a new in-depth look into reattachment processes. We suggest that—similar to psychological *detachment* (i.e., mentally disconnecting from work)—psychological reattachment also depends on energetic and cognitive resources that employees need to have available (Sonnentag, 2018). In this way, we illustrate more clearly how reattachment integrates into employees' working life by shedding light on its antecedents. Moreover, understanding the role of different sleep characteristics as preconditions of reattachment also matters for practice. For example, organizations might employ interventions to improve weekend sleep quality and weekly sleep consistency to help facilitate employees' reattachment process on Monday because reattachment on Monday might set the tone for the entire workweek.

2 | MONDAY REATTACHMENT AS A MICRO-ROLE TRANSITION

Boundary theory (Ashforth et al., 2000) states that humans have different roles in their different life domains, which are separated by boundaries. For example, an employee might have a professional role as a leader at work that differs from their private role as a parent at home. These different roles can be separated (i.e., *segmentation*), blurred (i.e., *integration*), or something in between. To (psychologically) transition from one role to another, one needs to exit one role (i.e., *role exit*) and enter the other role (i.e., *role entry*). While these role transitions can represent longer-term changes, such as moving from employment to retirement (i.e., *macro transitions*), boundary theory mainly focuses on frequent short-term transitions (i.e., *micro transitions*), for example, within 1 day (Ashforth et al., 2000).

Applying the tenets of boundary theory (Ashforth et al., 2000), we characterize psychological *reattachment* as an experience representing a micro-role transition. While recovery research has frequently underpinned the relevance of psychological *detachment*, meaning mentally disconnecting from work (Sonnentag & Fritz, 2007; Steed et al., 2021), research has started to acknowledge that also mentally reconnecting to work matters for employees (Sonnentag & Kühnel, 2016). Reattachment describes such an experience during which employees mentally reconnect to their work. This reattachment process can encompass mentally preparing for work, reflecting on the upcoming work period, as well as thinking about work-related goals (Sonnentag & Kühnel, 2016). Accordingly, when experiencing reattachment after an off-work period, employees mentally exit their private role and enter their work role as they refocus their attention back to work. Thus, reattachment is a micro-role transition occurring when crossing the boundary from the private to the work role (Ashforth et al., 2000).

Research has primarily focused on day-level reattachment, meaning mentally preparing for the workday in the morning before work (e.g., Sonnentag et al., 2020; Sonnentag & Kühnel, 2016). However, reattachment does not only matter on a daily basis (Yuan et al., 2021). The common structure of the week with 5 days of work followed by 2 days of work-free weekend presents many employees with an even more noticeable boundary every week. Accordingly, the beginning of the workweek plays a unique role in many employees' weeks as Monday implies a transition from 2 days of engaging in mainly private roles to 5 days of mainly engaging in work roles. Because most employees experience a drop in energy and well-being on Monday, it is often referred to as "Blue Monday" (Hülsheger et al., 2022; Weigelt et al., 2021). However, little is known about how this transition from the weekend to the workweek can be successfully made. Accordingly, we apply the concept of daily reattachment to the week level and suggest that successfully reattaching to work is crucial on Monday as it covers the transition from the weekend to the workweek. Thereby, we focus on week-level reattachment rather than day-level reattachment. Because an entire workweek is more complex than a single workday, we believe that week-level reattachment processes on Monday (i.e., mentally preparing for the entire upcoming workweek) require more in-depth and intense cognitive preparation. For example, when reattaching to the upcoming workweek, employees might need to consider different work schedules, work locations, or even competing goals during the week. Accordingly, because of the higher intensity of weekly reattachment, we suggest that the effects of weekly reattachment on Monday have the potential to persist during the entire workweek. Thus, we adopt a weekly temporal lens and examine weekend antecedents (i.e., sleep characteristics) and workweek outcomes (i.e., exhaustion and task performance) of Monday reattachment as a highly relevant micro-transition between the weekend and the workweek. To fully adopt the weekly temporal lens, we focus on dynamic within-person associations among sleep, reattachment, and workweek outcomes as opposed to stable between-person associations. Accordingly, our theoretical assumptions refer to deviations from an employee's mean weekend and workweek experiences (e.g., higher-than-usual levels of Monday reattachment).

3 | WEEKEND SLEEP AND MONDAY REATTACHMENT

Put simply, sleep is a crucial recovery period during which employees replenish the cognitive and energetic resources needed at work (Litwiller et al., 2017). At the same time, however, sleep is a complex physiological process. According to the two-process model of sleep regulation (Borbély, 1982; Borbély et al., 2016), the human sleep–wake cycle is regulated by two interacting processes. A circadian process determines the time frame during which sleep is initiated, while a homeostatic process leads to sleep initiation during this time frame as soon as the physiological need to sleep reaches a threshold. While sleeping, the need to sleep decreases until humans awake recharged in the morning. The timing of the circadian process can vary between individuals, such that some have a natural proclivity to wake up late and go to bed late, while others prefer earlier daily rhythms (i.e., human chronotypes; Roenneberg et al., 2003). However, these circadian preferences do not only reflect differences *between* individuals but also lead to variations in sleep *within* individuals. Due to circadian preferences, sleep behavior during the workweek and the weekend might vastly differ such that employees sleep longer and at different times during the weekend (Roenneberg et al., 2003; Wittmann et al., 2006).

Considering the complexity of sleep, different aspects of sleep might differentially matter for employees at the workplace. Following the framework on sleepiness at work from Mullins et al. (2014), high-quality sleep might help prevent sleepiness at work, thus providing energetic and cognitive resources that are needed for desirable organizational behavior. However, circadian processes and resulting inconsistencies in sleep might relate to increased sleepiness at work and a lack of energetic and cognitive resources (Mullins et al., 2014). Accordingly, certain sleep characteristics can relate to workplace experiences via *resource-building pathways* (i.e., sleep quality), while other sleep characteristics can relate to workplace experiences via *resource-draining pathways* (i.e., sleep inconsistency). Combining these insights from sleep research with research on micro-role transitions, we propose that weekend sleep quality, catch-up sleep, and social sleep lag differentially relate to reattachment on Monday.

First, regarding the resource-building pathway of sleep, higher weekend sleep quality should relate to higher Monday reattachment. Especially during the work-free weekend, sleep is often not restrained by social schedules (e.g., work times) and employees can therefore follow their circadian preferences of when to sleep (Roenneberg et al., 2003). Accordingly, lower sleep regulation is needed (Borbély, 1982; Borbély et al., 2016), allowing employees to sleep well. Thus, sleep on the weekend can be of a particularly high quality and, in turn, of high relevance for recovery processes. Sleep quality reflects a subjective assessment of how restful humans perceive their sleep to be and constitutes an important facet of sleep health (Buysse, 2014). Specifically, sleep quality can restore cognitive resources and thereby matters for diverse aspects of cognitive functioning (Leong & Chee, 2023; Mullins et al., 2014). Thus, thanks to high-quality sleep during the weekend, employees should have successfully replenished their cognitive resources and might more easily control their thoughts and attention on Monday (Mullins et al., 2014). The goal of refocusing back on work after the weekend might benefit from these replenished cognitive resources as reattachment implies that attention must be deliberately focused on the workweek. Accordingly, we assume that high-quality sleep during the weekend facilitates employees' exit from the private role and entry to the work role (Ashforth et al., 2000). Previous research has started to acknowledge the interplay of sleep quality and reattachment on the day level but has not found a direct association. Rather, results suggest that reattachment might buffer the effect of a bad night's sleep on employees' work engagement (Schleupner et al., 2023). However, because of the different temporal foci (i.e., day vs. week level), we rely on our theoretical reasoning on the direct relationship and propose that higher-than-usual weekend sleep quality relates to higher levels of reattachment to work on Monday.

> **Hypothesis 1.** After weekends with higher-than-usual sleep quality, employees report higher levels of reattachment on Monday.

Second, regarding the resource-draining pathway of sleep, we propose that the inconsistency of timing and duration of sleep during the week matters for reattachment. Many employees encounter a circadian mismatch as workdays usually start early in the morning and thereby contradict employees' circadian preferences of when to be asleep and awake (Roenneberg et al., 2003). While work hours are usually oriented towards the preferred timing of earlier chronotypes, most of the population can be classified as an intermediate or late chronotype (Roenneberg et al., 2019). Even though work impacts employees' social rhythm (i.e., work hours structure the day), such environmental factors are not strong enough to overrule employees' internal circadian preferences and, thus, their internal biological rhythm (Roenneberg et al., 2003; Wittmann et al., 2006). Specifically, humans tend not to fall asleep outside their biologically determined "sleep gate" because sleeping outside of biologically determined time frames requires a high need for sleep regulation (Borbély, 1982; Borbély et al., 2016; Lavie, 2001). Consequently, employees might fall asleep late following their circadian preferences but must get up early in the morning, resulting in a sleep deficit as well as a mismatch with their circadian preferences during the workweek (Roenneberg et al., 2003). Due to this mismatch, employees might try to compensate for their sleep deficit and follow their circadian preferences on the work-free weekend by sleeping much longer and at different times than on workdays (Roenneberg et al., 2003; Roepke & Duffy, 2010). *Social sleep lag* describes the phenomenon of differences in sleep–wake times (i.e., differences in the midpoint between sleep onset and waking up) on workdays and non-workdays (Kühnel et al., 2016). Resembling jetlag while traveling, social sleep lag implies that employees live in two different time zones: a social time zone during the workweek and a circadian time zone during the weekend (Wittmann et al., 2006). Additionally, employees might use the weekend to cope with their sleep deficit by extending their sleep duration,

which is also called *catch-up sleep* (Leger et al., 2020). In contrast to weekend social sleep lag, weekend catch-up sleep refers to the difference in sleep duration between the workweek and the weekend and not to the sleep timing per se. Both weekend catch-up sleep and social sleep lag reflect inconsistencies in sleep that have adverse implications for employees' health and functioning. Specifically, while weekend catch-up sleep might have short-term positive effects (e.g., Kubo et al., 2011), it is generally not a suitable strategy to compensate for a high sleep deficit (e.g., Leger et al., 2020; Taylor et al., 2008). Moreover, research has demonstrated that sleep inconsistency impairs individuals' health (Chaput et al., 2020).

We assume that higher weekend catch-up sleep and social sleep lag relate to lower levels of reattachment to the new workweek because they both make it difficult for employees to get used to the social rhythm of the workweek after the weekend. First, when catching up on sleep during the weekend, employees shift their sleep–wake rhythm by extending the sleep period and, accordingly, their need to sleep decreases. Because of the shifted sleep–wake rhythm and the decreased sleep need, it should then require higher regulation to readapt to their work-related sleep–wake rhythm on Monday (Borbély, 1982; Borbély et al., 2016). While employees might get increasingly used to the social rhythm of their workweek, because their sleep need increases and they adapt their sleep times accordingly (Kühnel et al., 2018), the transition from the weekend to the workweek on Monday should be especially severe (van Hooff et al., 2006). Previous research has demonstrated that sleeping in during the weekend results in increased Monday sleepiness (Taylor et al., 2008)—a state that makes it difficult to control thoughts and attentional processes (Mullins et al., 2014). However, being able to control thoughts and attention is needed to successfully reattach to work on Monday.

Second, if employees experience social sleep lag, this implies that they followed a different sleep–wake rhythm during the workweek than during the weekend. Because their sleep timing is likely to be less constrained during the weekend, employees follow their circadian preferences during the weekend (Wittmann et al., 2006). On weeks with high social sleep lag, these differences between the workweek and weekend are especially pronounced. Most employees delay their sleep–wake rhythm on the weekend to match to their circadian preferences. However, when the transition back to the next workweek is due, employees need to readjust to their earlier social rhythm. Again, employees must sleep outside their preferred sleep gates governed by the circadian process and, accordingly, have a high need for sleep regulation to get used to the workweek (Borbély, 1982; Borbély et al., 2016). Consequently, the transition from the weekend to the workweek is compounded by the fact that employees need to invest additional resources to adapt to the sleep–wake rhythm of the workweek. Again, this should be associated with poor sleep behavior and a lower ability to control thoughts and attentional processes needed to successfully reattach to work on Monday.

Thus, this circadian perspective on sleep (Borbély, 1982; Borbély et al., 2016) highlights that inconsistency in sleep timing and duration can negatively relate to workplace experiences via a resource-draining pathway. Thereby, catch-up sleep and social sleep lag should result in limited energetic and cognitive resources (Mullins et al., 2014) because variations in sleep timing and duration can make it difficult to exert cognitive control and direct attention at work (Kim et al., 2011; Smevik et al., 2023). Again, however, being able to control thoughts and attention as well as making use of energetic and cognitive resources is needed to exit the private role and refocus attention back to work (i.e., enter the work role; Sonnentag & Kühnel, 2016). Thus, we propose that higher-than-usual weekend catch-up sleep and social sleep lag are associated with lower levels of reattachment to work on Monday.

> **Hypothesis 2.** After weekends with higher-than-usual (a) catch-up sleep and (b) social sleep lag, employees report lower levels of reattachment on Monday.

4 | WORKWEEK CONSEQUENCES OF MONDAY REATTACHMENT

We propose that higher levels of reattachment to work on Monday, in turn, benefit employees during the workweek. First, more successful Monday reattachment should be associated with lower levels of exhaustion during the workweek. Exhaustion is described as a state of physical fatigue and drained energetic resources during work. When exhausted, employees report, for example, that they feel like their "batteries are dead" (Melamed et al., 2006; Shirom & Melamed, 2006). Reattachment as a micro-role transition implies a successful role entry into employees' work role (Ashforth et al., 2000). Accordingly, employees activate work-related goals and focus on their work tasks (Fritz et al., 2021; Sonnentag et al., 2020). Because of these goal-activation processes, employees will be better able to allocate their resources to goal-striving situations during the week (Sonnentag & Kühnel, 2016). This resource allocation should make it easier for employees to get through their workweek without spending additional effort, thereby decreasing exhaustion. At the same time, Monday reattachment could also help employees to positively approach the workweek. Reattaching to the workweek itself might feel like a first step towards goal attainment, thus resulting in employees approaching their workweek in a positive and confident manner (Fritz et al., 2021; Sonnentag et al., 2020). Accordingly, by starting their working in a positive manner, employees do not feel the need to play catch-up during the workweek. Thus, employees should feel more favorable and less exhausted during the workweek after better reattaching to their work on Monday. Similarly, reattachment is associated with work engagement which encompasses energetic aspects of work-related well-being (Sonnentag et al., 2020; Sonnentag & Kühnel, 2016). Hence, we propose that better-than-usual reattachment relates to employees being less exhausted during the workweek.

Second, apart from energetic aspects, reattachment should positively relate to employees' task performance during the week. Task performance is a subjective assessment of how well an employee

attained work-related goals and accomplished their work tasks (Fisher & Noble, 2004). Completing and accomplishing tasks is a crucial objective at work and has positive implications for employees and organizations (Dalal et al., 2014; Ohly & Schmitt, 2015). By activating work-related goals when reattaching to work, employees might already think about ways to reach their goals, leaving them better prepared in future goal-striving situations. Additionally, Monday reattachment might feel like a first step towards goal attainment, enabling employees to encounter their work tasks in a positive and confident manner (Fritz et al., 2021; Sonnentag et al., 2020). These planning and preparation processes as well as positive and confident attitudes can enable employees to be more successful in accomplishing their goals and tasks during the workweek (Sonnentag & Kühnel, 2016). At the same time, successful reattachment enables employees to focus more on their work tasks during the week (Sonnentag et al., 2020). Similarly, Fritz et al. (2021) have demonstrated that morning reattachment is indirectly related to leaders' task accomplishment via anticipated and actual focus on work tasks. Accordingly, we propose that better-than-usual Monday reattachment is associated with higher workweek task performance.

Hypothesis 3. Higher-than-usual levels of reattachment on Monday are related to (a) lower levels of exhaustion and (b) higher task performance during the workweek.

5 | REATTACHMENT AS A MECHANISM BETWEEN WEEKEND SLEEP AND WORKWEEK CONSEQUENCES

Looking at the reattachment process as a whole, we assume that weekend sleep characteristics (sleep quality, catch-up sleep, and social sleep lag) differentially relate to workweek exhaustion and task performance via reattachment on Monday. Building on boundary theory (Ashforth et al., 2000), reattachment as a micro-role transition links the private role during the weekend to the work role during the workweek. On the one hand, cognitive and energetic resources that have built up through high-quality sleep during the weekend (Leong & Chee, 2023; Scullin & Bliwise, 2015) can transfer into the work domain by successfully reattaching to work and, in turn, decrease workweek exhaustion and increase task performance. On the other hand, lower cognitive and energetic resources due to catch-up sleep and social sleep lag (Ashforth et al., 2000; Kim et al., 2011; Smevik et al., 2023) can hamper the transition to the workweek by decreasing the likelihood of reattaching and consequently increase workweek exhaustion and decrease task performance. By reducing or increasing personal resources, private demands or resources can spill over to the work domain (ten Brummelhuis & Bakker, 2012). Accordingly, we suggest that Monday reattachment serves as a connecting link between weekend (sleep quality, catch-up sleep, and social sleep lag) and workweek (exhaustion, task performance) experiences and behavior.

Hypothesis 4. Higher-than-usual levels of Monday reattachment explain the relationship between higher weekend sleep quality and (a) lower levels of exhaustion and (b) higher task performance during the workweek.

Hypothesis 5. Lower-than-usual levels of Monday reattachment explain the relationship between higher weekend catch-up sleep and (a) higher levels of exhaustion and (b) lower task performance during the workweek.

Hypothesis 6. Lower-than-usual levels of Monday reattachment explain the relationship between higher weekend social sleep lag and (a) higher levels of exhaustion and (b) lower task performance during the workweek.

6 | METHODS

6.1 | Study design and sample

To test our hypotheses, we conducted a weekly diary study in Germany between September and December 2021. During this time, the COVID-19 pandemic was still present, but no formal lockdown was in place and pandemic control measures were substantially weaker than at the beginning of the pandemic. Our university's ethics committee considered this study exempt because in Germany no ethics approval is needed for purely correlational studies. After participating in a general survey, participants answered surveys on Mondays and Fridays over the course of 5 weeks. The diary surveys started and ended on a Friday, resulting in nine weekly surveys in total (five Friday surveys and four Monday surveys). During the registration process, the participants reported when they usually wake up on Monday and end their work on Friday. Individually tailored to these times, we sent invitations to all surveys via e-mail (i.e., after waking up on Monday and after work on Friday) and reminded the participants after 2 h upon sending the invitation e-mails if the surveys were not completed. All weekly surveys were answered online and were available for 8 h after receiving the first e-mail invitation.

We recruited the participants mainly online via social media platforms (e.g., Facebook and LinkedIn) and partly offline via personal contacts of the author group (e.g., friends and family). To be eligible to participate, the participants had to be employed for at least 20 h per week (excluding shift work) and work 5 days per week (from Monday to Friday). As an incentive, the participants who completed at least seven of the nine surveys could win one of 30 vouchers for various online shops (with a total value of 800€). Of the 505 employees who expressed interest in participating, 465 finished the general survey (92.1%) and provided 1144 Monday surveys (61.5% out of 1860 possible surveys) and 1410 Friday surveys (60.6% out of 2325 possible surveys). From those, we had to exclude 75 participants who could not freely choose their sleep times on non-workdays (e.g., due to children, partners, or pets living in the same household), implying we could not calculate their social sleep lag under these

TABLE 1 Descriptive statistics, Cronbach's alphas, intraclass correlations, and intercorrelations of all variables.

	M	SD_{L1}	SD_{L2}	α_{L1}	α_{L2}	ICC	1	2	3	4	5	6	7
1. Weekend sleep quality	3.4	0.5	0.8	-	-	.46	-	.05	−.05	.15***	−.02	−.02	−.17***
2. Weekend catch-up sleep[a]	1.0	0.8	1.1	-	-	.34	.12		−.05	−.09*	.00	−.03	−.04
3. Weekend social sleep lag[a]	1.3	0.5	0.7	-	-	.40	.19**	.21***		−.02	−.02	.04	−.05
4. Monday reattachment	3.4	0.5	0.8	.81	.97	.56	.07	.04	.07		−.09*	.04	.00
5. Workweek exhaustion	2.5	0.5	0.9	.87	.97	.63	−.29***	.07	.04	.04		−.35***	.03
6. Workweek task performance	3.8	0.4	0.7	.72	.93	.56	.25***	−.05	.11	.08	−.40***		−.07
7. Monday negative affect	1.5	0.4	0.6	.80	.95	.52	−.29***	.04	−.08	.04	.30***	−.27***	

[a]In decimal hours. L1 = week level (Level 1), L2 = person level (Level 2). Intraclass correlations (ICC) demonstrate the proportion of variance that is attributable to the person level. Correlations below the diagonal are person-level correlations ($N = 310$). Correlations above the diagonal are week-level correlations ($N = 933$).
*$p < .05$, **$p < .01$, and ***$p < .001$.

circumstances.[1] We then checked for careless responding (Goldammer et al., 2020) and excluded weekly surveys with response invariance (e.g., always choosing the middle response on the Likert scale) as well as extremely low response times (using an index of our survey provider, Leiner, 2019), resulting in the exclusion of nine weekly surveys. Additionally, we excluded 11 surveys that had been completed on the wrong day (i.e., not on Monday or on Friday) to ensure temporal accuracy in data collection. We then matched the participants' $Friday_{week(w)-1}$, $Monday_w$, and $Friday_w$ surveys such that each participant could provide up to four complete weekly data sets. Of the remaining 390 participants, 315 answered at least one weekly survey (in total: 1153 weeks). We then excluded 124 weeks ($week_{w-1}$ and $week_w$) during which employees did not work and 77 $Monday_w$ surveys that were answered on non-workdays because the reattachment items referred to Monday as a workday (see Section 6.2). Finally, we included all weeks in which either the $Monday_w$ (784 surveys, 84.0%) or the $Friday_w$ (788 surveys, 84.5%) surveys were completed, resulting in a final sample of 310 participants providing data on 933 weeks (75.2% out of 1240 possible weeks). The participants included in the final sample did not differ from excluded participants with regard to gender, χ^2 (1) = 0.190, $p = .663$, or education, $t(341.32) = 0.83$, $p = .405$. However, the participants included in the final sample were slightly older ($M = 41.2$ years) than the participants excluded from the final sample ($M = 39.3$ years), $t(390.11) = -2.09$, $p = .037$.

Most of the 310 participants were female (80.6%), and their mean age was $M = 41.2$ ($SD = 11.1$) years. Participating employees worked in various industries and professions, for example, in health, social, and educational professions (41.9%); in administrative and office professions (25.5%); or in technical professions (10.7%). Most of them held a university degree (55.2%) and lived without children in the household (77.4%). Most participants worked full time, with an average of $M = 39.6$ ($SD = 8.8$) hours per week.

6.2 | Measures

We assessed employees' sleep times in the $Friday_{w-1}$ and $Monday_w$ surveys to calculate their weekend catch-up sleep and social sleep lag. Additionally, we assessed their weekend sleep quality and reattachment in the $Monday_w$ surveys, as well as their workweek exhaustion and task performance in the $Friday_w$ surveys. All items were presented in German and translated with the back-translation method if necessary (Brislin, 1970). Descriptive statistics and two-level Cronbach's alphas (Geldhof et al., 2014) of all variables are presented in Table 1.

6.2.1 | Sleep quality

In the $Monday_w$ surveys, we retrospectively assessed employees' sleep quality during the weekend using a one-item measure (Monk et al., 1994). The participants answered the item "How do you evaluate the overall quality of your sleep during the weekend?" on a 5-point Likert scale ranging from 1 = *very bad* to 5 = *very good*. This one-item measure has been used in previous organizational behavior research focusing on sleep (e.g., Hülsheger, 2016; Kühnel et al., 2016; Liu et al., 2021) and correlates highly with a full sleep-quality index (Hahn et al., 2011).

6.2.2 | Catch-up sleep and social sleep lag

To be able to calculate the participants' catch-up sleep and social sleep lag, we assessed their sleep times on workdays in the $Friday_{w-1}$ surveys and their sleep times during the weekend in the $Monday_w$ surveys. The participants indicated when they went to bed, how long it took them to fall asleep, and when they woke up (Roenneberg et al., 2003) separately for each day (i.e., Monday to Thursday in the

[1]Social sleep lag describes a discrepancy between employees' sleep times during the workweek (dictated by their social rhythm) and their sleep times during the weekend (dictated by their biological circadian preferences). However, if employees cannot freely choose their sleep times on non-workdays, their weekend sleep times do not reflect their biological preferences. Accordingly, we excluded these participants to increase the accuracy of our social sleep lag measure (Roenneberg et al., 2003; Wittmann et al., 2006).

$Friday_{w-1}$ survey and Friday to Sunday in the $Monday_w$ survey). To increase the accuracy of this weekly sleep data, we provided the participants with a sleep diary in the general survey and instructed them to keep track of their sleep times during the study period.

Weekend catch-up sleep describes the difference between workweek and weekend sleep duration. Using the daily sleep times, we separately calculated the mean sleep duration during the previous workweek and during the weekend (i.e., the period between sleep onset and waking up). We then calculated employees' catch-up sleep as the difference between the mean workweek and the mean weekend sleep duration. Higher values indicate higher catch-up sleep, such that a value of 1, for example, refers to a week in which the respective employees' sleep duration was, on average, 1 h longer per night during the weekend than during the workweek.

Weekend social sleep lag refers to the difference between the workweek and the weekend midpoint of sleep. Using the daily sleep times, we separately calculated the mean of the daily midpoints of sleep during the previous workweek (midpoint between sleep onset and waking up) as well as the mean daily midpoints of sleep during the weekend. We then calculated social sleep lag as the absolute difference between the mean workweek and the mean weekend midpoint of sleep. Thus, social sleep lag represents the difference between actual sleep times during the workweek and biologically preferred sleep times during the weekend (Roenneberg et al., 2012; Wittmann et al., 2006). Higher values describe a higher weekend social sleep lag. For instance, a social sleep lag of 1 indicates a 1-h difference between employees' workweek midpoint of sleep and their weekend midpoint of sleep.

6.2.3 | Reattachment

We assessed reattachment to work in the $Monday_w$ surveys using the five-item measure from Sonnentag and Kühnel et al. (2016), which was slightly adapted to the week level. The participants answered items such as "Before I started my work this morning, I prepared mentally for the upcoming workweek" on a 5-point Likert scale ranging from 1 = *not at all true* to 5 = *absolutely true*.

6.2.4 | Exhaustion

We assessed weekly exhaustion in the $Friday_w$ surveys using five items from Shirom and Melamed et al. (2006). The items such as "I felt tired" referred to the whole workweek and were answered on a five-point Likert scale ranging from 1 = *not at all true* to 5 = *absolutely true*.

6.2.5 | Task performance

We measured weekly task performance in the $Friday_w$ surveys with four items used in previous research (Sonnentag, 2018), such as "I completed my tasks successfully." The items again referred to the whole workweek and were answered on a 5-point Likert scale ranging from 1 = *not at all true* to 5 = *absolutely true*.

6.2.6 | Control variables

To demonstrate the robustness of our results, we relied on two control variables. First, we controlled for employees' Monday state negative affect because we wanted to ensure that self-reports on subsequent experiences were not driven by a bad mood at the beginning of the workweek (cf. Rothbard & Wilk, 2011). We measured negative affect using six items from the German version (Krohne et al., 1996) of the Positive and Negative Affect Schedule (Watson et al., 1988). The participants were instructed to indicate how they currently felt and answered the items (e.g., "distressed") on a 5-point Likert scale ranging from 1 = *not at all* to 5 = *absolutely*. Second, we controlled for the week of data collection (i.e., 1 = *week one* to 4 = *week four*) to rule out systematic changes throughout the study participation (Beal & Weiss, 2003).[2]

6.3 | Analytic strategy and preliminary analyses

Because our assumptions focused on the within-person level (i.e., deviation of $week_w$ from an employees' mean week) and to simultaneously take the nested data structure into account (i.e., weeks nested within persons), we used two-level path analyses in Mplus 8.7 (Muthén & Muthén, 2017) to test our hypotheses (Preacher et al., 2010). We used all data available and handled missing data using full information maximum likelihood estimation as suggested by guidelines (Newman, 2014). To correctly decompose week-level and person-level variance, we specified our path model at both the within- and the between-person level, even though our primary level of interest was the within-person level. Thus, we modeled paths from the sleep characteristics (sleep quality, catch-up sleep, and social sleep lag) to reattachment (Hypotheses 1 and 2), from reattachment to the outcomes (exhaustion and task performance, Hypothesis 3), and from the sleep characteristics to the outcomes on both levels. Additionally, we modeled paths from the control variables (Monday negative affect and week of data collection) to reattachment and the two outcomes. Lastly, we allowed correlations between (1) the three sleep characteristics and (2) the two outcomes. Because a full random-intercept-random-slope model was very complex and did not converge, we analyzed a series of models (i.e., separate models with random

[2]We also tested alternative models. First, we ran more complex models with three additional person-level control variables (i.e., age, gender, and living with children in the same household as additional person-level covariates, resulting in five control variables in total). Including these additional person-level control variables did not change any of our week-level results. Because of the week-level (and not person-level) focus of our analyses and for the sake of parsimony, we decided to not include the three person-level control variables in our final analyses and to keep the two week-level control variables only. Second, we ran all analyses without any control variables. Omitting the control variables did not change the significance or direction of any of the results.

intercepts and only single random slopes) to test which within-person paths varied significantly between persons. None of the within-person paths yielded significant variation between persons. Accordingly, we decided to stick with a random-intercept model for the sake of parsimony. To calculate indirect effects from the sleep characteristics to the outcomes via reattachment (Hypotheses 4 to 6), we obtained unstandardized path estimates from Mplus 8.7 (Muthén & Muthén, 2017) and computed confidence intervals using the Monte Carlo method with 20,000 simulations (Selig & Preacher, 2008).

Before testing our hypotheses, we conducted a set of preliminary analyses. Table 1 displays descriptive statistics, intraclass-correlations (ICCs), and correlations of all variables included in the path models. With respect to consistency in employees' sleep duration, they slept, on average, 7.3 h during the workweek and 8.3 h during the weekend. Looking at differences between workweek and weekend sleep, the participants' weeks ranged between sleeping 3.3 h shorter during the weekend to 5.7 h longer during the weekend than during the workweek. On average, employees reported $M = 1.0$ ($SD_{\text{Level 1}} = 0.8$, $SD_{\text{Level 2}} = 1.1$) hours of catch-up sleep during the weekend. With respect to consistency in employees' sleep timing, their midpoint of sleep was, on average, at 2:36 AM during the workweek and at 3:30 AM during the weekend. Looking at absolute differences, weeks ranged from no difference (i.e., value of 0) to 5.2-h difference between the workweek and the weekend's midpoint of sleep. Experiencing these 5.2 h of social sleep lag (i.e., a 5-h difference between workweek and weekend midpoint of sleep) thereby roughly corresponds to the jetlag experienced while traveling from London, UK, to New York, USA—on a weekly basis. On average, employees reported a social sleep lag of $M = 1.3$ ($SD_{\text{Level 1}} = 0.5$, $SD_{\text{Level 2}} = 0.7$) h. The ICCs ranged between .34 for catch-up sleep and .60 for exhaustion, indicating a considerable amount of within-person variance. Thus, two-level analyses were suitable for our data, and our constructs of interest yielded meaningful week-level variation. Further, the results of a two-level confirmatory factor analysis (CFA) with all items loading on distinct factors demonstrated the construct validity of our measures, χ^2 (214) = 435.771, $p < .001$, RMSEA = 0.042, CFI = 0.950, TLI = 0.936. The model with all items loading on distinct factors fits the data better than a model with the two outcomes (exhaustion, task performance) loading on the same factor, χ^2 (224) = 790.045, $p < .001$, RMSEA = 0.066, CFI = 0.862, TLI = 0.845; Satorra-Bentler $\Delta\chi^2$ (10) = 420.377, $p < .001$. A two-level CFA with the three sleep characteristics (sleep quality, catch-up sleep, social sleep lag) loading on the same factor did not converge, thus not representing a suitable solution for the data. Accordingly, the three weekend sleep characteristics could indeed be distinguished.

7 | RESULTS

7.1 | Hypotheses testing

The results of the two-level path models are presented in Tables 2 (direct effects) and 3 (indirect effects). Figure 1 gives a graphical

TABLE 2 Results of two-level path analysis: direct effects.

	Monday reattachment		Workweek exhaustion		Workweek task performance	
	Est.	*SE*	Est.	*SE*	Est.	*SE*
Intercept	3.172***	0.404	2.848***	0.640	3.147***	0.435
Within person (level 1)						
Monday negative affect	0.024	0.062	0.031	0.060	−0.051	0.051
Week of data collection[a]	−0.019	0.019	0.007	0.022	−0.007	0.017
Weekend sleep quality	0.147***	0.042	−0.012	0.045	−0.018	0.038
Weekend catch-up sleep	−0.055*	0.024	−0.003	0.029	−0.005	0.026
Weekend social sleep lag	−0.013	0.052	−0.039	0.051	0.050	0.042
Monday reattachment			−0.119*	0.053	0.065	0.044
Residual variance	0.340***	0.032	0.370***	0.030	0.237***	0.021
Between person (level 2)						
Monday negative affect	0.093	0.105	0.619***	0.151	−0.349**	0.106
Weekend sleep quality	−0.035	0.107	−0.480***	0.119	0.253**	0.083
Weekend catch-up sleep	0.080	0.106	0.118	0.107	−0.089	0.079
Weekend social sleep lag	0.100	0.143	0.260	0.153	0.005	0.115
Monday reattachment			−0.003	0.100	0.114	0.067
Residual variance	0.432***	0.053	0.443***	0.057	0.241***	0.038

[a]Coded 1 = *first week* to 4 = *last week*. Est. = unstandardized path estimate. $N = 310$ employees providing data on 933 weeks. Monday negative affect and week of data collection were included as control variables.
*$p < .05$, **$p < .01$, and ***$p < .001$.

TABLE 3 Results of two-level path analysis: within-person indirect effects.

Path	Est.	*SE*	95% CI
Weekend sleep quality → Monday reattachment → workweek exhaustion	**−0.018**	**0.009**	**[−0.040; −0.002]**
Weekend sleep quality → Monday reattachment → workweek task performance	0.010	0.007	[−0.003; 0.025]
Weekend catch-up sleep → Monday reattachment → workweek exhaustion	**0.007**	**0.004**	**[0.0001; 0.017]**
Weekend catch-up sleep → Monday reattachment → workweek task performance	−0.004	0.003	[−0.010; 0.001]
Weekend social sleep lag → Monday reattachment → workweek exhaustion	0.002	0.006	[−0.012; 0.016]
Weekend social sleep lag → Monday reattachment → workweek task performance	−0.001	0.003	[−0.011; 0.006]

Note: Est. = unstandardized path estimate obtained from two-level path analysis in Mplus 8.7 (Muthén & Muthén, 2017). CI = confidence interval computed using the Monte Carlo method with 20,000 simulations (Selig & Preacher, 2008). Confidence intervals that do not include zero are shown in bold.

overview of the within-person results. The first hypothesis stated that weekend sleep quality is positively related to Monday reattachment. Supporting Hypothesis 1, the path estimate from sleep quality to reattachment was positive and significant (unstandardized estimate [Est.] = 0.147, *SE* = 0.042, $p < .001$). In Hypothesis 2, we proposed that weekend (a) catch-up sleep and (b) social sleep lag are negatively related to reattachment on Monday. Supporting Hypothesis 2a, but not Hypothesis 2b, weekend catch-up sleep was significantly related to reattachment (Est. = − 0.055, *SE* = 0.024, $p = .023$) while social sleep lag was not (Est. = − 0.013, *SE* = 0.052, $p = .801$). The third hypothesis stated that reattachment on Monday is (a) negatively related to exhaustion and (b) positively related to task performance during the workweek. Indeed, reattachment was negatively associated with exhaustion (Est. = − 0.119, *SE* = 0.053, $p = .023$), providing support for Hypothesis 3a. However, we found no support for Hypothesis 3b as reattachment was not related to task performance during the workweek (Est. = 0.065, *SE* = 0.044, $p = .137$). To explore effect sizes, we investigated how much variance was explained in the variables of our path model by using the approach from Raudenbush and Bryk (1992). To do so, we compared our path model to a random-intercept null model and computed the amount of week-level variance that was explained in our variables (LaHuis et al., 2014). Results demonstrated that our path model explained 4.0% of week-level variance in reattachment, 1.1% of week-level variance in exhaustion, and 1.7% of day-level variance in task performance.

Hypotheses 4 to 6 referred to indirect effects. In Hypothesis 4, we proposed that weekend sleep quality is indirectly (a) negatively related to exhaustion and (b) positively related to task performance during the workweek via reattachment on Monday. We found support for Hypothesis 4a because the indirect effect from weekend sleep quality to exhaustion via reattachment was significant and negative (Est. = − 0.018, *SE* = 0.009, 95% confidence interval [CI] = [−0.040; −0.002]). However, Hypothesis 4b was not supported by the data (indirect effect from sleep quality to task performance via reattachment: Est. = 0.010, *SE* = 0.007, 95% CI = [−0.003; 0.025]). Hypothesis 5 stated that weekend catch-up sleep is indirectly (a) positively related to exhaustion and (b) negatively related to task performance during the workweek via reattachment on Monday. Indeed, the indirect effect from catch-up sleep to exhaustion via reattachment was positive and significant, supporting Hypothesis 5a (Est. = 0.007, *SE* = 0.004, 95% CI = [0.0001; 0.017]). However, the indirect effect to task performance was not significant, so Hypothesis 5b (indirect effect from catch-up sleep to task performance via reattachment: Est. = − 0.004, *SE* = 0.003, 95% CI = [−0.010; 0.001]) was not supported. Lastly, in Hypothesis 6, we assumed that weekend social sleep lag is indirectly (a) positively related to exhaustion and (b) negatively related to task performance during the workweek via reattachment on Monday. Neither Hypothesis 6a (indirect effect from social sleep lag to exhaustion via reattachment: Est. = 0.002, *SE* = 0.006, 95% CI = [−0.012; 0.016]) nor Hypothesis 6b (indirect effect from social sleep lag to task performance via reattachment: Est. = − 0.001, *SE* = 0.003, 95%-CI = [−0.011; 0.006]) was supported by the data. Taken together, we found evidence for two indirect effects via reattachment on Monday: weekend sleep quality was indirectly negatively related to workweek exhaustion (Hypothesis 4a) and weekend catch-up sleep was indirectly positively related to workweek exhaustion (Hypothesis 5a).

7.2 | Additional analyses

To further strengthen our results, we ran a series of robustness checks that are documented in detail in the online supporting information (see robustness checks and Tables S1–S3). In short, the robustness checks underscored the stability of the relations among weekend sleep quality, weekend catch-up sleep, Monday reattachment, and workweek exhaustion beyond previous-week sleep duration, employees' work location, and other prevalent workweek experiences (i.e., job demands and job resources). Having determined the robustness of our results, we ran three additional analyses. First, we examined whether cyclical effects exist. One could assume that not only weekend sleep characteristics relate to the workweek but also that the workweek relates to next weekend's sleep characteristics. Accordingly, we added the next weekend's sleep characteristics as outcomes in our existing path model (see Table S4). Because the weekend sleep characteristics now predict the next weekend's sleep characteristics,

the results describe changes in sleep characteristics from the previous to the next weekend. The results showed only two significant associations: both exhaustion (Est. = 0.281, *SE* = 0.068, *p* = .001) and task performance (Est. = 0.606, *SE* = 0.103, *p* < .001) positively predicted changes in weekend catch-up sleep. Thus, the results suggest that a vicious cycle might exist for weekend catch-up sleep: while higher weekend catch-up sleep was related to higher levels of exhaustion during the workweek via lower levels of reattachment on Monday (see Hypothesis 5a), higher levels of workweek exhaustion, in turn, predicted an increase in weekend catch-up sleep from the previous to the next weekend.

Second, we investigated whether Monday reattachment indirectly relates to workweek task performance. For this reason, we tested whether workweek exhaustion might explain the relationship between Monday reattachment and workweek task performance instead of representing a parallel outcome (see Table S5). The results demonstrated that lower levels of workweek exhaustion indeed related to higher workweek task performance (Est. = − 0.276, *SE* = 0.035, *p* < .001). Additionally, higher Monday reattachment indirectly predicted higher workweek task performance via lower levels of workweek exhaustion (Est. = 0.033, *SE* = 0.015, 95% CI = [0.005; 0.064]). Hence, the results of this additional analysis suggest that higher Monday reattachment can indeed relate to higher workweek task performance—but only indirectly via lower levels of workweek exhaustion.

Third, because boundary theory highlights the role of individual differences in transitioning between different roles (Ashforth et al., 2000), we investigated whether person-level segmentation preferences (Kreiner, 2006) change the relationships between weekend sleep characteristics and Monday reattachment. Specifically, we tested whether those who prefer to keep their private and work roles separate (i.e., employees with high segmentation preferences) might transfer fewer resources from their weekend to their workweek. To that end, we added segmentation preferences (four items; Kreiner, 2006) as a cross-level moderator for the associations between the three sleep characteristics and reattachment (see Table S6 and Figure S1). Interestingly, higher weekend sleep quality was related to higher Monday reattachment for employees with low (−1*SD*, Est. = 0.223, *SE* = 0.049, *p* < .001) and intermediate (*M*, Est. = 0.132, *SE* = 0.043, *p* = .002), but not high (+1*SD*, Est. = 0.004, *SE* = 0.055, *p* = .445) segmentation preferences. Accordingly, the benefits of high weekend sleep quality for Monday reattachment were not present for those who prefer to keep their private and work roles separate.

8 | DISCUSSION

Combining the tenets of boundary theory (Ashforth et al., 2000) with a circadian perspective and sleep research (Borbély, 1982; Borbély et al., 2016; Mullins et al., 2014), we investigated antecedents and outcomes of Monday reattachment to work. We proposed that higher weekend sleep quality indirectly relates to favorable workweek outcomes (lower levels of exhaustion, higher task performance) via higher levels of reattachment on Monday, while higher weekend catch-up sleep and social sleep lag indirectly relate to unfavorable workweek outcomes (higher levels of exhaustion, lower task performance) via lower levels of reattachment on Monday. Indeed, when employees slept better during the weekend, they reattached better to their work on Monday and, in turn, were less exhausted during the workweek. Contrarily, when employees tried to catch up on sleep during the weekend, they reattached less to their work on Monday and, in turn, were more exhausted during the workweek. Not supporting our assumptions, we found no relationships for weekend social sleep lag as an antecedent and for workweek task performance as an outcome of Monday reattachment.

8.1 | Theoretical implications

Our research suggests that reattachment on Monday can have implications for the entire workweek and thus can serve as a meaningful micro-role transition when crossing the boundary from the private role during the weekend to the work role during the workweek. Adding to previous research on daily morning reattachment (Sonnentag et al., 2020; Sonnentag & Kühnel, 2016; Vogel et al., 2022), our study provides further insights that tuning into work can enable employees to foster their work-related well-being. In particular, we emphasized that reattachment processes can cover extended time frames (Yuan et al., 2021) and that the accompanying benefits not only unfold at the day level but also on a weekly basis. That is, employees were less exhausted during the workweek, suggesting that reattachment seems to enable employees to better allocate their energetic resources at work. However, similar to day-level research demonstrating that morning reattachment only indirectly benefits daily task performance (Fritz et al., 2021), we found no direct relation between Monday reattachment and workweek task performance. Instead, our second additional analysis suggests that better reattachment is indirectly associated with better workweek task performance via lower levels of workweek exhaustion. We can only speculate that reattachment helps to effectively allocate resources during the workweek. Because of this resource allocation process, employees are less exhausted, enabling them to perform better. Accordingly, while workweek exhaustion might be a more proximal outcome of Monday reattachment, workweek task performance seems to be a rather distal outcome. As such, energetic resources may be directly related to reattachment processes while task-related outcomes only change as a consequence of low energetic resources. However, these findings do not depreciate the relevance of Monday reattachment as decreasing workweek exhaustion is of crucial importance for organizations to sustainably maintain the human capital needed at work (Barnes et al., 2023). Accordingly, our findings imply that experiences on Monday can set the tone for the entire week, thereby underscoring the relevance of investigating how employees can return to work after the weekend.

We further demonstrate how different facets of sleep matter for organizational behavior. By combining boundary theory (Ashforth et al., 2000) with sleep research (Borbély, 1982; Borbély et al., 2016),

we integrated a circadian perspective into the recovery literature. This circadian perspective on the work–nonwork interface is highly needed as circadian processes strongly influence employees' lives (Roenneberg et al., 2003). Still, circadian aspects such as timing and consistency in sleep have been largely neglected in organizational behavior research in general (with a few exceptions, e.g., Kühnel et al., 2016) and in research at the work–nonwork interface in particular (Völker et al., 2023; Zijlstra et al., 2014). Concerning weekend social sleep lag, we found none of the assumed relationships with Monday reattachment and workweek outcomes. We can only speculate that circadian misalignment arising from social sleep lag is more relevant as a person-level (Kühnel et al., 2016) or day-level (Völker et al., 2024) boundary condition for employees' well-being and behavior at work and does not critically impact the transition from one week to another. Importantly, however, higher weekend catch-up sleep was related to higher levels of workweek exhaustion via lower levels of Monday reattachment, and higher weekend sleep quality was indirectly related to lower levels of exhaustion throughout the workweek via higher levels of Monday reattachment. This result pattern is in line with previous research demonstrating the resource–restoring benefits of high-quality sleep (Leong & Chee, 2023; Mullins et al., 2014). Accordingly, weekend sleep can play a role in employees' entire workweek, highlighting the relevance of sleep as a core human recovery process.

Furthermore, we emphasize that weekend catch-up sleep relates to employees' role transition between their private and work roles (i.e., their reattachment). Specifically, catch-up sleep reflects a situation in which employees' cognitive and energetic resources are limited because of needed regulation to readapt to the workweek sleep–wake rhythm after the weekend (Borbély, 1982; Borbély et al., 2016). While employees who experience a mismatch between their circadian preferences and their work schedules might use catch-up sleep as a short-term solution to overcome their sleep deficit during the previous workweek (Roenneberg et al., 2003; Roepke & Duffy, 2010), our findings show that it can harm the next workweek via lower levels of reattachment on Monday. This result is in line with previous research suggesting that catching up on sleep is generally not a suitable strategy (Leger et al., 2020; Taylor et al., 2008). Our first additional analysis further underscored the drawbacks of catch-up sleep by suggesting a vicious cycle: Higher levels of workweek exhaustion—as an indirect result of weekend catch-up sleep—again predicted an increase in catch-up sleep the following weekend. Taken together, our findings imply that sleeping consistently long throughout the week is crucial for employees. Accordingly, organizational behavior research benefits from investigating circadian aspects of employees' sleep (e.g., consistency in sleep) and not just the sheer quality or duration.

Finally, our result pattern on sleep characteristics as antecedents of reattachment highlights that certain requirements must be met for employees to reattach to work successfully. On the one hand, high-quality sleep during the weekend positively related to Monday reattachment via a resource-building pathway, implying that reattachment depends on energetic and cognitive resources provided by high-quality sleep. On the other hand, high weekend catch-up sleep negatively related to Monday reattachment via a resource-draining pathway, implying that lacking energetic and cognitive resources due to inconsistency in sleep duration make reattachment more difficult for employees. Accordingly, to be able to reattach to work, employees need to control their attention to their work role and invest available resources. We speculate that reattachment does not happen automatically when starting work on Monday and can be demanding, so it must be initiated deliberately. Similar to psychological detachment, psychological reattachment might also be subject to a paradox. As described in the *recovery paradox* (Sonnentag, 2018), mentally detaching from work can recover depleted resources but, at the same time, employees also need to invest resources for detachment to set in. Our findings suggest a similar paradoxical pattern for reattachment. Monday reattachment might help to efficiently allocate limited resources to work and foster well-being throughout the week, but at the same time also seems to depend on the availability of energetic and cognitive resources (e.g., provided by sleep). Thus, our results suggest that reattachment itself might depend on replenished energetic and cognitive resources to reveal its benefits during the workweek, resulting in a paradoxical pattern.

8.2 | Limitations and directions for future research

Some limitations of our study must be considered. First, we relied on self-report data to measure our constructs of interest. Thus, our data might be subject to common-method bias such that the shared measurement method biased the relationship between the constructs (Podsakoff et al., 2003). To prevent common-method bias, we followed recommendations (Podsakoff et al., 2012) and temporally separated the assessment of our constructs by using two weekly surveys (i.e., measuring antecedents in the $Friday_{w-1}$ and $Monday_{w}$ surveys, reattachment in the $Monday_{w}$ survey and outcomes in the $Friday_{w}$ survey). At the same time, weekend catch-up sleep and social sleep lag were calculated based on employees' sleep times, and thus were assessed in a different response format. However, future research might further reduce concerns about common-method bias, for example, by obtaining other ratings of exhaustion (e.g., ratings from significant others, Fritz, Yankelevich, et al., 2010).

Second, we relied on difference scores to calculate weekend social sleep lag and catch-up sleep. On the one hand, we decided on this approach because using difference scores is common in chronobiological research (e.g., Leger et al., 2020; Wittmann et al., 2006) and its applications in organizational behavior research (e.g., Kühnel et al., 2016). On the other hand, alternative statistical procedures to model differences (e.g., multilevel response surface analysis; Nestler et al., 2019) would have resulted in more complex analytical models requiring larger sample sizes due to an extensive random-effects structure. However, difference scores also come with important methodological limitations that need to be acknowledged (Edwards, 2001). Difference scores have been criticized to, for example, be unreliable and oversimplify the notion of fit (Edwards, 1994, 2001). Even though we calculated a difference score based on clock times and

hours (i.e., absolute measures) and not psychological scales, the use of difference scores can still be accompanied by these relevant psychometric issues. To eliminate these concerns, future research could draw on recent developments in multilevel response surface analyses (Nestler et al., 2019) to model congruence between workweek and weekend sleep characteristics better and in more complex patterns.

Third, studying week-level processes enabled us to test an interesting new time frame but at the same time also yielded some limitations with respect to the level of detail of assessment. On the one hand, we retrospectively assessed employees' daily sleep characteristics at the end of the workweek and the weekend instead of every day. We chose this approach to reduce the participants' burden while still obtaining detailed sleep data for each day of the week. However, this retrospective assessment could be problematic if employees do not recall their sleep times in detail. To support the participants in reporting their daily sleep times, we provided them with a sleep diary in the general survey (i.e., a template to note their daily sleep times). However, we still cannot rule out recall errors when reporting sleep times. Accordingly, we encourage future research to (a) measure sleep objectively (e.g., using accelerometers; Kühnel et al., 2021) or (b) employ a fine-grained assessment within daily surveys. On the other hand, we focused on a weekly perspective and assumed that Monday reattachment relates to workweek exhaustion and task performance assessed on Friday. Accordingly, our study design resulted in a relatively large time lag between surveys (i.e., from Monday to Friday). Even though our robustness checks provided evidence that our results remained stable when controlling for other highly relevant weekly work experiences, we cannot ultimately rule out that other events or experiences during the workweek led to a spurious association between Monday reattachment and workweek exhaustion. Furthermore, we could not take into account simultaneous day-level reattachment processes or relevant explanatory mechanisms that mediate the relationship between Monday reattachment and workweek outcomes. Thus, we encourage future research to employ more fine-grained measures to, for example, disentangle week-level vs. day-level reattachment processes.

Fourth, the generalizability of our findings might be limited for two main reasons. On the one hand, we assessed our data during the COVID-19 pandemic. Research suggests that the social restrictions during the pandemic might have changed employees' sleep behavior. Specifically, working from home because of social restrictions enabled some employees to better follow their circadian preferences (Blume et al., 2020; Korman et al., 2020). At the same time, working from home might have led to a stronger blurring of one's work and private roles (Cho, 2020), potentially facilitating role transitions. However, because we were interested in within-person relationships rather than differences between persons, we suppose that these circumstances did not massively change our results. On the other hand, our sample was rather specific with regard to demographic variables. For example, our sample was predominantly female, possibly limiting generalizability to other genders. Additionally, only a small proportion of the sample lived with children in the same household. This characteristic of the sample might have occurred because we focused our research on a population that has some kind of control over their sleep schedules to be able to reliably assess circadian sleep processes (see Section 6). Thus, future research could employ objective measures to assess circadian processes (e.g., dim-light melatonin onset; Kantermann et al., 2015) to avoid excluding relevant groups of participants. Moreover, our sample only comprised employees working a common Monday to Friday work schedule. As a consequence, we cannot draw conclusions about employees working in shifts, with non-standard work arrangements, or even self-employed individuals. Finally, because we collected our data in Germany, there might also be cultural differences at play in terms of total weekly work hours or the rate of (not) working during the weekend (for comparisons between Europe and the United States, see Bick et al., 2019; Burda et al., 2006). In general, we encourage future research to replicate our findings in other samples and research settings that are not as strongly affected by the COVID-19 pandemic and also more representative of the entire working population to increase generalizability.

Beyond the abovementioned approaches to address the limitations of our study, we hope to inspire more research to study the work–nonwork interface and its relation to sleep. First, future research could dig more deeply into antecedents and mechanisms that enable or hamper employees' reattachment to work. Our results suggest that reattachment does not happen automatically and also depends on employees' cognitive and energetic resource availability. Future research could build on these results, for example, by more explicitly measuring mechanisms through which sleep benefits reattachment (e.g., cognitive liveliness, Shirom, 2011). Additionally, scholars could apply our results to other recovery opportunities as a prerequisite for reattachment. For example, future studies could investigate whether recovery experiences during the weekend or the previous evening matter for reattachment. While experiencing relaxation (i.e., low physiological arousal; Sonnentag & Fritz, 2007) might help increase energetic and cognitive resources similar to sleep quality and thereby benefit reattachment, experiencing detachment might represent higher role separation similar to catch-up sleep and thereby hamper reattachment.

Second, scholars could further investigate the role of weekend sleep and Monday reattachment in employees' entire workweek. We offered a starting point by demonstrating that weekend catch-up sleep relates to increased workweek exhaustion and weekend sleep quality relates to decreased workweek exhaustion via reattachment on Monday. However, going beyond our summarized measurement at the end of the week, it might be interesting to focus on temporal dynamics during the workweek. Similar to day-level research demonstrating that the effects of morning reattachment slightly decrease during the workday (Sonnentag & Kühnel, 2016), it might be that the effects of Monday reattachment fade over the course of the week. Consequently, it might be that the indirect effects of weekend sleep on employees' exhaustion are stronger at the beginning than at the end of the week. Accordingly, the benefits and drawbacks of weekend sleep might decline over the course of the week similar to daily fade-out effects of sleep quality (Hülsheger, 2016; Wiegelmann

et al., 2023). Future research might thus focus on the role of weekend sleep and Monday reattachment for exhaustion trajectories during the workweek (see Weigelt et al., 2021, for a similar approach) instead of using a summary assessment at the end of the week. Thereby, research could also incorporate certain unpredictable work events that might change these weekly trajectories or, in the case of extreme events, even lead to discontinuous change patterns (Bliese & Lang, 2016; Weigelt et al., 2021). Similarly, interventions could be developed to reduce the effects of unpredictable events by forming stable daily habits (e.g., with regard to sleep hygiene routines; Irish et al., 2015). Finally, while day-level studies have already pointed to mechanisms explaining why reattachment benefits employees' work outcomes (e.g., goal activation; Sonnentag et al., 2020), we could not provide such explanatory mechanisms at the week level. Accordingly, scholars could investigate which week-level experiences explain why Monday reattachment relates to workweek outcomes by drawing upon day-level insights (Fritz et al., 2021; Sonnentag et al., 2020).

Third, future research could further uncover the relevance of weekend catch-up sleep for employees' everyday work life. On the one hand, it would be interesting to consider weekend catch-up sleep as a predictor of other work-related outcomes (e.g., counterproductive work behavior or organizational citizenship behavior, Barnes et al., 2013) to further demonstrate how catching up on sleep during the weekend might harm subsequent organizational behavior. At the same time, it would be interesting to investigate possible short-term effects of catch-up sleep (e.g., decreased weekend exhaustion) to better disentangle its positive short-term and negative long-term effects. On the other hand, scholars could build on our findings suggesting vicious cycles for catch-up sleep by investigating which weekly characteristics increase or decrease sleep inconsistency (e.g., sleep hygiene, Barber et al., 2012).

8.3 | Practical implications

Besides its implications for research at the work–nonwork interface, our study also offers practical implications. First, our results suggest that mentally reconnecting to work on Monday matters for the entire workweek by relating to lower levels of workweek exhaustion. Accordingly, organizations could implement interventions or prompts that facilitate the transition from the weekend to the workweek. Similar to previous approaches to increase psychological detachment (e.g., Hahn et al., 2011), psychological reattachment can also be taught (Vogel et al., 2022) or increased via conversational bots (Williams et al., 2018). For example, employees might start the workweek by taking the first few minutes to reflect upon goals and planning the upcoming week. Such planning tasks might not only help increase reattachment to work but also benefit other organizational goals (Parke et al., 2018). Integrating psychological reattachment to work in a fixed morning routine can further benefit employees' experiences and behaviors (McClean et al., 2021). Accordingly, training or interventions directly targeting an increase in reattachment might help to foster employees' well-being during the workweek.

Second, we demonstrated that high-quality and consistent sleep during the weekend related to lower levels of exhaustion during the workweek via reattachment on Monday. Accordingly, organizations could implement interventions targeted at promoting sleep that also indirectly benefit reattachment as well as subsequent work-related well-being. Wearing blue-light filtering glasses before sleep, for example, constitutes a viable intervention that can increase sleep quality as well as sleep duration (Guarana et al., 2021). However, it is important to recognize that these interventions may not be equally effective for all employees. For example, our additional analysis suggests that the benefits of high-quality sleep for Monday reattachment are not as relevant for those with higher segmentation preferences. Furthermore, organizations need to recognize their employees' circadian preferences to prevent the need for weekend catch-up sleep. By increasing flexibility to follow circadian preferences during the workweek, employees' sleep deficit will decrease, thereby reducing the need to catch up on sleep during the weekend (Roenneberg et al., 2003; Roepke & Duffy, 2010). Lastly, more education on the interplay of circadian and homeostatic processes of sleep (Borbély, 1982; Borbély et al., 2016) is needed. Misconceptions about the relevance of timing and consistency of sleep are a widespread sleep myth (Robbins et al., 2019, 2022) and can even have detrimental effects in the organizational context by leading to biased supervisor ratings (Yam et al., 2014). Without knowing about the potential downsides of catch-up sleep, employees might mistake catch-up sleep for a viable strategy to overcome their sleep deficit instead of working on its cause.

9 | CONCLUSION

Building on the tenets of boundary theory (Ashforth et al., 2000) combined with a circadian perspective and sleep research (Borbély, 1982; Borbély et al., 2016; Mullins et al., 2014), we investigated antecedents and outcomes of Monday reattachment to work after a work-free weekend. Our findings suggest that high-quality sleep during the weekend can be beneficial, but catching up on sleep during the weekend can be detrimental to Monday reattachment and, in turn, indirectly to workweek exhaustion. Accordingly, we demonstrate that Monday reattachment can set the tone for the entire workweek, but the capability to reattach depends on weekend sleep as a core recovery process.

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CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest in conducting or reporting this research.

ETHICS STATEMENT

This research is compliant with APA ethical standards.

DATA AVAILABILITY STATEMENT

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

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