Does Being Creative Help Me Recover? An Experience Sampling Examination of Creative After-Work Activities' Influence on Positive Affect Through Mastery Experiences

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Abstract

Creative after-work activities are increasingly recognized as a valuable means of promoting recovery from work-related stress. However, the impact of creative after-work activities on positive affective outcomes, as well as the mechanisms and boundary conditions involved, remain underexplored. Therefore, this study investigated the relationship between creative after-work activities and next morning positive affect, taking the mediating role of evening mastery experiences into account. We also examined the moderating effects of daily work-related creative activities and individuals' need for competence in this relationship. Using an experience sampling approach, we collected data from 344 employees over a 14-day period and analyzed our data using multi-level regression modeling. Our results showed that engaging in creative after-work activities positively relates to evening mastery experiences, which in turn enhances positive affect the following morning. Contrary to expectations, neither daily work-related creative activities nor individuals' need for competence significantly moderated this relationship. Our study highlights the potential of creative after-work activities as a viable strategy for enhancing daily recovery from work, offering practical implications for individuals and organizational recovery interventions.

Does Being Creative Help Me Recover? An Experience Sampling Examination of Creative After-Work Activities' Influence on Positive Affect Through Mastery Experiences

In today's world, where digital screens dominate our lives, a growing number of people are turning to traditional hobbies like pottery, knitting, and crafting (Adams-Price & Morse, 2018; O'Brien, 2023). Once considered activities pursued by older generations, they are now being embraced by people of all ages, marking a trend toward personal fulfillment and stress relief. Particularly, being creative during free time has been linked to enhanced well-being, reduced mental health symptoms, and personal growth (Conner et al., 2018; Leckey, 2011). Creative activities encompass a broad range of engagements characterized by the generation of novel, useful, and generative ideas, or outcomes (Amabile & Pratt, 2016; Fink et al., 2009; Sternberg & Lubart, 1996). Contrary to common beliefs that creative activities are confined to arts and music, many activities, such as cooking or decorating, hold the potential for creativity (Alameer et al., 2023; Eschleman et al., 2014; Ivcevic, 2007). Thus, being creative is not just an act of production but unfolds in numerous ways, each offering unique opportunities to experience joy and recharge away from work.

Although the restorative value of being creative after work is apparent, it has not received substantial attention in recovery research until recently. A growing number of studies investigating recovery activities and experiences have primarily focused on hobby, physical, or social activities, leaving the influence of creative activities on work and health outcomes underexplored (De Bloom et al., 2018; Shen et al., 2018; Sonnentag, 2001; Winwood et al., 2007). Initial studies on creative after-work activities have established that they are associated with recovery experiences and well-being (Alameer et al., 2023; Eschleman et al., 2024, 2017). However, most studies on recovery activities have not differentiated creative activities from the broad category of hobbies, limiting clarity on their specific contributions to recovery (e.g., Winwood et al., 2007). Furthermore, most studies have relied on cross-sectional designs

providing little insight into the direction of the established link between creative activities and recovery (e.g., Eschleman et al., 2014). Yet, recovery processes vary within individuals day to day and should therefore be examined on a daily level allowing to capture fluctuations in recovery experiences and state-level well-being (Eschleman et al., 2017; Fritz & Sonnentag, 2005; Sonnentag et al., 2022). Recognizing these gaps, in their diary study, Alameer et al. (2023) recently introduced a taxonomy of recovery activity characteristics, differentiating creative activities from other recovery activities. In addition, they demonstrated that engaging in creative activities after work enhances next morning vigor – an affective state indicative of well-being and closely associated with work engagement (Schaufeli et al., 2006; Yik et al., 2011). Importantly, this effect was explained through mastery experiences (Alameer et al., 2023). Mastery experiences are associated with recovery by providing individuals with a sense of skillfulness, achievement, and challenge experienced outside of work (Ouyang et al., 2019; Sonnentag & Fritz, 2007).

With their study, Alameer et al. (2023) have laid the foundation for future research on creative after-work activities to gain a deeper understanding of how and when creative after-work activities support recovery. Therefore, the overall goal of this present study was to adopt an experience sampling approach in expanding upon Alameer et al.'s (2023) findings in three ways. First, our study examines positive affect as a crucial recovery outcome variable. While various work-related outcomes and affective states have been examined in creative recovery activity studies, positive affect has rather been neglected (Conner et al., 2018; De Bloom et al., 2018; Eschleman et al., 2014; Tuisku et al., 2016; Winwood et al., 2007). This is a significant gap, since positive affect is known as an important indicator for recovery from work (Sonnentag et al., 2008; Sonnentag et al., 2022), reflecting how concentrated, energetic, enthusiastic, and pleasureful employees start into a new workday (Watson et al., 1988). Importantly, positive affect as a result of recovery is of interest to both employees and employers

due to its vital role in enhancing job satisfaction, while reducing turnover intentions and burnout (Lyubomirsky et al., 2005; Thoresen et al., 2003). Thus, in our study, we not only aimed to replicate the established link between creative after-work activities and mastery (Alameer, 2023), but also explored whether creative activities foster positive affect via mastery experiences.

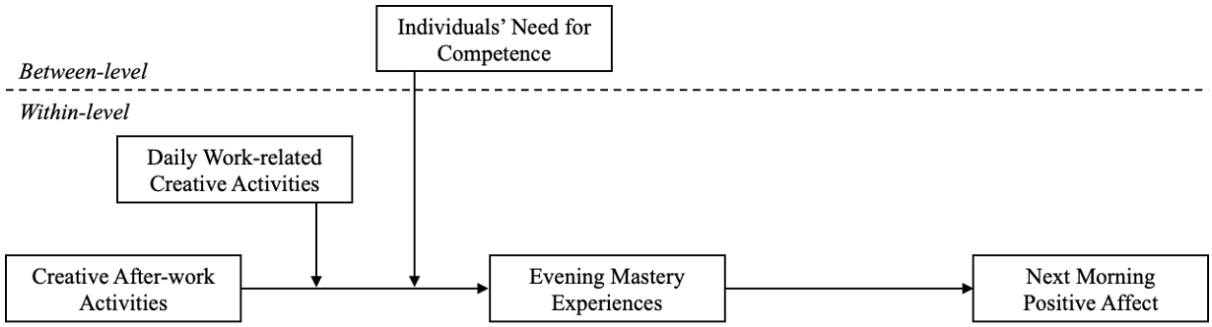
Second, as creative activities are demanding and require individuals to exercise at a certain level of skills (Csikszentmihalyi, 1997; Shalley et al., 2000), we aim to explore whether employees only experience recovery from these activities when they are not already drained from having to engage in work-related creative activities earlier in the day (Eschleman et al., 2017; Hobfoll, 1989; Sonnentag & Zijlstra, 2006). While initial studies have looked at how stable creative job requirements can impede recovery from creative after-work activities (Eschleman et al., 2017), no research, to date, has examined how daily fluctuations in work-related creative activities affect recovery experiences. Understanding how daily work-related creative activities impact the effectiveness of recovery with creative activities is crucial for designing recovery strategies that account for daily factors potentially hindering the recovery process.

Third, it remains unclear whether certain employees experience more beneficial recovery by engaging in creative after-work activities than others (De Jonge et al., 2018; Eschleman et al., 2014; Geurts & Sonnentag, 2006). Since need satisfaction is crucial for recovery, recovery effectiveness may be influenced by differences in individuals' need strength (Sonnentag et al., 2022; van Hooff & Geurts, 2015). Therefore, individuals' need for competence may be an important moderator, as for people with a stronger need for competence, creative after-work activities may be more beneficial. Research has already established that implicit achievement motives moderate the effect of competence-satisfying experiences on desired outcomes (Hofer & Busch, 2011; Hofer et al., 2008; Schüler et al., 2010). However, re-

search has yet to explore if a high need for competence strengthens the positive impact of creative after-work activities on evening mastery experiences. Identifying individuals' need for competence as a moderator could help choose creative after-work activities as a recovery strategy, as these activities may be particularly effective for people with a strong need for competence.

Figure 1

Research Model



Note. Arrows represent the direct, indirect, and moderation effects investigated.

Theory and Hypotheses

Are Creative After-work Activities Related to Mastery Experiences?

The *effort-recovery model* is the most prevalent theory used in the recovery literature to explain the recharging effects of leisure activities like creative activities (Meijman & Mulder, 1998). According to this theory, performing daily work tasks leads to psychological (e.g. mental fatigue) and physiological (e.g. increased heart rate) responses in the employee. These load reactions are reversible when work or similar demands are no longer present and the taxed psychophysiological system recovers to pre-demand level before an employee faces demands at work again (Geurts & Sonnentag, 2006; Meijman & Mulder, 1998; Sonnentag, 2001). Employees can actively contribute to the load-reversing process during after-work time by pursuing pleasureful activities that lead to specific recovery experiences – psychological

mechanisms that foster subjective well-being (Fritz & Sonnentag, 2005; Sonnentag, 2001; Sonnentag et al., 2022).

The potential of creative after-work activities in fostering an employee's recovery experiences has recently received considerable attention within recovery research (Alameer et al., 2023; Eschleman et al., 2014; Eschleman et al., 2017). In particular, initial studies have indicated that recovery activities that involve being creative are associated with the state of feeling more recovered at work (Eschleman et al., 2017) and alleviated work strain (Winwood et al., 2007). In addition, being creative has been previously associated with three of the four recovery experiences, namely mastery, control and relaxation (Eschleman et al., 2014). More specifically, engaging in more demanding recovery activities, like being creative, is most strongly associated with mastery experiences (Eschleman et al., 2014; Shen et al., 2018; Tuisku et al., 2016). Thus, people feel proud and competent about what they have created, like cooking a new dish or painting a picture (Sonnentag & Fritz, 2007). Moreover, recent findings by Alameer et al. (2023) underscored the positive impact of creative after-work activities on evening mastery experiences. Drawing from the *effort-recovery model* and empirical evidence we aim to replicate the results of Alameer et al.'s (2023) study.

Hypothesis 1: *Creative after-work activities are positively related to evening mastery experiences.*

Are Creative Activities Related to Positive Affect via Mastery Experiences?

Successful recovery from work-related stress is reflected in positive subjective well-being outcomes like positive affect (Binnewies et al., 2009; Sonnentag et al., 2022). In line with the *effort-recovery model*, positive affect may result from reversed load reactions as part of the recovery process (Diener et al., 2010; Meijman & Mulder, 1998; Sonnentag, 2015). In

other words, if employees' psychobiological systems return to their baseline level of functioning through recovery experiences in the evening, they wake up the next day feeling positively active and full of energy to accomplish effortful work tasks (Meijman & Mulder, 1998; Sonnentag et al., 2022).

Feeling good is widely known to result from mastery experiences, such as accomplishing goals and successfully tackling challenges after work (Pillemer et al., 2007; Sonnentag & Fritz, 2007). In line with this, meta-analytic evidence by Bennett et al. (2018) showed that mastery experiences are positively linked to vigor, a well-being state closely associated with positive affect due to its positive affective and energetic nature (Diener et al., 2010; Shirom, 2011). Furthermore, prior empirical research has shown a positive relationship between mastery experiences and specific positive affective states (Fritz et al., 2010; Ouyang et al., 2019; Sonnentag et al., 2008). Specifically, research has demonstrated that weekend mastery experiences are associated with feelings of joviality (i.e. feeling upbeat, happy, and excited) and serenity (i.e. feeling calm and at ease) at the beginning of the workweek (Fritz et al., 2010). In a similar vein, evening mastery experiences have been associated with feeling energized the following morning – a high-activated positive affect (Ouyang et al., 2019; Sonnentag et al., 2008). Building on the *effort-recovery model* and prior research that has linked mastery with specific positive affective states, our study investigates next morning positive affect as an outcome variable, seeking to extend the findings by Alameer et al. (2023).

Hypothesis 2: *Evening mastery experiences are positively related to next morning positive affect.*

Taken together, since creative after-work activities can induce evening mastery and mastery in turn may help employees feel more positive affect in the morning, we propose that

mastery experiences mediate the relationship between creative after-work activities and positive affect. Findings on leisure activities in general have shown that leisure activities foster mastery experiences which thereby enhance positive affect (Newman et al., 2014). Furthermore, similar findings on a specific positive affective state have shown that the relationship between creative after-work activities and vigor is mediated by mastery experiences (Alameer et al., 2023).

Hypothesis 3: *The relationship between creative after-work activities and next morning positive affect is mediated by evening mastery experiences.*

Who Gains Most from Creative After-work Activities?

Daily Work-related Creative Activities as a Moderator

After-work activities that draw on the same psychobiological systems as those used at work may impede recovery experiences because people are likely to be exhausted by already having used those systems to tackle work demands (Meijman & Mulder, 1998; Sonnentag, 2001). Consequently, if a job heavily utilizes systems for creative tasks, like cognitive and motor systems, using the same systems for creative after-work activities is less likely to unleash mastery experiences since these systems are overtaxed and need to be recovered (Eschleman et al., 2017; Sonnentag & Zijlstra, 2006). In other words, people may perceive creative tasks as prolonged exposure to work demands, which could then impede recovery during after-work time (Meijman & Mulder, 1998). Indeed, unexpected results in recovery research have been explained by differences in occupation types that may interact with the recovery process. In particular, Sonnentag and Zijlstra (2006) observed varying relationships between after-work activities and the need for recovery, suggesting that after-work activities that demand the same systems as one's job further increase strain. Similarly, Kim et al. (2017) found that cognitive after-work activities – typically considered to be beneficial for recovery –

could have paradoxical effects, intensifying the negative impact of job demands when demanding the same cognitive systems as work tasks.

To date, only one study by Eschleman et al. (2017) has considered the moderating role of creativity at work on the effectiveness of creative after-work activities. Specifically, they found that the positive impact of creative after-work activities on the state of feeling recovered at work was moderated by occupational requirements for creativity. In other words, employees who faced low creative demands at work felt more recovered following creative activities. Taking Eschleman and colleagues' study on the moderation effect of creative requirements into account, in the present study we examine whether engaging in daily work-related creative activities can act as a moderator in the relationship between creative after-work activities and evening mastery experiences.

> **Hypothesis 4:** *Daily work-related creative activities moderate the positive relationship between creative after-work activities and evening mastery experiences such that this positive relationship is weaker when one already actively engaged in work-related creative activities that day.*

Individuals' Need for Competence as a Moderator

Within the *basic psychological needs theory*, individuals' need for competence is identified as one of the three innate psychological needs and is characterized by an individual's drive to develop and refine competencies (Deci & Ryan, 2000; Vansteenkiste et al., 2020). Satisfying these needs is believed to enhance the experience of well-being (Ryan, 1995). Consequently, the extent to which individuals benefit from creative after-work activities in terms of recovery may differ based on differences in their need strength (Sonnentag et al., 2022; van Hooff & Geurts, 2015). More specifically, employees with a high need for competence may experience more mastery from being creative after work because their need to develop and

apply new skills drives deeper involvement in the activity, leading to greater mastery experiences (Ryan, 1995; Vansteenkiste et al., 2020).

Although the potential moderating role is apparent, no prior research has examined individuals' need for competence as a moderator in recovery processes. Thus, drawing from *basic psychological needs theory* we expect a differential impact of creative after-work activities on mastery experience depending on the strength of individuals' need for competence.

Hypothesis 5: *Individuals' need for competence moderates the positive relationship between creative after-work activities and evening mastery experiences such that this positive relationship is stronger for individuals with a higher (vs. lower) need for competence.*

Method

Sample and Procedure

This study obtained approval from the ethical review board of Maastricht University (OZL_277_21_02_2024) as part of a larger research project on recovery from daily work demands. Overall, 411 individuals showed initial interest in our study and 35 of them agreed to participate but did not finish the intake survey. A further 28 participants did not participate in any daily surveys and four were excluded because they reported to work less than 20 hours a week. Therefore, the final sample included 344 employees who had completed the intake survey and at least one daily survey (response rate = 83.7%). From the 344 respondents, 66.3% were female and the average age was 33.37 (*SD* = 12.03). More than 78.2% of participants had obtained a university diploma (2.6% Doctoral degree, 40.1% Master's degree, and 35.5% Bachelor's degree), while 10.5% completed a vocational degree and 11.3% secondary or high school degree. Participants worked in various sectors, with the highest percentages in education and research (18.9%), followed by consultancy and human resources (10.8%), healthcare

(10.2%), accountancy and finance (8.7%), service (7.8%), business and sales (6.1%). The average tenure was 6.08 years (*SD* = 9.04). Participants came from diverse countries, predominantly Germany (45.64%), the Netherlands (25.87%), and China (6.39%).

Participants were recruited via convenience sampling from personal networks, social media and face-to-face meetings. Eligibility criteria included a minimum age of 18 years and working at least 20 hours weekly. Participants who completed the study, including a follow-up survey, were compensated a maximum of 30 Euros, depending on the number of surveys they completed. Data collection took place between April and July 2024. We collected data over a 14 day-period, starting with an intake survey followed by a period of two consecutive weeks (ten working days) with three measurements per day: end of work (available from 3:00 p.m. to 8:00 p.m.), bedtime (available from 8:00 p.m. to 1:00 a.m.) and morning (available from 6:00 a.m. to 12:00 p.m.). Surveys were distributed through the mobile application Avicenna, allowing daily reminders as well as ease of access and survey completion. All questionnaires were provided in English, German, and Dutch.

Measures

Measures were adjusted to daily context from previously validated scales. For the translations, we used validated versions for our scales or applied a translation and back-translation procedure (Brislin, 1970). The baseline survey included items on participants' demographics and individuals' need for competence. Daily surveys included daily work-related creative activities (measured at the end of work), creative after-work activities and evening mastery experiences (measured at bedtime), and next morning positive affect (measured next morning).

Individuals' need for competence (need strength) was measured with three items from the Balanced Measure of Psychological Needs Questionnaire (Sheldon et al., 2001 in Chen et al., 2015). The wording of the items was adapted to make it applicable to the context of this study. An example item is "It is important to me that I can successfully complete difficult

tasks and projects." Participants responded to the items on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha was 0.71.

Creative after-work activities were measured using the two items of the Recovery Activity Characteristics Questionnaire (Alameer et al., 2023) suited to capture creative activities after work. An example item is "Today after work, to what extent did you engage in activities that allowed you to be creative?". The items were rated on a scale from 1 (*not at all)* to 5 (*to an extremely large extent*). Cronbach's alpha was 0.9 (averaged across the study days).

Daily work-related creative activities were measured using adapted versions of two items from the Recovery Activity Characteristics Questionnaire (Alameer et al., 2023) to capture creative activities during work ("Today during work, to what extent did you engage in activities that …"). The items were rated on a scale from 1 (*not at all)* to 5 (*to an extremely large extent*). Cronbach's alpha was 0.92 (averaged across the study days).

Evening mastery experiences were assessed with three selected and reformulated items from the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007 in Bakker et al., 2015) suited to measure recovery experiences in the evening. An example item is "Today, during my off-job time, I learned new things." Participants responded to the items on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha was 0.77 (averaged across the study days).

Next morning positive affect was measured using the positive affect subscale of the Positive and Negative Affect Schedule (Watson et al., 1988 in Sonnentag et al., 2008) suited to measure daily positive affect in the morning (i.e. "Right now, I feel …"). We selected six items namely "active", "interested", "excited", "strong", "inspired", and "alert". The rating scale ranged from 1 (*not at all*) to 5 (*extremely*). Cronbach's alpha was 0.88.

Statistical Analysis

To analyze our multi-level data (daily measurements nested within individuals) we conducted multilevel regression modeling using the statistics software SPSS version 29.0.1.0.

The intra-class correlation coefficient (ICC; the proportion of variance that can be attributed to differences between individuals) ranged from 41 to 62% in our day-level variables (see Table 1). The Level 1 predictors (creative after-work activities and evening mastery experiences) and daily work-related creative activities as Level 1 moderator were centered around the person-mean to ensure that they contain within-person variability only, aligning to the respective hypotheses on within-person level. The Level 2 variable need for competence was grand-mean centered. We modeled our predictors using fixed slopes for direct and indirect effects (Hypotheses 1 - 3) and the Level 1 interaction effect (Hypothesis 4). We modeled random slopes for the cross-level interaction effect (Hypothesis 5). To estimate indirect effects, we used MLmed Beta 2 in SPSS.

Results

The means, standard deviations, ICCs and inter-correlations between study variables are presented in Table 1. Table 2 shows the multi-level analysis results for Hypotheses 1, 2 and 3 (direct and indirect effects). Creative after-work activities were significantly positively related to evening mastery experiences (Model 1: $\gamma = .31$, $p = <.001$). Therefore, Hypothesis 1 was confirmed. Furthermore, evening mastery experiences were positively related to next morning positive affect (Model 2: $\gamma = .06$, $p = .002$), confirming Hypothesis 2. Accordingly, we found that evening mastery experiences mediated the relationship between creative after-work activities and next morning positive affect (Model 3: $\gamma = .02$, $p = .00$), thereby supporting Hypothesis 3.

Table 1

Means, Standard Deviations, ICCs and Correlations among Study Variables

Variables	*M*	*SD*	ICC	1	2	3	4
Level 1							
1. Creative after-work activities	2.00	0.95	0.48	-	.29**	.04	.05*
2. Evening mastery experiences	2.82	0.93	0.41	.60**	-	.08**	.02
3. Next morning positive affect	2.74	0.84	0.56	.43**	.49**	-	.06**
4. Daily work-related creative activities	2.37	1.02	0.62	.65**	.45**	.41**	-
Level 2							
Individuals' need for competence	4.43	0.54	-	-	-	-	-

Note. M = Mean. *SD* = Standard deviation. Correlations at the between-person level are indicated below the diagonal. Correlations at the within-person level are indicated above the diagonal. * p<.05 ** p<.01 *** p<.001 (two-tailed).

Table 2

Multilevel Results for Direct and Indirect Effects (Hypotheses 1 – 3)

	Model 1		**Model 2**		**Model 3**	
	Estimate	*SE*	Estimate	*SE*	Estimate	*SE*
Intercept	2.80***	0.04	2.76***	0.04	1.33***	0.14
Creative after-work Activities	0.31***	0.02	-	-	0.01	0.02
Evening mastery experiences	-	-	0.06**	0.02	0.06**	0.02
Indirect effect	-	-	-	-	0.02***	0.01

Note. *SE* = Standard error. * p<.05 ** p<.01 *** p<.001. The dependent variable of Model 1 is evening mastery experience. The dependent variable of Model 2 and 3 is next morning positive affect. The indirect effect shows the effect of creative after-work activities and next morning positive affect via evening mastery experiences.

Furthermore, Table 3 shows the interaction results. Hypothesis 4 predicted that the relationship between creative after-work activities and evening mastery experiences is moderated by daily work-related creative activities. Results show that the relationship between creative after-work activities and evening mastery experience was not moderated by daily work-related creative activities (Model 4: $\gamma = .02$, $p = .63$). Therefore, Hypothesis 4 was not confirmed.

Table 3

Interaction Results (Hypothesis 4)

	Model 4	
	Estimate	*SE*
Intercept	2.79***	0.04
Creative after-work activities	0.31***	0.03
Daily work-related creative activities	0.00	0.03
Interaction effects		
Creative after-work activities x daily work-related creative activities	0.02	0.04

Note. SE = Standard error. * p<.05 ** p<.01 *** p<.001. The dependent variable of Model 4 is evening mastery experiences.

Cross-level interaction results are shown in Table 4. We proposed that the relationship between creative after-work activities and evening mastery experiences is moderated by individuals' need for competence. The moderation effect of individuals' need for competence was also not significant (Model 5: $\gamma = .09$, $p = .11$). Thus, Hypothesis 5 was not confirmed. The results of all individual path coefficients are displayed in Figure 2.

Table 4

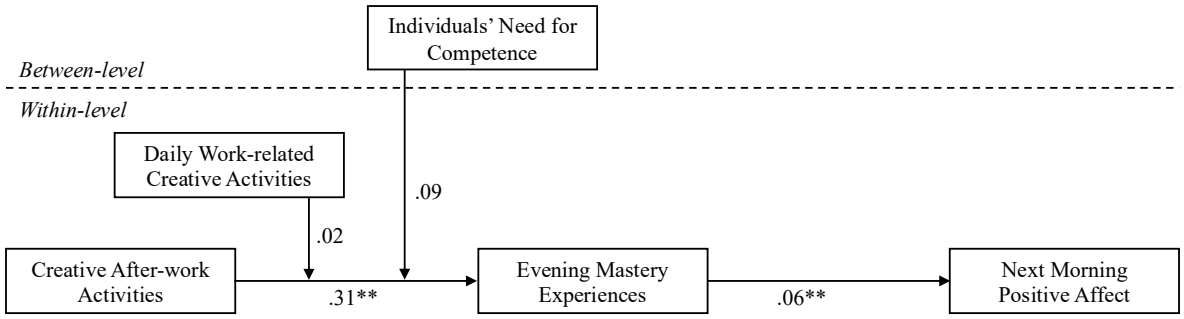
Cross-level Interaction Results (Hypothesis 5)

	Model 5	
	Estimate	*SE*
Fixed effects		
Intercept	2.80***	0.04
Creative after-work activities	0.30***	0.03
Individuals' need for competence	0.17*	0.07
Cross-level interaction effects		
Creative after-work activities x individuals' need for competence	0.09	0.06
Random effects		
Intercept variance	0.36***	0.03
Creative after-work activities	0.06***	0.02

Note. SE = Standard error. * p<.05 ** p<.01 *** p<.001. The dependent variable of Model 5 is evening mastery experiences.

Figure 2

Single Path Coefficients



Note. For the indirect effect of creative after-work activities on next morning positive affect via evening mastery experience the estimate is 0.02 (p = .01).

Discussion

This study aimed to examine the influence of creative after-work activities on next morning positive affect as a desirable recovery outcome. In particular, we examined whether creative after-work activities are positively related to mastery experiences in the evening.

Moreover, we expected evening mastery experiences to be associated with an increase in next morning positive affect. We also tested whether evening mastery experiences mediate the relationship between creative after-work activities and next morning positive affect. As creative after-work activities may not translate to evening mastery experiences on any given workday, we argued that engaging in daily work-related creative activities weakens the relationship between creative after-work activities and evening mastery experiences. Lastly, since individual differences may impact the recovery process, we explored the role of individuals' need for competence to strengthen the relationship between creative after-work activities and evening mastery experiences.

Our results showed support for the positive relationship between creative after-work activities and evening mastery experiences (Hypothesis 1); therefore, replicating findings from earlier studies (Alameer et al., 2023; Eschleman et al., 2014; Eschleman et al., 2017). Thus, in line with the *effort-recovery model*, creative after-work activities may effectively reverse load reactions accumulated during the workday (Meijman & Mulder, 1998). This finding underscores the potential of creative after-work activities to function as a recovery activity as they enable mastery experiences for employees in the evening after a workday.

Support was also found for Hypothesis 2, showing that evening mastery experiences were indeed positively related to next morning positive affect. Thus, while the positive impact of mastery experiences on specific other positive affect outcomes like vigor (Bennett et al., 2018), joviality and serenity (Fritz et al., 2010), as well as high-activated positive affect (Ouyang et al., 2019; Sonnentag et al., 2008) was already known, our results advance the recovery literature by showing that evening mastery experiences can also facilitate next morning positive affect. Moreover, our results show that evening mastery functioned as a mediating recovery experience in the relationship between creative after-work activities and next morning positive affect (Hypothesis 3), extending previous findings on the mediating role of

mastery experiences in the recovery process. In particular, this result aligns with prior research by Newman et al. (2014), who emphasized the role of leisure activities in fostering positive affect via mastery experiences. Our study extends these insights by demonstrating that creative after-work activities as a specific leisure activity hold the potential to facilitate next morning positive affect via evening mastery experiences. Furthermore, our findings resonate with Alameer et al. (2023), who also examined mastery experiences' mediating role and showed that creative after-work activities are particularly effective in fostering mastery experiences, thereby enhancing vigor. Taken together, the significant direct and indirect effects of creative after-work activities on next morning positive affect highlight that more demanding recovery activities, such as those involving creativity, are particularly potent in facilitating well-being outcomes including next morning positive affect. Evening mastery experiences function as a crucial mediator in this relationship.

Regarding our moderation hypotheses, we found that daily work-related creative activities did not moderate the positive relationship between creative after-work activities and evening mastery experiences (Hypothesis 4). This may appear surprising, particularly considering Eschleman and colleagues' findings, which revealed that having creative demands at work hinders the recovery benefits from creative after-work activities (2017). However, our study critically departs from their study: we assessed daily work-related activities while they measured the average creative requirements in one's work. Interestingly, our study found that 62% of the variance in work-related creative activities occurs at the between-level, suggesting these activities are relatively stable and largely dependent on the type of job rather than fluctuating daily. This could explain why studies examining between-level variations yield different results compared to those focusing on day-to-day fluctuations like ours. Alternatively, the lack of a significant moderation effect could also suggest that work-related creative activities and creative after-work activities tax different psychobiological systems due to different types of creative activities pursued at work compared to after work (Meijman & Mulder, 1998). For

instance, creating a PowerPoint presentation at work might primarily engage cognitive systems, whereas painting a large canvas after work may primarily stimulate motor systems. In summary, our findings could not reveal an impeding effect of work-related creative activities on the link between creative after-work activities and mastery experiences on a daily basis. This suggests that creative activities after work may be an effective recovery strategy, regardless of whether individuals already engaged in creative activities during work.

In addition, we found that individuals' need for competence did not moderate the relationship between creative after-work activities and evening mastery experiences (Hypothesis 5). Given that individuals with a high need for competence were expected to experience more mastery from engaging in creative after-work activities due to their inherent drive to improve their competencies (Deci & Ryan, 2000; Vansteenkiste et al., 2020), the lack of an interaction effect is surprising. Importantly, participants generally reported very high levels of need for competence ($M = 4.43$; $SD = 0.54$). The high average and low variation of individuals' need for competence in our sample may represent a ceiling effect that could have obscured the moderation effect (Šimkovic & Träuble, 2019; Wang et al., 2008). This ceiling effect potentially reflects the high educational level of our sample, as 78.3% of participants held a university diploma. Notably, individuals with a strong need for competence may seek out environments that enable them to demonstrate and enhance their competencies, such as university education (Deci & Ryan, 2000; McClelland, 1965). Thus, it is plausible that those who pursue higher education may have a stronger need for competence, as seen in our sample. Alternatively, the link between creative after-work activities and evening mastery experiences may not be affected by differences in individuals' need for competence because creative activities are not primarily seen as opportunities to feel competent (Baum & Baumann, 2018; Benedek et al., 2020; Richards et al., 1988). Consequently, individuals with a high (vs. low) need for competence would not show more involvement in creative activities as evidenced by a

stronger positive relationship between creative after-work activities on evening mastery experiences. Instead, individuals could also perceive creative activities as chances to express oneself (Baum & Baumann, 2018; Leckey, 2011), be mindful (Dhiman, 2012), or be fully immersed in an activity (Csikszentmihalyi, 1997). This different perception would help explain why the impact of creative activities on mastery remains unaffected by individuals' need for competence. Taken together, the non-significant interaction effect of individuals' need for competence shows that although people may vary in how much creative after-work activities enhance evening mastery experiences, creative after-work activities may be equally beneficial for individuals, regardless of their level of need for competence.

Limitations and Future Research

Our study's findings need to be interpreted in the light of its limitations. First, a potential interaction effect of individuals' need for competence on the link between creative after-work activities and evening mastery experiences may be concealed by the ceiling effect of the need for competence measure in our data (Wang et al., 2008). Consequently, the characteristics of our sample could have made it very difficult to detect an interaction effect. Future research could aim to include a more diverse sample by recruiting individuals with more diverse educational backgrounds to reassess the impact of individuals' need for competence on recovery with creative activities.

Second, participants might have been unaware of creative elements in their daily activities, especially regarding work-related activities. The items of the Recovery Activity Characteristics Questionnaire (Alameer et al., 2023) ask participants whether they were being creative without sensitizing people to the fact that many activities, such as preparing an interactive presentation or solving a problem in an innovative way, contain creative elements. This may have led to low item scores, as evidenced by the means and standard deviations of creative after-work activities ($M = 2.00$; $SD = 0.95$) and daily work-related creative activities ($M = 2.37$; $SD = 1.02$). Thus, the occurrence of a slight floor effect in measuring creative activities in this

study might explain why the moderation effect could not be observed (Šimkovic & Träuble, 2019). Future research could use an adapted version of the items of the Recovery Activity Characteristics Questionnaire to highlight that activities can include creative elements or provide examples of such elements within activities.

Third, we did not take into account that individuals may prefer certain recovery activities depending on their needs (Alameer et al., 2023). Thus, future studies could explore individuals' need for competence as an antecedent of creative after-work activities. Individuals with a high need for competence may be more motivated to engage in these activities in the first place, as they provide opportunities to apply and develop new skills (Deci & Ryan, 2000; Vansteenkiste et al., 2020). In line with this, studies have already identified other personality traits as antecedents for recovery activities. For instance, Alameer and colleagues (2023) showed that openness to experience was an antecedent of creative after-work activities. Furthermore, a study by Ten Brummelhuis and Trougakos (2014) demonstrated that high intrinsic motivation for leisure activities is linked to stronger recovery experiences induced by these activities.

Lastly, our study only looked at mastery as a mediating recovery experience. Future research could look at additional mechanisms through which creative after-work activities facilitate recovery. Given that such activities may induce a flow state, revisiting Alameer and colleagues' (2023) study on the link between creative after-work activities and psychological detachment in the evening could make a significant contribution to research on creative activities. Psychological detachment involves disengaging mentally from work during leisure time (Sonnentag, 2015). Although previous results did not find a significant link (Alameer et al., 2023), the principles of flow theory (Csikszentmihalyi, 1997) suggest that individuals deeply involved in creative activities are likely to experience disengagement from work-related thoughts and stressors.

Practical Implications

Our study underscores the significant impact of creative after-work activities on employees' recovery experiences in the evening and mood enhancement on the next workday. From a practical perspective, this is promising because creative activities can be integrated into employees' leisure activities with minimal investment in costs and time (Ilha Villanova & Pina e Cunha, 2021; Ivcevic, 2007). The increasing popularity of offerings such as knitting classes, pottery workshops, and art clubs makes it convenient for individuals to explore creativity during their free time (Adams-Price & Morse, 2018; O'Brien, 2023).

Even engaging in creative activity at work does not seem to limit the effect of creative after-work activities on the experience of mastery in the evening. In addition, employees with a low need for competence did not benefit less from creative activities during leisure time. Therefore, organizations that aim to have a workforce that is full of energy at the start of each workday should educate all their employees about the advantages of engaging in creative activities. We suggest that employers include information about creative activities in recovery training programs. These interventions are designed to enhance employee's understanding and attitudes about recovery and have been shown to facilitate improved recovery experiences for employees (Hahn et al., 2011; Sreeram et al., 2021). In line with this, studies revealed that creative activities as part of stress intervention programs are effective in reducing stress (Martin et al., 2018; Moss et al., 2022).

In addition to including creativity in recovery training programs, organizations should foster a culture that encourages employees to engage in creative activities in their free time. Studies showed that leaders play a crucial role in developing such a culture by setting norms that prioritize recovery activities over working during free time (Bakker et al., 2013; Fry & Cohen, 2009). Thus, we recommend that leaders demonstrate their support for recovery activities that foster creativity. Leaders could endorse creativity by allocating a budget for em-

ployee after-work events such as painting or cooking workshops. Furthermore, gifts that promote creativity, such as pottery sets for new hires, could further aid employees in their recovery efforts. Hence, our findings inform employees and leaders about the benefits of creative activities after work and advance existing recovery-based interventions by including creative activities.

Conclusion

Our study found that creative after-work activities significantly enhance evening mastery experiences, which in turn positively influence positive affect the next morning. These findings underscore the potential of creative activities as an effective recovery strategy, promoting affective well-being and preparing individuals for the next workday. Although the expected moderating roles of daily work-related creative activities and individuals' need for competence were not supported, the effect of creative after-work activities on experiencing mastery in the evening was evident. Future research should explore antecedents like personality traits, examine the impact of creative after-work activities in a more diverse sample, and investigate additional mechanisms like psychological detachment to further understand how being creative fosters recovery and well-being.

Declaration of the Use of Generative AI in the Writing Process

During the preparation of this master thesis I, Nicola Ronja Aumüller, used ChatGPT in order to improve the phrasing of sentences and check for grammar as well as spelling mistakes. I also used ChatGPT to fix code issues in the process of data cleaning and analysis. After using ChatGPT, I reviewed and edited the content as needed and I take full responsibility for the content of the publication.

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