Do Recovery Activities Buffer the Link between Unfinished Tasks and Psychological Detachment?

Ria Ashish Kaldhone

s5098645

Department of Psychology, University of Groningen

PSB3E-BT15: Bachelor Thesis

Group 29

Supervisor: Dr. Oliver WeigeIt

Second evaluator: Prof. Martin Manchev

June 18, 2025

Abstract

This thesis investigates how different types of recovery activities relate to the association between unfinished work tasks and psychological detachment from work which is the ability to mentally disengage during non-work time. Grounded in the Zeigarnik effect and in the operationalization of distinct recovery activity types, it was hypothesized that unfinished tasks would be negatively associated with psychological detachment, and that certain recovery activities — such as physical, creative, or outdoor activities — would buffer this relationship. In contrast, virtual recovery activities (e.g., screen-time) were expected to be less effective or potentially detrimental. Data were collected from 94 working individuals via an online survey. Multiple regression analyses revealed no significant association between unfinished tasks and psychological detachment, nor any moderating effects of the seven recovery activity types. Although the main hypotheses were not supported, exploratory analyses suggested that engaging in spiritual recovery activities may still be positively associated with psychological detachment. These findings suggest the link between unfinished tasks and recovery is more complex than often assumed in cross-sectional designs. Future research should employ longitudinal, within-person methodologies to further clarify these dynamic relationships.

Keywords: psychological detachment, unfinished tasks, recovery activities, Zeigarnik effect

Do Recovery Activities Buffer the Link between Unfinished Tasks and Psychological Detachment?

Unfinished tasks are a prevalent feature of modern work environments and have been consistently linked to impaired recovery outcomes. Specifically, they are associated with reduced psychological detachment (Syrek et al., 2017; Weigelt et al., 2019) which is the ability to mentally disconnect from work during non-working hours (Sonnentag & Fritz, 2007). Psychological detachment plays a critical role in employee well-being by allowing individuals to replenish depleted cognitive and emotional resources. A lack of detachment has been linked to higher stress levels, impaired sleep quality, and a greater risk of burnout (Kinnunen et al., 2011).

Building on the Zeigarnik effect, which posits that people remember and dwell on incomplete tasks more than completed ones (Zeigarnik, 1927), recent research suggests that unfinished tasks remain cognitively active and may trigger persistent work-related thoughts outside of working hours (Syrek et al., 2017). This impedes the mental switch-off required for psychological recovery. For instance, Syrek and colleagues (2017) found that employees with more unfinished tasks at the end of the week experienced increased rumination and poorer sleep quality over the weekend.

While unfinished tasks have been linked to negative recovery outcomes, the specific relationship between unfinished tasks and psychological detachment has received relatively limited direct empirical attention. Studies such as Sonnentag and Bayer (2005) and Weigelt and Syrek (2017) often focus on related constructs like rumination or sleep quality rather than psychological detachment per se. This suggests that the direct link between unfinished tasks and psychological detachment remains underexplored, highlighting a gap in the current literature. Accordingly, there has been limited exploration of the factors that might buffer this relationship.

One promising direction is the examination of recovery activities as potential moderators. Earlier research often conceptualized recovery as a unitary process, focusing on general indicators like relaxation and detachment (Sonnentag & Fritz, 2007). However, more recent studies such as Alameer et al. (2023) and Headrick et al. (2022) emphasize the need to differentiate between distinct recovery activity types, recognizing their unique contributions to recovery processes.

The present study aims to investigate whether specific types of recovery activities moderate the relationship between unfinished tasks and psychological detachment. Rather than conceptualizing recovery as a general construct, we distinguish between seven recovery activity types — physical, social, creative, mental, spiritual, virtual, and outdoor — as proposed by Alameer et al. (2023). Hence, understanding which specific recovery activities are most effective in mitigating the effects of unfinished tasks on psychological detachment may provide valuable insights into factors that promote well-being, even in the face of unfinished tasks.

Theoretical Background

The Link Between Unfinished Tasks and Psychological Detachment

According to the Zeigarnik effect, individuals are more likely to recall and be preoccupied with tasks that remain incomplete. This effect has been extended in occupational research to explain why unfinished work tasks interfere with psychological detachment. Psychological detachment refers to a state in which employees mentally disengage from work-related demands during leisure time, which is essential for effective recovery (Sonnentag & Fritz, 2007).

Unfinished tasks contribute to ongoing cognitive activation, which manifests as rumination about work and a reduced capacity to experience non-work time as restorative (Syrek et al., 2017; Weigelt et al., 2019). For example, Syrek and Antoni (2014) showed that the

presence of unfinished tasks at the end of the workday predicted greater difficulties detaching from work, particularly when performance expectations were high. This body of research consistently shows that unfinished tasks hinder recovery by sustaining work-related mental load beyond working hours.

Recovery Activities as Moderators

Engagement in off-job activities can help individuals replenish resources and reduce the negative impact of job demands (Sonnentag & Fritz, 2007). Alameer et al. (2023) categorize recovery activities into seven types, each hypothesized to serve different restorative functions. For example, physical and outdoor activities promote activation and attentional restoration, while creative and social activities foster positive affect and distraction from work-related concerns.

Not all recovery activities are expected to moderate the relationship between unfinished tasks and psychological detachment equally. Activities that require active engagement or offer meaningful distraction—such as physical, creative, outdoor, or social experiences—may be more effective in buffering the negative effects of unfinished tasks. In contrast, passive or virtual activities such as screen use may fail to reduce cognitive activation and could even exacerbate the effects of unfinished tasks (Derks & Bakker, 2014; Derks, ten Brummelhuis, Zecic, & Bakker, 2014a; Derks, van Mierlo, & Schmitz, 2014b).

This study, therefore, hypothesizes the following:

H1: Unfinished tasks are negatively associated with psychological detachment.

H2: Engagement in recovery activities moderates the relationship between unfinished tasks and psychological detachment.

H3: Specific recovery activity types (physical, creative, outdoor, and social) will buffer the negative association, while passive activities (e.g., virtual recovery) will not.

By examining these hypotheses, the present study aims to determine whether different types of recovery activities have distinct effects on the relationship between unfinished tasks and psychological detachment from work

Methods

Procedure and Design

This study was part of a collective research project conducted at the University of Groningen that broadly examined the role of unfinished tasks in work-related psychological outcomes. The current study focused specifically on the relationship between unfinished tasks (predictor), engagement in different types of recovery activities (moderators), and psychological detachment (outcome).

A cross-sectional correlational design was employed. Participants were recruited through convenience sampling via social media and student networks. Data were collected using an online questionnaire hosted on the Qualtrics platform. The study was reviewed and deemed exempt from formal ethical approval by the Ethics Committee of the Faculty of Behavioural and Social Sciences at the University of Groningen. Before beginning the survey, all participants provided informed consent and were assured of anonymity and confidentiality. Participation was voluntary, and no compensation was provided.

The full survey consisted of four sections and took approximately 7 to 12 minutes to complete. It began with demographic questions (e.g., age, gender, education) and work-related information (e.g., job role, average working hours). The second section focused on current work experiences, including items on unfinished tasks and performance expectations. The third section

addressed broader beliefs and personal characteristics, such as stress mindset and reflection habits. The final section asked about post-work experiences, including how participants spent their time after work and the extent to which work interfered with recovery and leisure.

After completing the questionnaire, participants were thanked for their time, reminded of the purpose of the study, and informed that their data would remain anonymous. Contact details of the researchers were provided in case of questions, and participants could request a summary of the study's results or leave feedback at the end of the survey.

Participants

In the present study, we initially recruited 135 individuals, of whom 94 completed the entire survey. Several cases were excluded for the following reason: Incompletion of survey (N = 41). The final sample was evenly split by gender (50% female, 50% male), with a mean age of 42 years (SD = 15).

On average, participants worked 3.59 days per week. Occupational backgrounds were diverse: 23.7% were managers or executives, 11.8% worked in IT, 9.7% were students or interns, 7.5% were educators, 7.5% engineers, 6.5% consultants, 4.3% legal professionals, and 3.2% medical professionals. A further 25.8% fell into various other roles (e.g., barista, translator, archivist).

Nationalities were also diverse. The most common were German (33.3%), Dutch (28.0%), and Indian (17.2%), followed by smaller representations of American (6.5%), British, French, Cypriot, Romanian, Turkish, Polish, Norwegian, Singaporean, Canadian, Egyptian, and Kenyan (all ≤ 2.2%).

Measures

Unfinished Tasks

The extent to which participants experienced unfinished tasks was assessed using six items adapted from Syrek et al. (2017), each rated on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Participants were instructed to respond based on their experiences during a typical work-week, rather than referring to a specific time period. Higher scores indicated a greater perceived level of unfinished tasks. An example item is: "I have not completed urgent tasks." Adaptations to the original items involved rephrasing temporal markers to reflect habitual rather than week-specific experiences. A composite score was computed by averaging the six items, and internal consistency was confirmed using Cronbach's alpha (α =0.83).

Psychological Detachment

Psychological detachment from work during non-work hours was measured using four items, rated on a 5-point Likert scale from 1 (Strongly disagree) to 5 (Strongly agree). Participants were instructed to indicate how they typically spend their free time during a regular work week. Higher scores reflected a stronger ability to mentally disengage from work-related thoughts and demands. A sample item is: "I don't think about work at all." A composite score was calculated by averaging the four items, and reliability was assessed using Cronbach's alpha ($\alpha = 0.76$).

Recovery Activities: Moderating Variable

Participants were asked to indicate the extent to which they engaged in each activity during a typical work week, using a 5-point scale (1 = Not at all to 5 = To a very great extent).

Engagement in recovery activities was assessed using 14 items adapted from the multidimensional framework proposed by Alameer et al. (2023). The measure captured seven distinct dimensions of off-job recovery behaviours, with each dimension represented by two items. The items began with the prompt: *"During off-job time to what extent do you engage in activities that…"*, followed by a description of the activity characteristic. The dimensions and corresponding sample items are as follows: Physical (e.g., "...required you to be physically active"), Social (e.g., "...included social interaction"), Creative (e.g., "...allowed you to be creative"), Mental (e.g., "...required you to be mentally active"), Spiritual (e.g., "...involved spirituality"), Virtual (e.g., "...included browsing social media or websites"), and Outdoor (e.g., "...involved spending time in nature").

Recovery activity engagement was assessed separately for each of the seven recovery dimensions proposed by Alameer et al. (2023). Hence, two items out of four per dimension were selected based on their contribution to internal consistency, ensuring conciseness while preserving conceptual clarity. Internal consistency was confirmed using Cronbach's alpha for each subscale: $\alpha = 0.82$ (Physical), 0.90 (Social), 0.92 (Creative), 0.88 (Mental), 0.91 (Spiritual), 0.93 (Virtual), and 0.93 (Outdoor).

Analytic Strategy

We analyzed the data using IBM SPSS Statistics (Version 28) and tested our hypotheses through multiple linear regression analysis. Before conducting the main analyses, we assessed the reliability of our measurements by examining Cronbach's alpha and the intercorrelations between our key variables. We also reviewed descriptive statistics to gain an initial understanding of the dataset. Composite scores were created for each construct, after which we verified that the assumptions for regression analysis were met. This included checking linearity

and homoscedasticity through residual plots, testing for normality using a Q-Q plot, and evaluating multicollinearity using variance inflation factor (VIF) values. To examine our hypotheses, we predicted psychological detachment using unfinished tasks, recovery activities, and their interaction term. We further assessed the significance of the correlations among the variables, which allowed us to evaluate both the main effect (hypothesis one) and the moderating effect (hypothesis two and three).

Results

Preliminary Analysis

Prior to conducting hypothesis testing, several preliminary analyses were performed to assess the suitability of the data for multiple regression. Assumption checks indicated that the data met the requirements for linear regression. Specifically, the scatterplot of standardized predicted values against standardized residuals showed a roughly random distribution around zero, indicating that the assumptions of linearity and homoscedasticity were met (see Figure 1). Additionally, the normal Q-Q plot of standardized residuals revealed that the residuals were approximately normally distributed, as the data points closely followed the diagonal line (see Figure 2).

This analysis served as the basis for testing the study's three hypotheses: (1) unfinished tasks would be negatively associated with psychological detachment, (2) recovery activities would moderate this relationship, and (3) specific recovery activities such as physical, creative, outdoor, and social activities would buffer the negative impact of unfinished tasks, whereas passive or low-engagement activities such as virtual recovery would be less effective or

potentially detrimental. The following regression analyses were conducted to examine these predictions.

Table 1

Means, Standard Deviations, and Intercorrelations Among Study Variables

	Mean	SD	1	2	3	4	5	6	7	8	9
1. UT	2.257	0.690	-								
2. Psych_ Detach	2.794	0.797	-0.030	-							
3. RA_Physical	2.963	0.837	-0.115	0.064	-						
4. RA_Social	3.362	0.767	-0.100	0.188	0.193	-					
5. RA_Creative	2.867	0.995	-0.051	0.126	0.104	0.374**	-				
6. RA_Mental	3.170	0.935	-0.173	0.086	0.153	0.352**	0.562**	-			
7. RA_Spiritual	2.181	1.200	-0.144	0.215*	0.226	0.285*	0.459**	0.463**	-		
8. RA_Virtual	3.622	0.897	0.063	-0.096	-0.087	0.044	0.055	0.196	0.049	-	
9. RA_Outdoors	3.197	0.905	-0.073	0.170	0.397**	0.307*	0.250*	0.233*	0.239*	0.053	-

Note. UT = Unfinished Tasks; Psych_Detach = Psychological Detachment; RA_X = Recovery Activity type; M = Mean; SD = Standard Deviation. n = 94. *p < .05. **p < .01.

Unfinished Task, Psychological Detachment and Recovery Activities

To gain a preliminary understanding of the relationships between the key study variables, the bivariate correlations were examined as presented in Table 1. The correlation between

unfinished tasks and psychological detachment was not statistically significant, $r(92) = –.03$, $p = .776$, providing no support for Hypothesis 1 at the correlational level.

Notably, while most individual recovery activity types did not show a significant direct association with psychological detachment, one key exception emerged: spiritual recovery demonstrated a significant positive correlation with psychological detachment, $r(92) = .22$, $p = .038$. This exploratory finding suggests a potential direct relationship between spiritual recovery and the ability to mentally disengage from work, which will be further explored in the Discussion section.

Furthermore, substantial intercorrelations were observed among several recovery activity types. Strong positive associations were found between creative and mental recovery ($r = .56$) $p<.01$, creative and spiritual recovery ($r = .46$) $p<.01$, and mental and spiritual recovery ($r = .46$) $p<.01$. These results indicate a notable degree of conceptual overlap among these particular recovery facets. To further assess this, multicollinearity diagnostics for the regression models were conducted. Variance Inflation Factor (VIF) values ranged from 1.05 to 1.68 across all models, remaining well below the commonly accepted threshold of 5 and suggesting that multicollinearity did not pose a concern.

Table 2

Moderation Analysis with Physical Recovery Activity Predicting Psychological Detachment

	Unstandardized Coefficients				Collinearity Statistics	
	B	SE	t	Sig.	Tolerance	VIF
(Constant)	2.789	.0840	33.36	0.000		
Unfinished tasks (UT)	-0.024	0.122	-0.197	0.844	.950	1.052
RA_Physical	0.059	0.101	0.591	0.556	.798	1.253
RA_Physical*UT	0.111	0.144	0.768	0.445		

Note. The dependent variable is Psychological Detachment. $R^2 = .01$, $F(3, 90) = 0.34$, $p = .799$.

B= unstandardized coefficient; *SE* = standard error.

Table 3

Moderation Analysis with Social Recovery Activity Predicting Psychological Detachment

	Unstandardized Coefficients				Collinearity Statistics	
	B	SE	t	Sig.	Tolerance	VIF
(Constant)	2.792	.082	34.25	0.000		
Unfinished tasks (UT)	-0.002	0.119	-0.058	0.987	.950	1.052
RA_Social	0.235	0.111	2.116	0.037	.782	1.278
RA_Social*UT	0.190	0.137	0.137	0.171		

Note. The dependent variable is Psychological Detachment. $R^2 = .06$, $F(3, 90) = 1.76$, $p = .16$

VIF = variance inflation factor. *B*= unstandardized coefficient; *SE* = standard error.

Table 4

Moderation Analysis with Creative Recovery Activity Predicting Psychological Detachment

	Unstandardized Coefficients				Collinearity Statistics	
	B	SE	t	Sig.	Tolerance	VIF
(Constant)	2.787	0.082	33.84	0.000		
Unfinished tasks (UT)	-0.009	0.1211	-0.074	0.941	.950	1.052
RA_Creative	0.107	0.083	1,278	0.205	.782	1.680
RA_Creative*UT	0.140	0.122	0.122	0.252		

Note. The dependent variable is Psychological Detachment. $R^2 = .02$, $F(3, 90) = 0.95$, $p = .42$

VIF = variance inflation factor. *B*= unstandardized coefficient; *SE* = standard error.

Table 5

Moderation Analysis with Mental Recovery Activity Predicting Psychological Detachment

	Unstandardized Coefficients				Collinearity Statistics	
	B	SE	t	Sig.	Tolerance	VIF
(Constant)	2.796	.084	33.28	0.000		
Unfinished tasks (UT)	-0.012	0.225	-0.101	0.920	.950	1.052
RA_Mental	0.087	0.092	0.948	0.346	.782	2.725
RA_Mental*UT	0.125	0.130	0.963	0.338		

Note. The dependent variable is Psychological Detachment. $R^2 = .02$, $F(3, 90) = 0.54$, $p = .65$

VIF = variance inflation factor. *B*= unstandardized coefficient; *SE* = standard error.

Table 6

Moderation Analysis with Spiritual Recovery Activity Predicting Psychological Detachment

	Unstandardized Coefficients				Collinearity Statistics	
	B	SE	t	Sig.	Tolerance	VIF
(Constant)	2.799	.082	34.28	0.000		
Unfinished tasks (UT)	0.004	0.118	0.035	0.972	.950	1.052
RA_Spiritual	0.152	0.069	2.212	0.030	.782	1.437
RA_Spiritual*UT	0.144	0.103	1.40	0.165		

Note. The dependent variable is Psychological Detachment. $R^2 = .02$, $F(3, 90) = 1.96$, $p = .17$

VIF = variance inflation factor. *B*= unstandardized coefficient; *SE* = standard error.

Table 7

Moderation Analysis with Virtual Recovery Activity Predicting Psychological Detachment

	Unstandardized Coefficients				Collinearity Statistics	
	B	SE	t	Sig.	Tolerance	VIF
(Constant)	2.787	.083	33.54	0.000		
Unfinished tasks (UT)	-0.074	0.128	-0.055	0.568	.950	1.052
RA_Virtual	-0.085	0.093	-0.918	0.361	.782	1.067
RA_Virtual*UT	0.119	0.158	0.753	0.454		

Note. The dependent variable is Psychological Detachment. $R^2 = .02$, $F(3, 90) = 0.51$, $p = .68$

VIF = variance inflation factor. *B*= unstandardized coefficient; *SE* = standard error.

Table 8

Moderation Analysis with Outdoor Recovery Activity Predicting Psychological Detachment

	Unstandardized Coefficients				Collinearity Statistics	
	B	SE	t	Sig.	Tolerance	VIF
(Constant)	2.785	0.082	33.78	0.000		
Unfinished tasks (UT)	-0.012	0.121	-0.099	0.922	.950	1.052
RA_Outdoor	0.156	0.093	1.678	0.099	.782	1.312
RA_Outdoor*UT	0.066	0.139	0.471	0.639		

Note. The dependent variable is Psychological Detachment. $R^2 = .02$, $F(3, 90) = 0.98$, $p = .41$ VIF = variance inflation factor. *B*= unstandardized coefficient; *SE* = standard error.

Regression and Moderator Analyses

To test the study's primary hypotheses, a series of multiple regression analyses were conducted. Full results for each of the seven moderation models are presented in Tables 2 through 8.

Hypothesis 1 predicted a negative association between unfinished tasks and psychological detachment. This hypothesis was not supported. Across all models, the main effect of unfinished tasks on psychological detachment was non-significant. For example, in the model including physical recovery, the effect of unfinished tasks was B = –0.02, SE = 0.12, t = –0.20, p = .844 (see Table 2).

Hypothesis 2 proposed that engagement in recovery activities would moderate the relationship between unfinished tasks and psychological detachment. None of the interaction

terms between unfinished tasks and the respective recovery activity were statistically significant (all $p > .165$), indicating that recovery activity engagement did not moderate the relationship.

Hypothesis 3 further posited that specific recovery activity types namely: physical, creative, outdoor, and social would buffer the negative effect, while other types such as virtual recovery would not. However, none of the interaction terms reached significance for any of the seven activity types. The R^2 values across models were low, ranging from .01 (Virtual) to .06 (Social), suggesting limited explanatory power. In summary, the regression analyses did not provide support for Hypotheses 1, 2, or 3.

Discussion

This study aimed to examine the relationship between unfinished tasks and psychological detachment from work during off job time, with recovery activities included as a potential moderator. Recovery was assessed both as an overall construct and across seven distinct facets. Based on data from 94 working individuals, the expected negative relationship between unfinished tasks and psychological detachment was not statistically significant. In addition, recovery activities as a whole did not moderate this relationship. However, exploratory analyses indicated that spiritual activities are positively associated with psychological detachment (see Table 1).

Contrary to prevailing assumptions and prior findings, the study did not find a statistically significant negative relationship between unfinished tasks and psychological detachment. This challenges the widely accepted view that having unfinished work automatically impedes mental disengagement during off-job time (e.g., Sonnentag & Fritz, 2014).

Theoretical Implications

In line with previous multi-level research, our cross-sectional study did not find a significant main effect of unfinished tasks on psychological detachment. Notably, our results align with prior research by Weigelt and Syrek (2017), which found that unfinished tasks predicted detachment only at the within-person level, but not at the between-person level. Since our study uses a cross-sectional design capturing between-person variation, this pattern may explain the non-significant main effect observed here.

This level-of-analysis distinction may also explain why the expected mechanism of the Zeigarnik effect was not captured in our results. This effect describes the tendency for the mind to be preoccupied with specific, incomplete tasks which is inherently a dynamic, within-person process of intrusive thought that can fluctuate daily or even hourly. A cross-sectional, between-person design, which compares general tendencies across individuals, may not be sensitive enough to detect this acute psychological mechanism. It is possible that stable, between-person differences in traits like neuroticism, conscientiousness, or chronic workload have a much larger impact on an individual's general ability to detach than the simple state of having unfinished tasks at a single point in time. Therefore, while the Zeigarnik effect remains a powerful theory for explaining momentary mental preoccupation, its predictive power for general, between-person levels of psychological detachment may be limited.

Additionally, our findings support recent critiques of the detachment construct itself. Scholars have questioned its conceptual distinctiveness, noting that psychological detachment overlaps substantially with other rumination-related constructs such as cognitive irritation and inability to recover (Jimenez et al., 2022; Weigelt et al., 2023). These studies show that detachment shares 70–75% variance with these constructs and often offers little additional predictive value. This raises the possibility that psychological detachment may not be the most

sensitive or precise indicator of recovery, particularly in contexts where emotional and cognitive demands interact.

Our second hypothesis, which predicted that recovery activities would be positively associated with psychological detachment, was not supported. None of the seven recovery activity types showed a statistically significant correlation with detachment at the between-person level. However, the spiritual recovery activity did show the strongest positive trend in our data (r = .22, p=.038). Interestingly, this finding contrasts with results from Alameer et al. (2023), who found a negative, though not statistically significant, between-person correlation between spiritual recovery and detachment (r = –.16, p > .05) in their daily diary study. This discrepancy suggests that the effects of certain recovery activities, particularly those involving introspection or meaning-making, may depend on contextual or individual differences. These findings highlight the importance of not treating recovery as a unitary process and support calls for more nuanced models that differentiate recovery activities based on their cognitive and emotional demands (Sonnentag & Fritz, 2007).

Measurement limitations may have contributed to the non-significant findings. Since only two out of four items per recovery facet were included in the survey, it likely reduced content coverage. While the shortened format followed the approach used by Alameer et al. (2023) and showed good internal consistency, it may not have fully captured the multidimensional nature of recovery. Combined with a relatively small sample size (N = 94), these constraints likely reduced statistical power and increased the risk of Type II errors (Cohen, 1992). Future studies should use more comprehensive item sets and larger samples to more robustly examine these effects.

Practical Implications

Although none of the recovery activity types significantly moderated the link between unfinished tasks and psychological detachment, the theoretical relevance of this relationship remains important for occupational health. Unfinished tasks are consistently associated with impaired recovery outcomes such as rumination, exhaustion, and difficulty detaching from work (Syrek et al., 2017; Weigelt et al., 2019), and should therefore remain a focal point in organizational well-being efforts. While this study did not provide strong evidence that specific recovery activities buffer these effects, the differentiation between recovery activity types presents a useful framework for future application.

For instance, the exploratory finding that spiritual recovery was positively correlated with detachment may highlight the importance of fulfilling basic psychological needs during leisure time. According to Self-Determination Theory, activities that foster a sense of autonomy, competence, and relatedness are crucial for well-being and intrinsic motivation (Ryan & Deci, 2000). Spiritual activities, by connecting an individual to a larger sense of purpose, may powerfully fulfill these needs. This, in turn, can build psychological resources that help an individual place work stressors into perspective, thereby making it easier to mentally disengage (Mahipalan & S, 2019). Therefore, practitioners designing interventions should consider not just whether employees engage in recovery, but what type of recovery activity fits their personal needs and post-work mental state.

Strengths and Limitations

A key strength of this study lies in its nuanced approach to recovery activities. Rather than treating recovery as a single, undifferentiated construct, this research examined distinct facets of recovery activities. This fine-grained perspective allowed for the identification of a

significant positive association between spiritual recovery and psychological detachment ($r = .22$, $p < .05$). If recovery had been measured as a general construct, this relationship would likely have remained hidden. This finding builds on prior research that emphasizes the importance of distinguishing between types of recovery activities (e.g.,Alameer et al., 2023) and offers preliminary insight into how specific activity facets, such as spiritual recovery, may support mental disengagement from work.

This approach also highlights the complexity of categorizing recovery experiences. In practice, many recovery activities overlap conceptually and functionally, which can make it difficult to isolate their unique effects. Although this overlap is likely inevitable to some extent, future research could benefit from clearer and more distinct categorizations of recovery activities to reduce ambiguity and improve construct validity.

Several limitations must be acknowledged. First, the data were collected using convenience sampling via social networks, which limits the generalizability of the findings. The sample may not adequately represent broader working populations in terms of occupation, work conditions, or cultural context. In addition, many surveys were only partially completed, which led to a smaller final sample size than originally planned. This reduced statistical power may have hindered the ability to detect significant effects, particularly in the moderation analyses.

Another concern is the quality of some survey responses. Although measures were taken to ensure participant understanding, it is possible that not all respondents engaged fully or attentively with the questionnaire, which could have introduced noise into the data. This further emphasizes the importance of incorporating attention checks or data quality screening procedures in future research.

Further limitations relate to the measurement methodology. Asking participants to aggregate their experiences and behaviors over time may introduce imprecision compared to in-the-moment techniques such as daily diary studies. Additionally, while the constructs were based on validated scales, only two items per recovery facet were used due to survey length constraints. Although this short form demonstrated acceptable internal consistency, it likely reduced the content validity of the measures by not capturing the full scope of each recovery experience.

Moreover, although instructions were provided to ensure comprehension, it is possible that some participants did not fully engage with the questionnaire, which may have introduced additional noise into the data. Future research should mitigate this by incorporating best-practice data quality procedures, such as attention checks (DeSimone, Harms, & DeSimone, 2015).

Despite these limitations, this study provides valuable directions for future research. By highlighting a novel link between spiritual recovery and detachment and drawing attention to key measurement challenges, this work lays a foundation for more refined investigations into how employees can effectively recover from work demands and enhance their psychological well-being.

Future Research

Given the non-significant finding for the study's main hypothesis, a primary direction for future research is to re-examine the direct link between unfinished tasks and psychological detachment using more dynamic methodologies. As the discussion highlighted, the relationship may be a within-person effect that was not captured by this study's cross-sectional design. Therefore, employing longitudinal methods such as experience sampling or daily diary studies

would be a critical next step. Such designs can track the daily fluctuations in unfinished tasks and their immediate effect on an individual's ability to detach each evening, providing a more sensitive test of the underlying theory.

Moreover, beyond the research design, future studies should also address the conceptual limitations of psychological detachment itself. As previously discussed, the construct has been criticized for its neutral framing and substantial overlap with other concepts. Therefore, future research could benefit from measuring more specific, valenced constructs, such as affective rumination — the repetitive focus on negative work-related thoughts.

In addition to clarifying the main effect and the outcome construct, future research could build on the current study's findings to explore in greater depth the specific types of recovery activities that foster psychological detachment. One promising direction is to compare the effects of virtual recovery activities (e.g., watching streaming content, gaming, or browsing social media) with nature-based recovery, (e.g., spending time outdoors or in green spaces). Although virtual activities are often viewed as passive or less effective, some research suggests they may still provide opportunities for psychological detachment, particularly when they promote immersion or enjoyment (Reinecke, 2009). In contrast, nature exposure has consistently been associated with lower rumination, stress reduction, and greater restoration of attentional resources (Berman et al., 2008; Hartig et al., 2014).

Given the growing pervasiveness of digital technology, future studies could examine whether reconnecting with nature provides a stronger buffer against the cognitive load of unfinished tasks compared to virtual alternatives. This requires more investigation as remote work and constant connectivity continue to blur the boundaries between work and leisure. Thus,

understanding which forms of recovery are most effective under these conditions could inform both individual coping strategies and organizational wellness interventions.

Conclusion

This thesis set out to investigate whether different types of recovery activities could buffer the commonly assumed negative relationship between unfinished tasks and psychological detachment from work. However, the findings did not support this initial premise, revealing no significant association between unfinished tasks and detachment, nor any moderating effect of the seven recovery facets at the between-person level.

Nonetheless, the results draw attention to important conceptual and methodological nuances in the study of recovery. They align with ongoing critiques of the detachment construct and underscore the need to distinguish between within-person and between-person processes. In addition, an exploratory analysis revealed a positive association between spiritual recovery and psychological detachment, suggesting that personally meaningful recovery activities may represent a promising and underexplored direction in employee well-being research.

The primary contribution of this thesis lies in two areas: firstly, it highlights the limitations of generalized models of work-related recovery; secondly, it identifies a potential area for future research and practice focused on specific recovery experiences.

Appendix A

Figure 1

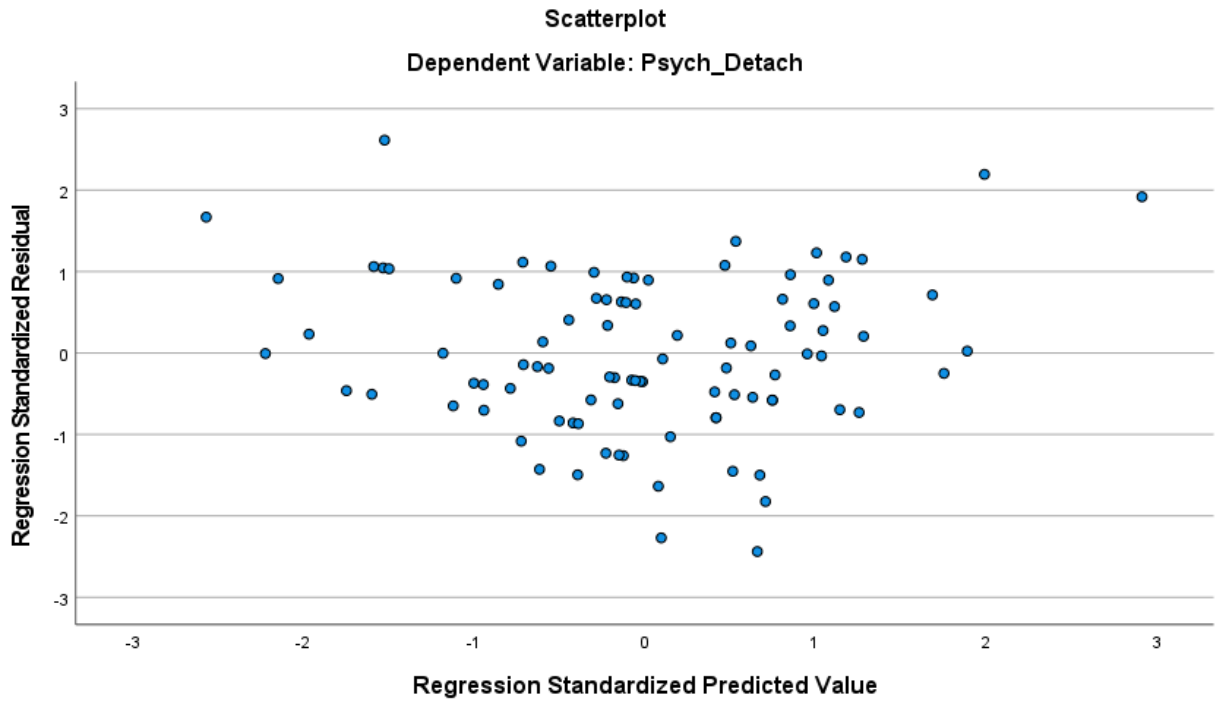
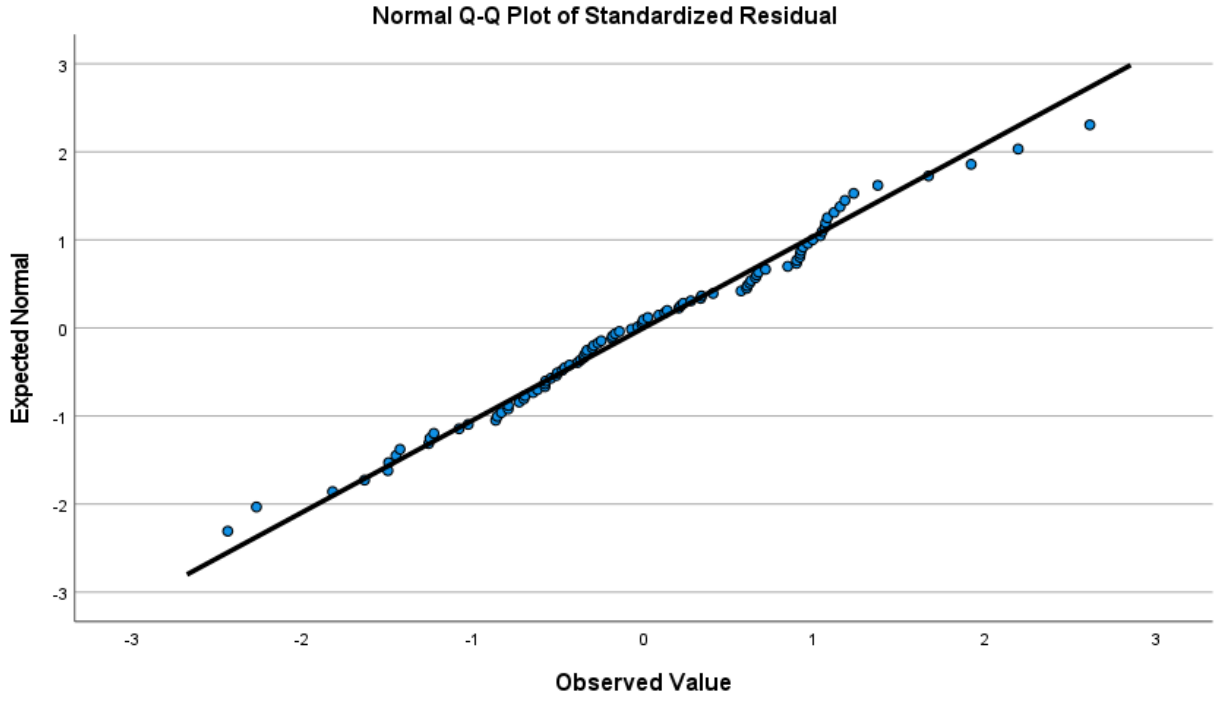


Figure 2



Appendix B

Survey Instrument

Introduction

This survey explored how employees deal with unfinished tasks and manage to switch off during off-job time. The aim of this research is to identify which strategies work best and detect ways to improve employee well-being. The survey consisted of four parts: demographic information, work-related experiences, general beliefs and behaviors, and work-life balance / sleep / recovery.

Part 1: Demographic Information

Participants were asked to provide basic demographic information and general information about their work.

- What is your gender? (Woman / Man / Non-binary / Prefer not to say)
- What is your age? (open-ended)
- What is your nationality? (open-ended)
- What is your highest level of formal education you have completed? (Primary school / High school / Vocational training / Bachelor's degree / Master's degree / Ph.D.)
- What is your occupation or job title? (open-ended)
- How many professional working years do you have? (open-ended)
- How many hours do you work per week on average? (0-10 hours / 11-20 hours / 21-30 hours / 31-40 hours / More than 40 hours)

Part 2: Work-Related Experiences

Performance Expectations

(Responses were rated on a 5-point Likert scale: 1= Strongly Disagree, 5=Strongly Agree)

- My team leader expects me to perform at my highest level.
- My team leader encourages me to go above and beyond what is normally expected of one (e.g., extra effort).
- My team leader expects me to give 100% all of the time.

Unfinished Tasks

(Responses were rated on a 5-point Likert scale)

- At the end of the workweek, I have not finished important tasks that I had planned to do.
- At the end of the workweek, I have not finished a large amount of due tasks.
- At the end of the workweek, I have not completed urgent tasks.
- At the end of the workweek, I have not even started with important tasks, I wanted to complete
- At the end of the workweek, I need to carry many tasks into the next week.
- At the end of the workweek, I have not started working on urgent tasks that were due.

Taking Charge

(Responses were rated on a 5-point Likert scale)

- I try to bring about improved procedures for the work unit or department.
- I try to institute new work methods that are more effective for the company.
- I try to change how the job is executed to be more effective.

- I try to introduce new structures, technologies, or approaches to improve efficiency.
- I try to implement solutions to pressing organizational problems.
- I try to make constructive suggestions for improving how things operate within the organization.
- I try to correct faulty procedures or practices.
- I try to make innovative suggestions to improve what the organization does.
- I try to change organizational rules or policies that are nonproductive or counterproductive.
- I try to adopt improved procedures for doing my job.

Professional Self-efficacy

(Responses were rated on a 5-point Likert scale)

- I can remain calm when facing difficulties in my job because I can rely on my abilities.
- When I am confronted with a problem in my job, I can usually find several solutions.
- Whatever comes my way in my job, I can usually handle it.
- My past experiences in my job have prepared me well for my occupational future.
- I meet the goals that I set for myself in my job.
- I feel prepared for most of the demands in my job.

Work Competence Need Satisfaction

(Responses were rated on a 5-point Likert scale)

- I really master my tasks at my job.

- I feel competent at my job.
- I have the feeling that I can even accomplish the most difficult tasks at work.
- I am good at the things I do in my job.
- I doubt whether I am able to execute my job properly.
- I don't really feel competent in my job.

Part 3: General Beliefs and Behaviors

Stress Mindset

(Responses were rated on a 5-point Likert scale)

- The effects of stress are negative and should be avoided.
- Experiencing stress facilitates my learning and growth.
- Experiencing stress depletes my health and vitality.
- Experiencing stress enhances my performance and productivity.
- Experiencing stress inhibits my learning and growth.
- Experiencing stress improves my health and vitality.
- Experiencing stress debilitates my performance and productivity.
- The effects of stress are positive and should be utilized.

Regulatory Focus

(Responses were rated on a 5-point Likert scale)

- To achieve something, one must be cautious.
- To avoid failure, one has to be careful.
- Being cautious is the best policy for success.
- You have to take risks if you want to avoid failing.

- The worst thing you can do when trying to achieve a goal is to worry about making mistakes.
- Taking risks is essential for success.

Executive Functioning

(Responses were rated on a 5-point Likert scale)

- I do risky things without considering the consequences.
- I can hold multiple things in my mind at once.
- I am good at multitasking.
- I am an impulsive person.
- I am good at solving math problems in my head.
- I am good at getting back on task after a distraction.
- I do things without thinking them through.
- I am good at working through problems in my head.
- I can shift my focus between different things.

Cognitive Flexibility

(Responses were rated on a 5-point Likert scale)

- I consider multiple options before making a decision.
- When in difficult situations, I consider multiple options before deciding how to behave.
- When I encounter difficult situations, I stop and try to think of several ways to resolve it.
- I often look at a situation from different viewpoints.
- I like to look at difficult situations from many different angles.

- I seek additional information not immediately available before attributing causes to behavior.
- When I encounter difficult situations, I feel like I am losing control.
- When encountering difficult situations, I become so stressed that I can not think of a way to resolve the situation.
- When I encounter difficult situations, I just don't know what to do.
- I feel I have no power to change things in difficult situations.

Part 4: Work-Life Balance, Sleep, and Recovery

Affective Rumination

(Responses were rated on a 5-point Likert scale)

- I become tense when I think about work-related issues during my free time.
- I get annoyed by thinking about work-related issues when not at work.
- I become irritated by work issues when not at work.
- I become fatigued by thinking about work-related issues during my free time.
- I am troubled by work-related issues when not at work.

Problem-Solving Pondering

(Responses were rated on a 5-point Likert scale)

- After work, I tend to think of how I can improve my work-related performance.
- In my free time, I find myself re-evaluating something I have done at work.
- I think about tasks that need to be done at work the next day.
- I find thinking about work during my free time helps me to be creative.
- I find solutions to work-related problems in my free time.

Positive Affective Work Prospection

(Responses were rated on a 5-point Likert scale)

- I am enthusiastic about the work I still have to do.
- I am looking forward to the workdays ahead of me.
- I feel good when I think about upcoming work events.
- I have positive expectations about the workdays ahead of me.

Detachment

(Responses were rated on a 5-point Likert scale)

- I forget about work.
- I don't think about work at all.
- I distance myself from work.
- I get a break from the demands of work.

Sleep

(Responses were rated on a 5-point Likert scale)

- I have trouble falling asleep after turning off the lights.
- Once asleep, I have difficulty staying asleep.
- My final awakening is earlier than desired.
- My total sleep duration is sufficient.
- My overall quality of sleep is satisfactory.

Recovery Activities

(Responses were rated on a 5-point Likert scale)

During off-job time, to what extent do you engage in activities that…

- Require you to be physically active.
- Include vigorous physical activity.

- Include social interaction.
- Involve spending time with others.
- Allow you to be creative.
- Are creative.
- Require you to be mentally active.
- Require you to concentrate.
- Involve spirituality.
- Involve meditation, prayer, or taking time in other ways to find inner peace.
- Occur through digital devices (such as smartphone, computer, tablet).
- Include using the internet.
- Are in fresh air.
- Are performed in a natural environment (e.g., among plants and trees).

Relaxation

(Responses were rated on a 5-point Likert scale)

- I typically feel calm during the day.
- I typically feel relaxed during the day.
- I typically feel at ease in my daily life.
- I typically feel peaceful throughout the day.
- I typically feel content with how things are going.
- I typically feel satisfied emotionally on an average day.

References

Alameer, K. M., Uitdewilligen, S., & Hülsheger, U. R. (2023). What are the active ingredients in recovery activities? Introducing a dimensional approach. *Journal of Occupational Health Psychology*, *28*(4), 239–262. https://doi.org/10.1037/ocp0000354

Berman, M. G., Jonides, J., & Kaplan, S. (2008). The cognitive benefits of interacting with nature. *Psychological Science*, *19*(12), 1207–1212. https://doi.org/10.1111/j.1467-9280.2008.02225.x

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155–159. https://doi.org/10.1037/0033-2909.112.1.155

Derks, D., & Bakker, A. B. (2014). Smartphone use, work–home interference, and burnout: A diary study on the role of recovery. *Applied Psychology, 63*, 411–440. https://doi.org/10.1111/j.1464-0597.2012.00530.x

Derks, D., ten Brummelhuis, L. L., Zecic, D., & Bakker, A. B. (2014a). Switching on and off…: Does smartphone use obstruct the possibility to engage in recovery activities? European *Journal of Work and Organizational Psychology, 23*, 80–90. https://doi.org/10.1080/1359432X.2012.711013

Derks, D., van Mierlo, H., & Schmitz, E. (2014b). A diary study on work-related smartphone use, psychological detachment and exhaustion: Examining the role of the perceived segmentation norm. *Journal of Occupational Health Psychology, 19*, 74–84.https://doi.org/10.1037/a0035076

DeSimone, J. A., Harms, P. D., & DeSimone, A. J. (2015). Best practice recommendations for data screening. *Journal of Organizational Behavior*, *36*(2), 171–181. https://doi.org/10.1002/job.1962

Hartig, T., Mitchell, R., De Vries, S., & Frumkin, H. (2014). Nature and health. *Annual Review of Public Health*, *35*(1), 207–228. https://doi.org/10.1146/annurev-publhealth-032013-182443

Headrick, L., Newman, D. A., Park, Y. A., & Liang, Y. (2022). Recovery experiences for work and health outcomes: A Meta-Analysis and recovery engagement-exhaustion model. *Journal of Business and Psychology*, *38*(4), 821–864. https://doi.org/10.1007/s10869-022-09821-3

Jimenez, W. P., Hu, X., & Xu, X. V. (2022). Thinking about thinking about work: A Meta-Analysis of off-job positive and negative work-related thoughts. *Journal of Business and Psychology, 37*(2), 237–262. https://doi.org/10.1007/s10869-021-09742-7

Kinnunen, U., Feldt, T., Siltaloppi, M., & Sonnentag, S. (2011). Job demands–resources model in the context of recovery: Testing recovery experiences as mediators. *European Journal of Work and Organizational Psychology, 20*(6), 805–832. https://doi.org/10.1080/1359432x.2010.524411

Mahipalan, M., & S, S. (2019). Workplace spirituality, psychological well-being and mediating role of subjective stress. *International Journal of Ethics and Systems*, *35*(4), 725–739. https://doi.org/10.1108/ijoes-10-2018-0144

Reinecke, L. (2009). Games and recovery. *Journal of Media Psychology Theories Methods and Applications*, *21*(3), 126–142. https://doi.org/10.1027/1864-1105.21.3.126

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68–78. https://doi.org/10.1037/0003-066x.55.1.68

Sonnentag, S., & Bayer, U. (2005). Switching off Mentally: Predictors and Consequences of Psychological Detachment from work during Off-Job Time. *Journal of Occupational Health Psychology*, *10*(4), 393–414. https://doi.org/10.1037/1076-8998.10.4.393

Sonnentag, S., & Fritz, C. (2007). The Recovery Experience Questionnaire: Development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology*, *12*(3), 204–221. https://doi.org/10.1037/1076-8998.12.3.204

Sonnentag, S., & Fritz, C. (2014). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*, *36*(S1), S72–S103. https://doi.org/10.1002/job.1924

Syrek, C. J., & Antoni, C. H. (2014). Unfinished tasks foster rumination and impair sleeping—Particularly if leaders have high performance expectations. *Journal of Occupational Health Psychology*, *19*(4), 490–499. https://doi.org/10.1037/a0037127

Syrek, C. J., Weigelt, O., Peifer, C., & Antoni, C. H. (2017). Zeigarnik's sleepless nights: How unfinished tasks at the end of the week impair employee sleep on the weekend through rumination. *Journal of Occupational Health Psychology, 22*(2), 225–238. https://doi.org/10.1037/ocp0000031

Weigelt, O., Seidel, J. C., Erber, L., Wendsche, J., Varol, Y. Z., Weiher, G. M., Gierer, P., Sciannimanica, C., Janzen, R., & Syrek, C. J. (2023). Too committed to switch off—Capturing and organizing the full range of work-related rumination from detachment to overcommitment. *International Journal of Environmental Research and Public Health, 20*(4), Article 4. https://doi.org/10.3390/ijerph20043573

Weigelt, O., Syrek, C. J., Schmitt, A., & Urbach, T. (2019). Finding peace of mind when there

still is so much left undone—A diary study on how job stress, competence need satisfaction, and proactive work behavior contribute to work-related rumination during the weekend. *Journal of Occupational Health Psychology, 24*(3), 373–386. https://doi.org/10.1037/ocp0000117

Weigelt, O., & Syrek, C. (2017). Ovsiankina's Great Relief: How Supplemental Work during the Weekend May Contribute to Recovery in the Face of Unfinished Tasks. *International Journal of Environmental Research and Public Health*, *14*(12), 1606. https://doi.org/10.3390/ijerph14121606

Zeigarnik, B. (1927). Das Behalten erledigter und unerledigter Handlungen [On the retention of completed and uncompleted tasks]. *Psychologische Forschung*, *9*, 1–85.