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Mind-Wandering Contents and Characteristics: An Exploratory Study Comparing Between Work and Non-Work Contexts

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Declarations

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Abstract

Mind-wandering, where thoughts drift away from the immediate environment or task to self-generated thoughts, is a common human experience. Despite the growing research on its antecedents and consequences, the content and characteristics of mind-wandering across different contexts, such as work-related and non-work-related settings, remain poorly understood. This study, guided by the Context and Content Regulation Hypothesis, explores the nuances of mind-wandering by examining both its content and characteristics, such as deliberateness and temporal orientation. Over five working days, we prompted 131 workers three times daily to report the content and characteristics of their current thoughts. Our findings indicate that mind-wandering occurred less frequently during work but was predominantly populated with work-related content, regardless of the ongoing activity. Furthermore, while most mind-wandering events were future-oriented and spontaneous, those centred on work exhibited a more deliberate and pronounced future bias. Challenging the prevailing notion of mind-wandering as a mere distraction, our findings align with the Context and Content Regulation Hypothesis, emphasising its strategic role in foreseeing and preparing for future work-related events.

Keywords: mind-wandering, daydreaming, thought content, thought characteristics, experience sampling.

Mind-Wandering Contents and Characteristics: An Exploratory Study Comparing Between Work and Non-Work Contexts

Mind-wandering refers to the phenomenon of cognitively disengaging from the immediate task and exploring internal thoughts and fantasies (Smallwood & Schooler, 2006). Research suggests that mind-wandering is an everyday activity, with some estimates indicating that individuals mind-wander almost 50% of the time (Killingsworth & Gilbert, 2010), and studies reporting that mind-wandering can have wide-ranging effects, both positive and negative (Mooneyham & Schooler, 2013). Initially examined within the realm of cognitive psychology (e.g., Giambra, 1989), and particularly in laboratory settings (Smallwood & Schooler, 2006), the influence of mind-wandering on individual performance has recently attracted attention in organisational behaviour research (e.g., Baer, et al., 2021; Dane, 2018; Merlo et al., 2019). While often viewed as a source of distraction and inefficiency (Randall et al., 2014), the Context and Content Regulation Hypothesis (Smallwood & Andrews-Hanna, 2013) suggests that the effect of mind-wandering on organisational behaviour may be negative *or* positive, depending on its context and content. Specifically, this framework posits that the detriment or utility of mind-wandering can only be evaluated and understood in relation to the context in which it occurs and the specific topics that are explored.

However, studies of mind-wandering have not extensively examined the content of mind-wandering of employees across different contexts, particularly work and non-work settings. This limitation is due, in part, to a focus on laboratory-based research, which may skew what people mind wander about and limit the generalisability of findings. Furthermore, we suggest that a deeper exploration into the inherent characteristics of mind-wandering, specifically attributes like its temporal orientation — whether thoughts are directed towards the past, present, or future — and deliberateness — which distinguishes between mind-

wandering that occurs spontaneously and that which is initiated deliberately — can provide a more comprehensive understanding of this phenomenon. Prior research has underscored that these specific mind-wandering characteristics, when manifest in various contexts, can correlate with different outcomes (Mooneyham & Schooler, 2013). For instance, recent studies have shown that only spontaneous mind-wandering is associated with stress, anxiety, and depression (Seli et al., 2019), unlike deliberate mind-wandering, which has been positively associated with creativity (Agnoli et al., 2018). Acknowledging these particularities and their associated impacts becomes pivotal in understanding the broader implications of mind-wandering for work-related outcomes. The aim of our paper is, therefore, to develop and extend our understanding of the content and characteristics of mind-wandering across work and non-work contexts.

Our paper contributes to the organisational literature in several ways. First, by using the Context and Content Regulation Hypothesis as an organising framework to explore how the content and characteristics of mind-wandering differ between work and non-work settings, we enrich our theoretical and empirical understanding of mind-wandering in everyday settings and provide a broader and more nuanced conceptualisation of this common cognitive phenomenon. Secondly, we enhance our understanding of mind-wandering beyond its traditional definition as task-unrelated thought (Smallwood & Schooler, 2015). In real-world work contexts, where tasks and objectives often overlap (Beal et al., 2005; Murray et al., 2020), what is traditionally considered unrelated thought can, in reality, bolster long-term task performance (Dane, 2018). This insight is critical for understanding the day-to-day psychological experiences of the workforce and provides a potential basis for organisations to foster environments that enhance productivity and creativity (Baer et al., 2021). Finally, by employing an experience sampling method to capture employees' thought episodes, our exploration aligns with the call for a person-centric approach in organisational research

(Gabriel et al., 2019; Weiss & Rupp, 2011) to address a significant gap in understanding how cognitive processes and workers' experiences like mind-wandering manifest in natural environments.

Mind-wandering at Work

Mind-wandering has been defined in different ways, for example, as unguided thinking (Irving et al., 2020) or task-unrelated thought (McVay & Kane, 2009). We follow Smallwood and Schooler (2015) and conceptualise mind-wandering as the shift in the current content of thoughts, from events in the external environment to internally generated thoughts, while performing a task. It is not unusual to find oneself thinking about things that are unrelated to the here and now. Consider, for instance, a scenario where you are engaged in monotonous data entry tasks at work. As you input data into the system, your mind might start to wander away from the repetitive keystrokes and columns of numbers and towards other, more important concerns, such as your next presentation or to perfecting the definitive comeback for that argument with your colleague.

Experiencing mind-wandering isn't inherently negative. However, its implications for task performance have prompted researchers to delve into its precursors and consequences. It has been suggested that the frequency of mind-wandering is negatively associated with working memory capacity and that its detrimental effects are amplified during complex tasks (Randall et al., 2014). Conversely, it has been proposed that, because it allows for serendipitous associations, mind-wandering can positively influence creative tasks such as those that require divergent thinking (Baer et al., 2021; Preiss et al., 2019).

If the emergence of mind-wandering in some cases poses some risks to workers' performance, individuals might be expected to have developed mechanisms to prevent its occurrence. This intuitive idea was suggested by Smallwood and Andrews-Hanna (2013), in their Context and Content Regulation Hypothesis. According to their theory, individuals are

adept at not only recognising when their thoughts begin to wander but also at employing strategies to control such episodes. They specifically postulate that individuals possess the ability to modulate the frequency of their mind-wandering episodes based on external task demands, reflecting context-dependent regulation. Thus, according to this hypothesis, mind-wandering should occur less frequently when individuals perform demanding tasks, in order to reduce the potential negative consequences of experiencing mind-wandering (Smallwood & Andrews-Hanna, 2013). Additionally, beyond merely regulating the occurrence, Smallwood and Andrews-Hanna's (2013) hypothesis is that individuals are also able to influence the content of their mind-wandering thoughts, steering them away from potentially detrimental themes or towards more neutral or constructive subjects. Such content-dependent regulation suggests that mind-wandering is a dynamic cognitive process that can be attuned to align with an individual's objectives and the specific requirements of their current environment.

Contents of Mind-wandering

While content is a central element of mind-wandering, much of the existing literature, especially that examining its consequences, has overlooked this aspect (e.g., Randall et al., 2014). So, what precisely do we mean by *thought content*? Drawing from prior work by Cacioppo et al. (1997), content can be described as the reportable elements of cognition, such as thoughts, feelings, images, and ideas. What, then, are the predominant contents of our thoughts? According to Klinger's Theory of Current Concerns, our cognitive landscape is primarily shaped by ongoing goals and unresolved tasks (Klinger, 1999). This theory, when applied to understanding the origin of mind-wandering (Smallwood, 2013), suggests that our thoughts are not entirely random. Rather, they are dynamically linked to our personal objectives and tasks awaiting our attention (Klinger, 1999; Klinger, 2013). Research in controlled settings, such as laboratories, has explored this by prompting participants to

categorise their ongoing thoughts into discernible categories such as task performance, personal anxieties, daydreams, or external environmental factors (e.g., McVay & Kane, 2009; Welhaf et al., 2019). But the lack of research in people's everyday lives means that it is not clear whether these are the representative contents that workers typically experience. We believe there is a clear knowledge gap here; we lack a detailed understanding of the precise themes that dominate mind-wandering in professional settings.

When narrowing down to professional spheres, an important distinction that emerges is the delineation between work-related and non-work-related thought content (Jimenez et al., 2022). This distinction is put forward as theoretically important by Dane (2018), who emphasises that mind-wandering is not inherently counterproductive, arguing that when the content of mind-wandering aligns with work-related tasks (i.e., mind-wandering with work-related content), it not only has the potential to mitigate negative consequences of task-unrelated thought, but might also enhance job performance, perhaps by fostering creativity or facilitating problem-solving from a novel angle. This is particularly pertinent when considering that an employee's day is segmented into numerous episodes of activity, with tasks often paused and expected to be resumed later (Beal et al., 2005). Thus, in our study, we primarily distinguish between mind-wandering with work-related content versus other (i.e., non-work-related) content. In Figure 1, we illustrate mind-wandering with work-related versus other content, which could both, in theory, occur while a person is working or outside of working hours.

Insert Figure 1 about here

Characteristics of Mind-wandering

To paint a holistic picture of mind-wandering in the workplace, it is also vital to delve into its diverse characteristics, especially those intricately linked to performance (Dane, 2018). Two crucial distinctions arise when discussing the characteristics of mind-wandering: deliberateness and temporal orientation. Seli et al. (2015) introduced the concept of *deliberate mind-wandering* to describe episodes where individuals intentionally let their minds wander—or allow them to continue—when they believe there are no negative repercussions. Deliberate mind-wandering is also marked by a metacognitive component, where individuals are aware of their mind-wandering during or after the occurrence. This is distinct from *spontaneous mind-wandering*, which is unintentional and typically arises when working memory resources are scarce (Robison & Unsworth, 2018). These spontaneous episodes of mind-wandering are characterised by a lack of a clear moment of conscious initiation. As a result, individuals may not be metacognitively aware that their thoughts have wandered until they recognise the occurrence, which can lead to feelings of surprise, annoyance, or a perceived lack of control over their thoughts (Seli et al., 2016).

Mind-wandering can also be classified based on its temporal focus. Research indicates that episodes are often oriented towards the future, especially in individuals with a robust working memory (Kvavilashvili & Rummel, 2020). This forward-looking mindset is constructive for planning and anticipating upcoming scenarios (Baumeister et al., 2020). As such, it is plausible that deliberate, future-oriented mind-wandering might offer more adaptive benefits than its spontaneous, past-focused counterpart. For example, spontaneously ruminating on a past failure at work could affect mood or productivity differently than purposefully contemplating an upcoming meeting with the department head. Extending the Context and Content Hypothesis (Smallwood & Andrews-Hanna, 2013) by considering the characteristics of mind-wandering could suggest that individuals might have the capacity not

just to regulate the frequency and content of their mind-wandering, but also its characteristics.

The Present Research

The notion that individuals may be able to regulate the frequency and content of mind-wandering—and potentially also its characteristics, depending on the context, suggests that not all those who wander are lost; mind-wandering may even benefit certain aspects of performance. However, if the consequences of mind-wandering are conditioned by its content and characteristics, then we need a better understanding of the content and characteristics of mind-wandering episodes in everyday life than the current (mainly laboratory-based) research evidence allows, in order to guide future research on this topic. That is, we need to understand what people mind-wander about, the deliberateness and temporal orientation of mind-wandering, and whether there is anything distinctive about the mind-wandering that people engage in that features work-related content or that occurs in work contexts.

In the present study, we address these important but understudied issues by testing three hypotheses about employees' everyday mind-wandering experiences in work and non-work contexts, informed by the Context and Content Regulation Hypothesis (Smallwood & Andrews-Hanna, 2013). As noted, this hypothesis suggests that people are able to control the frequency and nature of their mind-wandering, so that it does not interfere with, or could even enhance, achievement of their goals. Drawing from this, we expect that people will mind-wander less during their work time than outside work. Moreover, during work — and when thinking about work, even outside working hours — we anticipate that mind-wandering will assume a future-oriented and deliberate nature, indicative of heightened control and preparatory mechanisms for anticipated challenges:

H1: The frequency of mind-wandering will be lower when working compared to outside of work hours.

H2: In comparison to mind-wandering outside of work hours, mind-wandering when working will be (a) more work-related, (b) more deliberate, and (c) more future-oriented.

H3: In comparison to mind-wandering about other content, mind-wandering with work-related content will be (a) more deliberate, and (b) more future-oriented.

We further set an exploratory research question in order to provide greater insight into the topics that people typically mind-wander about in their everyday working lives:

Research question: What are the contents of our mind-wandering when working?

Methods

Sample

Participants were 148 Chilean employees who were invited to participate in the study via social media platforms, LinkedIn and Twitter, using a snowball sampling technique. We initially restricted our sample to full-time employees, but expanded our criteria to include part-time employees in order to generate a sufficient sample size.¹ Participants came from a range of occupations, including professionals (65%), service and sales workers (13%), clerical support workers (7%), technicians and associate professionals (7%), managers (5%), and others (3%). There was no direct compensation for participation, but participants were entered into a raffle with a single prize of £50. Across the five-day study period (Monday to Friday), participants each received 15 prompts to complete a diary entry. Seventeen participants responded only once and their data were omitted. The final sample, therefore, consisted of 131 participants (68% females, mean age 31.5 years, $SD = 10.7$, ranging from 19 to 62 years), with a total of 1158 responses ($M = 8.8$, $SD = 4.1$, compliance rate = 58.9%). It is important to note that the study was conducted during the COVID-19 pandemic, with data collection taking place in May and June of 2021. Consequently, a significant proportion of

¹ In line with our expectation that mind-wandering is a common experience across different employment statuses and working patterns, controlling for worker status (full-time versus part-time) did not change the pattern of our findings, so we report our analyses without this variable controlled for.

responses (38%) were recorded while participants were teleworking. The remaining responses were distributed as follows: traditional workplace (12%), fieldwork (2%), home (excluding telework) (43%), and commuting or other locations (6%).

Design and Procedure

When people mind-wander, many episodes occur fleetingly (and some are outside conscious awareness; Smallwood & Schooler, 2006), which means that people may struggle to accurately recall all episodes. For this reason, we adopted an experience sampling design to study the content and characteristics of mind-wandering in the moment, thus reducing reliance on memory recall. Our design involved collecting momentary data across five consecutive days. First, participants completed a baseline survey about their demographics (gender and age) and a dispositional mindfulness scale. Previous studies have found a negative relationship between mind-wandering and mindfulness (e.g., Mrazek et al., 2013), so the inclusion of this measure served as a sense-check on our findings. The survey also included the Daydreaming Frequency Scale (Giambra, 1993) to measure the regularity of daydreaming and the Big Five Inventory (Benet-Martínez & John, 1998) to assess personality traits. These variables were not included in the primary analysis but are depicted in a correlation table A1 in Appendix A. The exclusion of these measures from the main analysis was due to the lack of direct hypotheses concerning their influence on the core variables under investigation.

One week after the baseline survey, participants received three prompts each day administered via email to their personal accounts on their smartphones during five consecutive days. We explicitly asked participants to allow the notification for this email to ensure the quality of the data. Prompts were administered at quasi-random times between the hours of 9 am and 9 pm. They were quasi-randomly separated by at least 3 hours from each other (to maximise the capacity to capture different thoughts and avoid circumstantial

constraints associated with a particular moment of the working day) and by a maximum of 5 hours. At each prompt, participants were taken to a diary survey to report on the content and characteristics of their current thoughts. Used in previous studies, this research design is appropriate to capture the fluctuating dynamics of mind-wandering over time (Killingsworth & Gilbert, 2010).

Because the study involved human participants, it was reviewed and approved by the University Research Ethics Committee (UREC)². All participants provided their informed consent to participate.

Baseline Survey

Dispositional mindfulness, the extent to which an individual typically attends to their present moment, was measured using the 15-item Mindful Attention Awareness Scale (Brown & Ryan, 2003). This scale was back-translated into Spanish following the procedures described by Brislin (1970). An example item is “I find it difficult to stay focused on what’s happening in the present” (*Me resulta difícil concentrarme en lo que está sucediendo en el presente*) (1: “almost always” to 5: “almost never; $\alpha = .87$).

Diary Survey

Nature of Thought

To ascertain whether participants were mind-wandering or thinking in a focused manner (i.e., on the task at hand) when prompted during the diary study, we asked participants at each prompt “Where was your attention focused just before **you read** the email?” and to select one of the following responses “on something different from what I was doing”, “on what I was doing” or “somewhere in between”. If participants read the email after they had received it, they were asked to provide information about their thoughts at the

² This study received the necessary ethics approval from the Alliance Manchester Business School Panel, Research Ethics Committee (UREC), University of Manchester, with the approval number Ref: 2021-11346-18080.

moment they were reading the email, rather than their thoughts when they initially received it. As suggested by Weinstein (2018), the order of response options for this question was randomised between prompts, and mind-wandering was not referenced explicitly to avoid demand characteristics. Responses of “on something different from what I was doing” were taken as mind-wandering episodes, and those of “focused on what I was doing” were coded as instances of focused thought. As “somewhere in between” thoughts were not conclusively mind-wandering or focused (37.0% of the total responses), we omitted them from our main statistical analysis. We considered it necessary to include this option because, with binary alternatives, it is possible that participants could not find a response that accurately reflects their current state (Weinstein, 2018). This approach also helped mitigate the potential inflation of mind-wandering responses that could occur with strictly binary alternatives.

Thought content

To capture the content of thought, we asked people to describe what they were thinking about in their own words. To our knowledge, there is no standard established taxonomy of thought content, so we decided to derive distinctive categories of thought content inductively from the data. The question prompt was: “The following questions seek to know what things people think every day and what characteristics these thoughts have. Try to give as much detail as possible to help us better understand people’s thoughts. What were you thinking when this email arrived, or when you realised that the email arrived? (Detail your answer as much as possible).”

We provided an open-ended unlimited text box for responses. We coded this data, in the original language, using an inductive analysis detailed below, to establish the different types of thought content that people reported. In addition to identifying the thought content, we were specifically interested in discerning whether or not the thoughts were work-related. To address this distinct aspect, we posed a separate question to the participants: “The thought

that I had when the mail arrived (or I realised that it arrived) is related to my work” (responses “Yes” or “No”). Responses to this question were used in the main analyses examining whether thought content (coded as work-related versus other) varies based on context and characteristics.

Context

To enable a contrast between the nature of thoughts while working and not working, we asked participants: “What activity are you doing (or were you doing when you had that thought)”. Several pre-determined options were provided, including working, preparing food, reading, etc., based on Killingsworth and Gilbert (2010). Since our interest was in contrasting the activity of working with other types of activity, this variable was dichotomised for analyses (i.e., working versus non-working).

Thought characteristics

For temporal orientation, we used the approach and response options of Poerio and colleagues (2013) and asked: “What temporal orientation would you assign to this thought?” The response options were: “Distant past (yesterday or further back than yesterday)”, “Near past (earlier today)”, “Present”, “Near future (later today)”, and “Distant future (from tomorrow and beyond)”. Like Poerio et al. (2013), we treated this as a continuous variable. Similar to other studies (e.g., Seli et al., 2016), deliberateness was appraised with the following question: “When this thought began, was it spontaneous or deliberate?” Response options were: “Spontaneous”, “Deliberate”, and “I don’t know/cannot tell”. In this case, deliberateness was used as a dichotomous categorical variable. For responses marked as “I don’t know/cannot tell” (4.6% of the total responses), the deliberateness aspect of these responses was coded as 'NA' (Not Applicable), given its indeterminate nature, and thoughts that were allocated to this response option were omitted from our main statistical analysis.

Analysis Strategy

The first step in our analysis was to develop a broad descriptive account of the sample, e.g., the proportion of responses given in each context (i.e., at work or not working) according to the nature of thought (mind-wandering, in-between³ or focused).

We then addressed our research question (*what are the contents of our mind-wandering when working?*) by categorising thoughts using inductive content analysis (Elo & Kyngä, 2007; Hsieh & Shannon, 2005) from participants' responses to the question "What were you thinking when the prompt arrived?" All events that participants reported (N = 1158 events) were included in this analysis.

To address Hypothesis 1, which proposed that *the frequency of mind-wandering will be lower when working compared to mind-wandering outside of work hours*, we conducted multilevel logistic regression analyses using Mplus 7.0 (Muthén & Muthén, 2012). This analysis was chosen due to our nested data structure, with each participant responding to the survey multiple times, and our interest in estimating the probability of occurrence for a binary dependent variable, namely mind-wandering versus focused thoughts (Field, 2013). In this model, the dependent variable was the nature of thoughts (mind-wandering versus focused) and the independent variable was context (work versus non-work). Although not directly tied to Hypothesis 1, we incorporated deliberateness of thoughts (deliberate versus spontaneous) and temporal orientation as further independent variables. This addition allowed us to explore if our findings aligned with established literature (e.g., Seli et al., 2016; Smallwood & Schooler, 2015). We excluded responses that indicated that the person's thoughts were "somewhere in between" mind-wandering and focused, and responses that indicated "I don't know/cannot tell" concerning the deliberateness of the thought from this analysis, meaning that the sample for the analysis was N = 730 events. We controlled for age, gender, and

³ For the sake of depicting the full array of responses, we included in-between-thoughts in the descriptive section.

mindfulness disposition, as previous findings indicate that mind-wandering frequency declines with age (Maillet et al., 2018), women tend to mind-wander more than men (Preiss et al., 2016), and higher mindfulness disposition correlates with reduced mind-wandering frequency (Mrazek et al., 2013).

To test Hypothesis 2, that *mind-wandering at work is (a) more work-related, (b) deliberate and (c) future-oriented, compared to mind-wandering outside of work hours*, we conducted a multilevel logistic regression analysis. The dependent variable was the context in which mind-wandering took place (work versus non-work), and the independent variables were the content of mind-wandering (work-related versus other), the deliberateness of the thoughts (deliberate versus spontaneous), and the temporal orientation of the thoughts (ranging from distant past to distant future). As the hypothesis only pertained to mind-wandering, as well as applying the same exclusions as in the testing of Hypothesis 1, we only used data from events in which mind-wandering was reported (excluding focused thoughts), meaning that the sample for this analysis was $N = 375$ events. As before, age, gender, and mindfulness were included as control variables in the analysis.

To test Hypothesis 3, that *work-related mind wandering will be (a) more deliberate, and (b) more future-oriented than mind wandering about other content*, we again selected data pertaining only to instances of mind-wandering. We used a similar subset of events as in the testing of Hypothesis 2, but considered only events with unambiguous content ($N = 310$ events). This excludes thoughts with content that could not be recalled and “two or more contents”, as explained in the Content of Thoughts section. We conducted a multilevel logistic regression with the binary dependent variable of work-related mind-wandering compared to other mind-wandering (i.e., all other categories). The independent variables were deliberateness of thoughts (deliberate versus spontaneous) and temporal orientation of thoughts. We added a further independent variable of context (working versus not working),

and introduced two interaction terms representing the product of each characteristic and context, allowing us to discern whether mind-wandering about work-related content is distinctive across all contexts or specifically when it occurs during the workday. As justified above, age, gender, and mindfulness were again included as control variables. Moreover, we conducted analyses without the control variables, and the corresponding tables are presented in Appendix B.

Results

Of the 1158 responses received from the final sample, 31.9% occurred when participants were working and 68.1% occurred when participants were not working, e.g., preparing food, reading. Over a third of the total responses (35.0%) corresponded to mind-wandering thoughts, 37.0% to in-between thoughts (thoughts that people classified neither as mind-wandering nor as focused thoughts), and 28.0% were focused thoughts. The percentage of mind-wandering episodes (See Figure 2) was 25.5% when respondents were working and 39.5% outside of work hours. The proportion of focused thoughts was 36.0% when working and 24.2% outside of work hours, and the proportion of in-between thoughts was 38.5% while working and 36.2% outside of work hours.

Insert Figure 2 about here

Content of Thoughts

The contents of people's thoughts were categorised into six distinct themes: work, food and health, social, reflections/memories or hypothetical scenarios, money, and personal and everyday issues. The categorisation process involved four steps. Initially, the primary author and a colleague with experience in inductive content analysis reviewed and coded 20% of the responses, trying to derive as many meaningful non-overlapping categories as

possible. This process produced 30 preliminary categories. This initial phase achieved a substantial inter-rater agreement (Cohen's kappa = .81; Cohen, 1960). Subsequently, the number of categories was reduced to eight, with similar categories merged for clarity, such as combining "feelings about work" and "work-related issues" into a single "work" category. This reduction further improved inter-rater agreement (Cohen's kappa = .87). The remaining responses were then coded by the first author using these eight categories. Of these eight categories, two were considered sufficiently ambiguous—one referred to events that could not be recalled, and another category included events with "two or more contents"—that we did not seek to further interpret them. These two categories represented 11.7% of the total responses.

Work. This category includes thoughts concerning work-related problem-solving (e.g., "the analysis I am doing for today's presentation"), work-related planning (e.g., "how to organise all the work I have to finish during this week"), pending work tasks (e.g., "I was thinking about an assignment that I have to do for tomorrow, I'm a little worried."), coordination with colleagues (e.g., "I'm thinking whether I should remind this colleague to send me an email"), work-related feelings (e.g., "I'm thinking that I'm very sleepy, I must wake up, my eyes are burning, I have to make myself a coffee and work. I'm working late today, I need vacations"), and career development (e.g., "Thinking about how to get a new job, after losing the current one. I think about what I need to do differently to achieve this goal").

Food and health. This category includes thoughts about preparing food (e.g., "I'm wondering about what to prepare for lunch", "I'm going to prepare rice and chicken for dinner") and wishes about cooking or eating (e.g., "I hope today's meal is delicious"). Also, it includes reflections on health, such as "Am I sick? Should I test myself for COVID?"

Social. This category included thoughts about other people in a non-work context, such as reflection (e.g., “on how many words my daughter has learned so far”), wishes and activities (e.g., “I wish I could go with my girlfriend to the movies”), and general concerns about others (e.g., “I’m concerned about my husband’s health; he is coughing so much”).

Reflections/Memories or Hypothetical Scenarios. This category comprised thoughts about daydreams (e.g., “fantasising about going to some beach to rest and take the sun”), fantastical ideas (e.g., “Is it possible to build up a chicken robot?”), philosophical questions (e.g., “I’m wondering if there is life after death”) and memories about the past (e.g., “I was thinking about a partner I had years ago and why we broke up”).

Money. In this category, we grouped all thoughts about money, including receiving money (e.g., “I’m wondering whether I qualify for the government benefit”), spending money (e.g., “I’m considering buying the new Pokémon game”), and paying bills (e.g., “how much time do I have left for paying that bill”).

Personal and everyday issues. This category includes responses that allude to general problems like daily planning (e.g., “I’m thinking about going out tonight”), house duties (e.g., “I have to clean my room”), and general concerns (e.g., “Why my parcel hasn’t arrived yet? The mail service is terrible”).

Figure 3 illustrates the proportion of thoughts relating to different content types, split across context and the nature of thought. The top half of Figure 3 shows the content of mind-wandering thoughts. The most frequent topic of mind-wandering was work, accounting for 30% of mind-wandering episodes while working and 36% of mind-wandering episodes outside of work hours. The next most frequent topic was food and health, which accounted for nearly 20% of mind-wandering episodes at work and in other contexts. After this, when at work, the next most frequent categories were reflections/memories or hypothetical scenarios (17%), followed by money (14%), social (11%), and finally, personal and everyday issues

(9%). Outside of work hours, the subsequent most frequent topics were personal and everyday issues (14%), followed by reflections/memories or hypothetical scenarios (12%), social (10%) and money (8%).

Insert Figure 3 about here

The bottom half of Figure 3 depicts the content of focused thoughts. When working, 96% of focused thoughts were about work, and there were only a few instances of focused thoughts about food and health (2%), personal and everyday issues (1%) and money (1%), and none about reflections/memories or hypothetical scenarios (0%) nor social (0%). When people were not working, nearly 35% of focused thoughts were about work. The next most frequent categories were reflections/memories or hypothetical scenarios (17%), followed by food and health (16%), personal and everyday issues (15%), money (13%) and social issues (4%).

Mind-wandering Frequency and Characteristics

Hypothesis 1 states that the frequency of mind-wandering will be lower when working compared to not working. Our analysis (see Table 1) indicated that, when working, participants were 0.54 times (95%CI [0.36, 0.79], $p = .002$) less likely to experience mind-wandering thoughts than when they were not working. Another way to express this is that when people are doing other activities compared to when they are working, they are 1.85 ($1/0.54$) times more likely to experience mind-wandering than focused thoughts. This finding confirms our Hypothesis 1, indicating that the frequency of mind-wandering is indeed lower when working compared to not working.

Alongside the primary findings related to Hypothesis 1, our analyses also yielded insights into the characteristics of mind-wandering in general. For deliberateness, the odds

ratio indicates that when comparing deliberate thoughts to spontaneous ones, the likelihood of the thought being mind-wandering (instead of focused) is 0.12 (95%CI [0.08, 0.17], $p < .001$). In simpler terms, the odds of a spontaneous thought being classified as mind-wandering are 8.3 times higher ($1/0.12$) than for a deliberate thought. For temporal orientation, we see that thoughts that are oriented towards the future (as opposed to the past) are 2 times (95%CI [1.64, 2.45], $p < .001$) more likely to be classified as mind-wandering than as focused thoughts.

Furthermore, when examining the control variables, we found that mindfulness disposition significantly influenced the likelihood of experiencing mind-wandering versus focused thoughts. Specifically, for each unit increase in mindfulness disposition, the odds of experiencing mind-wandering thoughts decreased to 0.57 (95%CI [0.41, 0.77], $p < .001$). This suggests that individuals with a higher mindfulness disposition were 1.75 times as likely ($1/0.57 = 1.75$) to have focused thoughts rather than mind-wandering. Gender also played a significant role; females were found to have nearly twice the odds (OR = 0.53, 95%CI [0.36, 0.79], $p = .002$) of experiencing mind-wandering compared to males. Conversely, age did not significantly influence the likelihood of mind-wandering within this sample.

Insert Table 1 about here

Mind-wandering and Context

Hypothesis 2 posits that, in comparison to mind-wandering outside of work hours, mind-wandering when working will be more (a) work-related, (b) deliberate, and (c) future-oriented. The results, shown in Table 2, reveal that none of the main predictors were significantly related to mind-wandering when working. Content ($B = -0.2$, $p = .528$), deliberateness ($B = -0.37$, $p = .27$) and temporal orientation ($B = 0.01$, $p = .96$) were not

found to be significantly associated with the context of mind-wandering (i.e., whether it happens during work or outside work hours). Thus, Hypothesis 2a-c, which posited specific relationships between these features and the work context, is not supported by our findings.

Insert Table 2 about here

Mind-wandering with Work-related Thoughts

Hypothesis 3 stated that, in comparison to mind-wandering about other content, mind-wandering about work will be (a) more deliberate, and (b) more future-oriented. The results, shown in Table 3, reveal that deliberateness was positively associated with mind-wandering content ($B = .64, p = .022$). Specifically, and in support of H3a, the odds ratio (1.90, 95%CI [1.10, 3.31]) indicates that deliberate mind-wandering is 1.9 times more likely to be about work than spontaneous mind-wandering. In addition, and in support of H3b, temporal orientation is associated positively with the content of mind-wandering ($B = 0.33, p = .028$). The odds ratio (1.39, 95%CI [1.04, 1.86]) indicates that future-oriented mind-wandering is 1.39 times more likely to be about work than past-oriented mind-wandering. The context of mind-wandering (work versus not working) was not associated with the content of mind-wandering ($B = -0.19, p = .608$). Lastly, as seen in Table 3, we found no significant interaction between thought characteristics and context. In summary, mind-wandering about work appears to be more future-oriented and more deliberate than mind-wandering on other topics, regardless of whether the mind-wandering occurs while one is working or not working.

Insert Table 3 about here

Discussion

Mind-wandering, though a common human experience, has received limited exploration in organisational research, particularly regarding its content and differences across contexts. Utilising the Context and Content Regulation Hypothesis (Smallwood & Andrews-Hanna, 2013) as an organising framework, this study sheds light on the intricacies of mind-wandering in the daily lives of workers. By employing an experience sampling method, we have unveiled the primary themes and attributes of workers' mind-wandering both during work and outside of it. Our data reveal that the frequency of mind-wandering is reduced during working hours. Furthermore, while the content and characteristics of mind-wandering remain consistent across work and non-work contexts, there is a distinctive interplay between content and attributes more generally, with mind-wandering that is about work-related content being more deliberate and future-oriented in character than mind-wandering which is not about work. This nuance suggests that mind-wandering related to work possesses unique characteristics. Such insights underscore the importance of understanding the multifaceted nature of mind-wandering in organisational settings and call for a revaluation of the traditional conceptualisation of this phenomenon, extending beyond the notion of it being merely a distraction.

Theoretical Implications

Our research primarily contributes to theory by challenging how mind-wandering is conceptualised and understood in the literature. Mind-wandering has traditionally been viewed as a mere distraction, giving it a negative reputation within task-centric psychology (Creswell, 2017; Good et al., 2016; Smallwood & Schooler, 2015), and leading to the prevailing assumption that mind-wandering mainly stems from a failure to sustain attention (McVay & Kane, 2010). However, our findings challenge this notion in two key ways. First, we demonstrate that mind-wandering also *encompasses relevant topics*. We found that a

significant portion of mind-wandering instances are centred around work-related subjects, regardless of the ongoing activity. This suggests that mind-wandering might form a means of cognitively engaging with work tasks. This observation aligns with the assertion of Beal et al. (2005), who note that a workday is composed of multiple performance episodes; thus, individual may engage in mind-wandering about a task during the course of a different performance episode. In this sense, the wandering mind is task-related, albeit not on the *immediate task*.

Second, while we replicate previous findings that denote mind-wandering generally as a spontaneous phenomenon (Seli et al., 2017), including while at work, we show that individuals tend to mind-wander *less frequently* when engaged in work-related activities compared to non-work scenarios. In addition, we found that mind-wandering with work-related content was *more deliberate and more future-oriented* in character than mind-wandering involving other content. Together, these findings suggest that individuals actively regulate their mind-wandering in a manner that could be functional for their work performance, by (a) reducing mind-wandering in general while working and (b) deliberately engaging in mind-wandering thoughts or allow them to continue if those thoughts are relevant to their future work. As Smallwood and Andrews-Hanna (2013) suggest in their Context and Content Regulation Hypothesis, individuals exert a certain level of agency over their mind-wandering experiences, leveraging them to strategically contemplate forthcoming priorities. Given that mind-wandering with work-related content may have a distinct effect on productivity, as Dane (2018) proposes, our findings contribute by underscoring the cognitive adaptability and potential benefits inherent in the mind-wandering phenomenon. Thus, we argue that the depth and relevance of mind-wandering, as revealed by our study, mandate a reframing within the organisational behaviour literature.

Our study also offers a fresh perspective on the Context and Content Hypothesis, which posits that individuals regulate the frequency and content of their mind-wandering in a goal-directed manner. We found that whilst people do regulate the frequency of their mind-wandering in relation to their context, in relation to content our findings suggest a more intricate pattern, wherein individuals may adjust specific *characteristics* of their mind-wandering, particularly its deliberateness and temporal orientation, when the content of mind-wandering is work-related. This nuanced regulation occurs irrespective of whether the individual is actually working at the time, indicating that the nature of mind-wandering is influenced more by the subject matter than the immediate context. Our results thus extend the Context and Content Regulation Hypothesis, by highlighting that the regulation of mind-wandering also involves adapting its characteristics, especially in the context of work-related concerns.

Finally, our findings suggest that the classical dichotomy of task-related versus task-unrelated thought (Smallwood & Schooler, 2006) may be too rigid to capture the fluidity of attention and thought. In our study, the significant number of participants reporting thoughts that did not neatly fit into either category (i.e., mind-wandering or focused thought)—which were reported as in-between thoughts— supports the notion of a gradient in attentional focus, as also noted in experience sampling studies like Warden et al. (2019). Considering these findings, future experience sampling studies should consider expanding the range of response options beyond the binary on/off-task distinction. This broader spectrum of response options would allow for a more precise mapping of attentional states. Moreover, it could help prevent potential overestimation of mind-wandering responses.

Limitations and Future Research

Although our design has many strengths (e.g., the use of experiencing sampling, assessing mind-wandering in a naturalistic setting), this study has its limitations. For

example, we only requested written responses when asking participants about their current thoughts. It is possible that, by doing so, we encouraged participants to elaborate on their thoughts, therefore providing more structured responses, which might otherwise have been more unguided and potentially encompassing several topics at once. In addition, asking participants to write while they were doing other activities could have impeded them from describing their train of thought in further detail. Therefore, future research may also consider additional procedures like allowing participants to record a voice message. Furthermore, nearly 23% of our participants responded to questions either only when working or only while doing other activities, but not both. This reduction in variability decreased our chances of comparing responses across contexts. Future studies should include mechanisms to prevent this from happening, like sending more prompts during the day or including more days in the study.

It was also noteworthy that 35% of focused thoughts during non-work hours (i.e., outside of work designated hours) were about work. Participants reported engaging in focused work-related thoughts, such as “reading work emails”, “preparing a lecture”, or “thinking about hiring a new employee”, while involved in everyday non-work activities like commuting or walking. While this finding suggests that in everyday life, unlike in laboratory settings, defining a task and thereby classifying mind-wandering based on its relation to a task—which can be much more blurred in real life than in the laboratory—can be challenging (Murray et al., 2020), the high percentage we observed may have been a consequence of our sample and the timing of the study. Our sample comprised individuals from various professional backgrounds, including academia and management, who often require prolonged mental engagement with work-related tasks beyond standard office hours. The blurring of work-nonwork boundaries may also have been heightened by the timing of our study, during the COVID-19 pandemic, when many individuals were working remotely.

Given that not all participants recorded data while working in various locations (traditional workplace vs. teleworking), and our sample size may not be large enough to effectively compare the frequencies of mind-wandering across different locations, future studies should investigate the impact of work location on mind-wandering. Additionally, while we controlled for work status (part-time vs full-time), future research should also consider this variable more closely, as it is possible that with a larger sample, significant differences in mind-wandering patterns could emerge based on employment status. We suggest that subsequent research replicate this study post-pandemic, to discern if these patterns persist in more conventional work-life scenarios. Such research could also benefit from using stratified sampling to explore the prevalence, content, and characteristics of mind-wandering across various occupations and the impact of job design characteristics. Mind-wandering with work-related content might be more common in professions without strict boundaries or in jobs that offer more autonomy. Investigating these occupational variances could illuminate the adaptive functions of mind-wandering and its potential implications for work performance.

A final challenge for future research will be to directly tackle the question of how mind-wandering shapes performance across the working day. Our contention is that mind-wandering that is about work-related content can be functional and our study provides initial evidence that people do regulate its characteristics in a seemingly adaptive manner, but it will be important to test a direct link to performance. Beal et al.'s (2005) episodic model of performance suggests that performance varies across the day due to multiple factors, such as circadian rhythms, fatigue, and task-driven motivation, and it is plausible that certain phases of the workday, which might typically be marked by lower performance, could coincide with periods of productive, work-related mind-wandering. Such episodes might serve as introspective breaks or subconscious problem-solving intervals. The dynamic relationship

between the content and timing of mind-wandering and employees' daily rhythms and their performance peaks and troughs deserves targeted exploration in future studies.

Conclusion

Our stream of thought is composed of various content. According to the now classical definition of Smallwood and Schooler (2006), the (un)relatedness of our thoughts to our current activities is what classifies them as mind-wandering. Because of that, mind-wandering acquired an unfavourable reputation in the task-centric psychology. Mind-wandering thoughts are seen as obstructions and, therefore, they negatively affect our performance. Our study demonstrates that mind-wandering is a complex phenomenon encompassing various contents and characteristics. Future studies, particularly in organisations, to properly understand its consequences for productivity, must adequately represent it.

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Table 1

Unstandardised Logs Odds Ratio Estimates and Odds Ratio of Logistic Regression of Mind-Wandering Frequency with Context, Deliberateness and Temporal Orientation as Predictors

						95% CI Odds Ratio	
DV: Mind-wandering vs Focused Thoughts	Effects	<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	<i>LB</i>	<i>UB</i>
	Intercept	0.975	0.669	.145	2.651	0.720	9.994
Within level variables	Context	-0.625	0.201	.002	0.535	0.360	0.792
	Deliberateness	-2.122	0.194	.000	0.119	0.081	0.173
	Temporal Orientation	0.691	0.103	.000	1.995	1.635	2.452
Between level variables	Age	0.007	0.008	.406	1.006	0.991	1.022
	Gender	-0.628	0.199	.002	0.533	0.360	0.785
	Mindfulness	-0.566	0.159	.000	0.567	0.413	0.772
AIC = 718.290 BIC = 749.935, Pseudo-R ² (Cragg-Uhler) = 0.38							

CI: Confidence intervals. LB: Lower Bound; UB: Upper Bound. AIC = Akaike information criterion; BIC = Bayesian information criterion. Reference categories = not working; spontaneous thoughts; past temporal orientation. Gender: 0 = females, 1 = males. n = 730, number of clusters = 130.

Table 2

Unstandardised Logs Odds Ratio Estimates and Odds Ratio of Logistic Regression of Mind-wandering at Work with Work-content, Deliberateness and Temporal Orientation as Predictors

DV: Mind-wandering when working vs mind-wandering outside of work hours		<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	95% CI Odds Ratio	
						<i>LB</i>	<i>UB</i>
	Intercept	0.018	0.982	.986	1.017	0.144	6.903
<i>Within level variables</i>	Work-content	-0.191	0.302	.528	0.826	0.451	1.481
	Deliberateness	-0.366	0.334	.273	0.693	0.350	1.310
	Temporal Orientation	0.006	0.124	.960	1.006	0.790	1.289
<i>Between level variables</i>	Age	-0.032	0.014	.025	0.968	0.940	0.994
	Gender	0.407	0.289	.159	1.501	0.847	2.636
	Mindfulness	-0.070	0.234	.766	0.932	0.591	1.485

AIC = 342.05 BIC = 368.21, Pseudo-R² (Cragg-Uhler) = 0.05

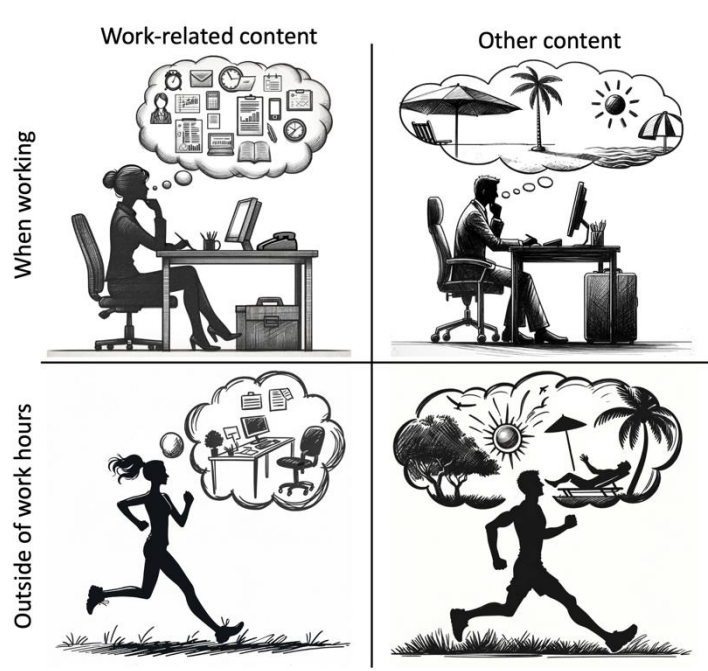
CI: Confidence intervals. LB: Lower Bound; UB: Upper Bound. AIC = Akaike information criterion; BIC = Bayesian information criterion. Reference categories = other (non-work-related) content, spontaneous thoughts; past temporal orientation. n = 375, number of clusters = 112.

Table 3

Unstandardised Logs Odds Ratio Estimates and Odds Ratio of Logistic Regression of Mind-Wandering with Work-Related Content with Context, Temporal Orientation, and Deliberateness as Predictors

		Step 1						Step 2					
						95% CI Odds Ratio						95% CI Odds Ratio	
DV: Mind-wandering with work-related content vs mind- wandering with other content	Effects	<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	<i>LB</i>	<i>UB</i>	<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	<i>LB</i>	<i>UB</i>
<i>Within level variables</i>	Intercept	-2.054	0.916	.025	0.128	0.021	0.772	-2.227	0.975	.022	0.107	0.015	0.729
	Deliberateness	0.644	0.282	.022	1.904	1.096	3.308	0.386	0.293	.187	1.472	0.829	2.612
	Temporal Orientation	0.328	0.149	.028	1.388	1.037	1.859	0.404	0.166	.015	1.498	1.082	2.074
	Context	-0.190	0.371	.608	0.827	0.399	1.711	-0.589	1.296	.599	0.555	0.044	7.029
	Deliberateness*Context							1.181	0.660	.074	3.258	0.894	11.87
	Temporal Orientation*Context							-0.301	0.284	.289	0.817	0.425	1.291
<i>Between level variables</i>	Age	-0.007	0.010	.524	0.993	0.973	1.014	-0.004	0.010	.687	0.997	0.977	1.017
	Gender	-0.430	0.303	.155	0.650	0.359	1.177	-0.403	0.301	.180	0.669	0.371	1.206
	Mindfulness	0.139	0.236	.557	1.149	0.723	1.825	0.102	0.227	.653	1.108	0.710	1.730
AIC = 392.36 BIC = 418.52, Pseudo-R ² (Cragg-Uhler) = 0.09								AIC = 392.45. BIC = 426.08, Pseudo-R ² (Cragg-Uhler) = 0.10					

CI: Confidence intervals. LB: Lower Bound; UB: Upper Bound. AIC = Akaike information criterion; BIC = Bayesian information criterion. Reference categories = other (non-work-related) content; spontaneous thoughts; past temporal orientation; not working. n = 310, number of clusters = 108.

Figure 1*Mind-wandering content and context*

Note. This schematic illustrates the relationship between mind-wandering content, categorised as “work content” (thoughts related to work) and “other content” (thoughts unrelated to work), in different contexts—when working and outside of work hours. The four quadrants are defined as follows: Quadrant 1 (Top-Left): A person is depicted as working and experiencing mind-wandering about work content. Quadrant 2 (Top-Right): A person is depicted as working and experiencing mind-wandering about other content. Quadrant 3 (Bottom-Left): A person is depicted as not working (e.g., jogging) and experiencing mind-wandering about work content. Quadrant 4 (Bottom-Right): A person is depicted as not working (e.g., jogging) and experiencing mind-wandering about other content.

Figure 2

Nature of Thought Proportion by Context

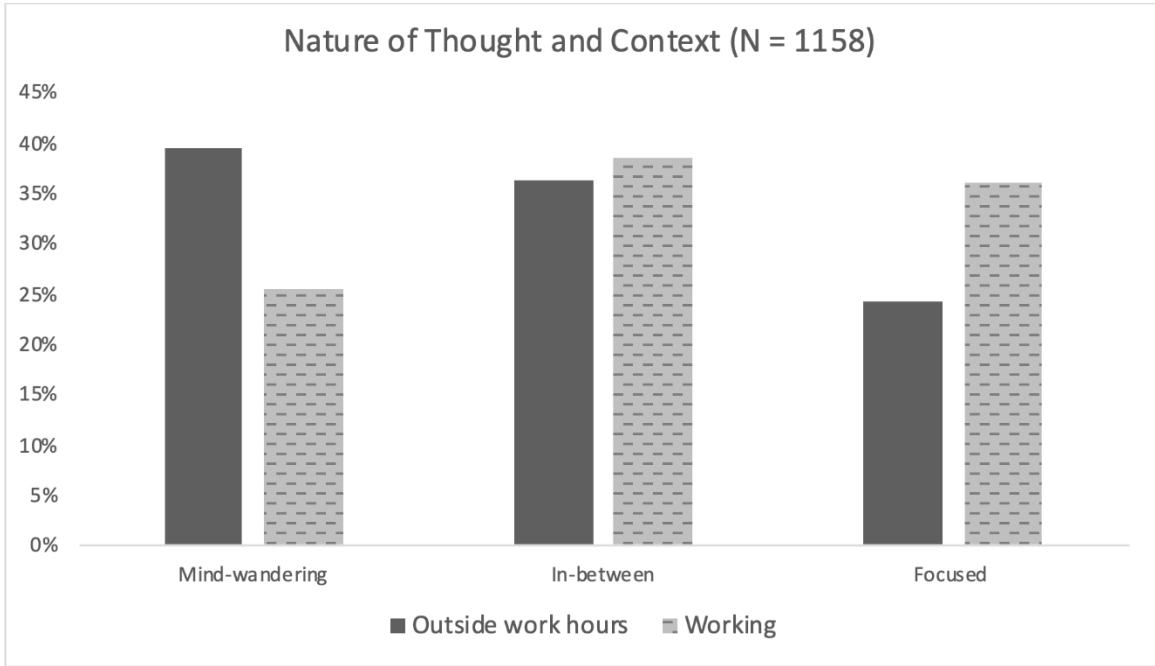
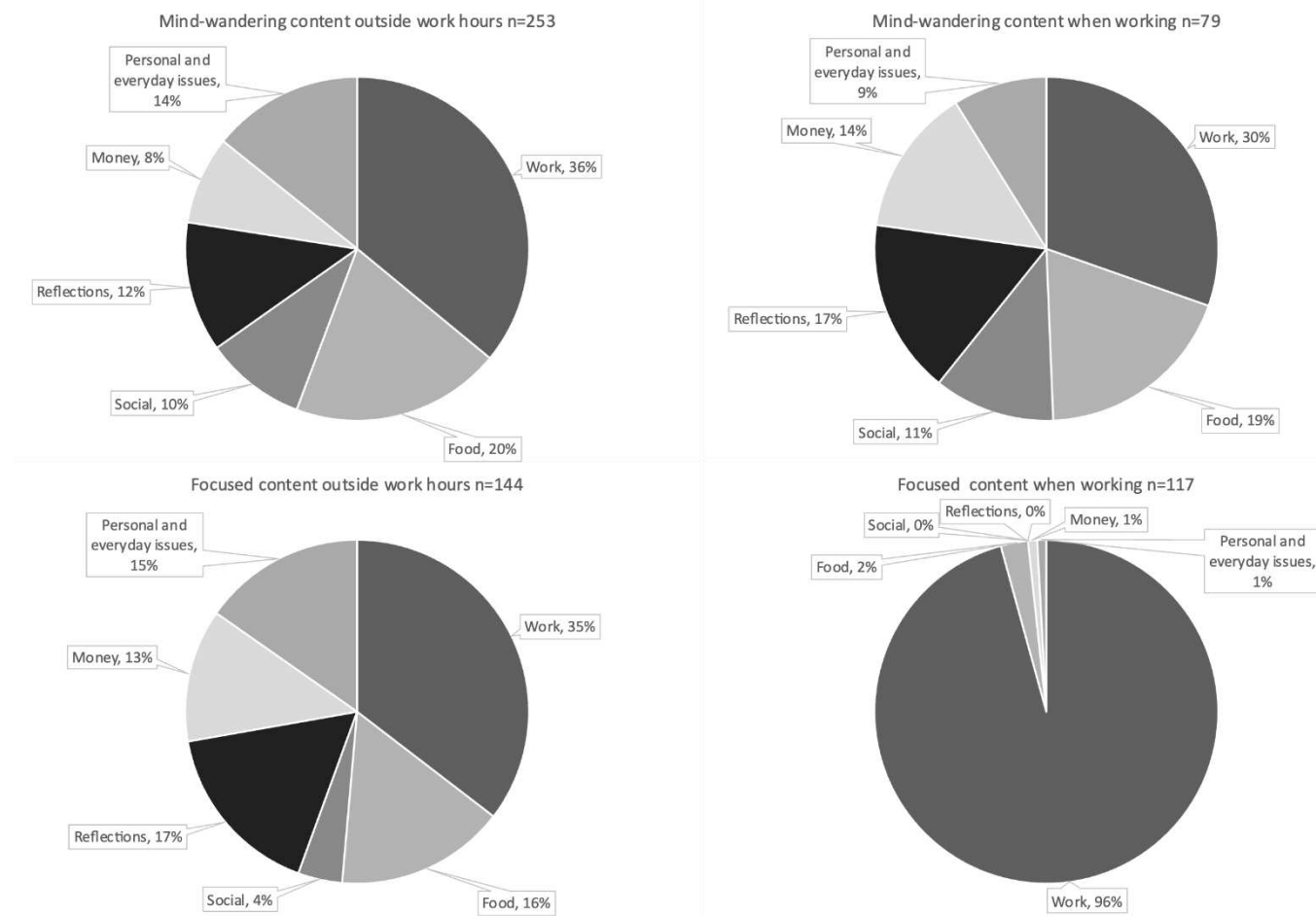


Figure 3*Content Proportion by Nature of Thought and Context*

Note. Total n = 593 (In-between thoughts and thoughts with more than two contents or unspecific are not considered in this summary)

Appendix A

Table A1*Means, Standard Deviations, and Pearson Correlations Between Baseline Survey Variables and Other Study Variables.*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender ^a	0.31	0.46												
2. Age	31.47	10.65	.01											
3. Daydreaming Frequency	3.39	0.81	.08	-.07										
4. Mindfulness	3.14	0.64	-.03	.14	-.46**									
5. Neuroticism	2.85	0.70	-.11	-.30**	.26**	-.54**								
6. Agreeableness	3.76	0.56	-.01	.09	-.10	.28**	-.31**							
7. Extroversion	3.22	0.68	-.04	.27**	-.30**	.33**	-.43**	.33**						
8. Openness to Experience	4.11	0.54	-.05	.09	.08	.11	-.14	.37**	.18*					
9. Conscientiousness	3.59	0.71	-.03	.16	-.36**	.43**	-.40**	.32**	.41**	.05				
10. Mind-wandering ^{bc}	0.57	0.34	-.23**	.03	.22*	-.23**	.14	.06	.04	.14	.07			
11. Deliberateness ^b	0.45	0.25	.12	-.12	-.02	.13	.02	-.03	.06	-.05	-.07	-.26**		
12. Temporal Orientation ^b	3.32	0.48	.12	-.09	.24**	-.15	.10	-.07	-.11	.12	.02	.29**	-.08	
13. Work-related Content ^b	0.50	0.28	.08	-.09	-.04	.05	-.01	-.02	-.01	-.05	.02	-.22*	.17	.01

Note. N = 131, *M* and *SD* are used to represent mean and standard deviation, respectively. * indicates $p < .05$. ** indicates $p < .01$. ^a = 1 males and 0 = females. ^b = Values reflect the average across the 5 days experience sampling study. Deliberateness is coded from 1 (deliberate thoughts) to 0 (spontaneous thoughts). Temporal Orientation is coded from 5 (distant future) to 1 (distant past). Work-Related Content is coded from 1 (work-related) to 0 (other content), which includes both mind-wandering and focused thoughts. ^c = Mind-wandering is coded from 1 (mind-wandering) to 0 (focused thoughts), in between thought were considered as 'NA'.

Appendix B

Table B1

Unstandardised Logs Odds Ratio Estimates and Odds Ratio of Logistic Regression of Mind-Wandering Frequency with Context, Deliberateness and Temporal Orientation as Predictors.

DV: Mind-wandering vs Focused Thoughts	Effects	<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	95% CI Odds Ratio	
						<i>LB</i>	<i>UB</i>
	Intercept	-0.783	0.331	.018	0.456	0.237	0.872
	Context	-0.697	0.196	.000	0.498	0.338	0.731
	Deliberateness	-2.062	0.188	.000	0.127	0.087	0.182
	Temporal Orientation	0.666	0.100	.000	1.947	1.607	2.375
AIC = 733.686 BIC = 751.768, Pseudo-R ² (Cragg-Uhler) = 0.35							

CI: Confidence intervals. LB: Lower Bound; UB: Upper Bound. AIC = Akaike information criterion; BIC = Bayesian information criterion. Reference categories = not working; spontaneous thoughts; past temporal orientation. n = 730, number of clusters = 130.

Table B2

Unstandardised Logs Odds Ratio Estimates and Odds Ratio of Logistic Regression of Mind-wandering at Work with Work-content, Deliberateness and Temporal Orientation as Predictors

DV: Mind-wandering when working vs mind-wandering outside of work hours	Effects	<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	95% CI Odds Ratio	
						<i>LB</i>	<i>UB</i>
	Intercept	-1.274	0.438	.004	0.279	0.114	0.642
	Work-content	-0.219	0.296	.460	0.803	0.443	1.423
	Deliberateness	-0.370	0.331	.263	0.691	0.351	1.295
	Temporal Orientation	0.073	0.121	.544	1.075	0.851	1.369

AIC = 344.176 BIC = 359.122, Pseudo-R² (Cragg-Uhler) = 0.01

CI: Confidence intervals. LB: Lower Bound; UB: Upper Bound. AIC = Akaike information criterion; BIC = Bayesian information criterion. Reference categories = other (non-work-related) content, spontaneous thoughts; past temporal orientation. n = 375, number of clusters = 112.

Table B3

Unstandardised Logs Odds Ratio Estimates and Odds Ratio of Logistic Regression of Mind-Wandering with Work-Related Content with Context, Temporal Orientation, and Deliberateness as Predictors

		Step 1						Step 2					
						95% CI Odds Ratio						95% CI Odds Ratio	
DV: Mind-wandering with work-related content vs mind-wandering with other content	Effects	<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	<i>LB</i>	<i>UB</i>	<i>B</i>	<i>SE</i>	<i>p</i>	Odds Ratio	<i>LB</i>	<i>UB</i>
	Intercept	-1.908	0.444	.000	0.148	0.059	0.343	-2.127	0.502	.000	0.119	0.042	0.305
	Deliberateness	0.657	0.272	.016	1.928	1.130	3.288	0.380	0.307	.215	1.462	0.798	2.666
	Temporal Orientation	0.313	0.116	.007	1.367	1.095	1.727	0.396	0.133	.003	1.486	1.154	1.947
	Context	-0.212	0.296	.474	0.809	0.447	1.431	0.680	1.094	.534	1.974	0.204	15.716
	Deliberateness*Context							1.264	0.687	.066	3.538	0.937	14.161
	Temporal Orientation*Context							-0.339	0.291	.244	0.712	0.405	1.280
AIC = 389.805 BIC = 404.751, Pseudo-R ² (Cragg-Uhler) = 0.07								AIC = 389.07 BIC = 411.49, Pseudo-R ² (Cragg-Uhler) = 0.09					

CI: Confidence intervals. LB: Lower Bound; UB: Upper Bound. AIC = Akaike information criterion; BIC = Bayesian information criterion. Reference categories = other (non-work-related) content; spontaneous thoughts; past temporal orientation; not working. n = 310, number of clusters = 108.