

Why do people (not) take breaks?

An investigation of individuals' reasons for taking and for not taking breaks at work

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### Abstract

Although breaks can help employees stay energized and maintain high levels of performance throughout the day, employees sometimes refrain from taking a break despite wanting to do so. Unfortunately, few studies have investigated individuals' reasons for taking and for *not* taking a break at work. To address this gap, we developed a model for predicting employees' break-taking behaviors. We developed hypotheses by integrating theories of work stress, self-regulation, and the results of a qualitative survey conducted as part of the current research (Study 1). Specifically, we predicted that high workloads would be positively related to the *desire* to detach from work, but that at the same time, high workloads would also deter employees from *actually* taking breaks. Further, we predicted that employees would be less likely to act upon their desire to take a break within an environment where breaks are frowned upon by supervisors and coworkers, relative to an environment where breaks are allowed and encouraged. The results of a daily diary study of full-time employees (Study 2) provided general support for these predictions. Altogether, this research provides insights into the manner in which employees' psychological experiences and characteristics of the work environment combine to predict break-taking.

*Keywords:* breaks, recovery, self-regulation, break antecedents, micro-break climate

Employees often face considerable workloads which require them to expend a great deal of effort and energy. Yet, prolonged effort and energy expenditure without rest can result in decreased well-being and performance (Demerouti et al., 2009; Geurts & Sonnentag, 2006). To prevent these negative outcomes, employees can take *breaks*, which are periods during the workday when individuals are not performing job-related tasks. Indeed, several studies indicate that breaks allow employees to feel refreshed throughout the day (e.g., Hunter & Wu, 2016; Zacher et al., 2014) without compromising task performance (Kim et al., 2018; Wendsche et al., 2016). However, despite these apparent benefits, relatively little is known about the antecedents of an individual's decision to take a discretionary break. More so, there is evidence that employees sometimes forego taking a break despite wanting to do so (McLean et al., 2001; Right Management, 2011; Totaljobs, 2017). Thus, the purpose of this manuscript is to elucidate the processes underlying the decision to take—or forego taking—a break at work.

In particular, we focus on employees' conscious, volitional decisions to take breaks from their work tasks. That is, in addition to formal break periods (e.g., lunch breaks), most individuals also have some degree of autonomy over the decision to take shorter breaks during the day, which are sometimes referred to as “micro-breaks” (Kim et al., 2021; Niu, 2016; Zacher et al., 2014). Yet, the current literature provides only limited insights into the antecedents of these decisions. To this end, we begin by drawing on both stress-related theories (e.g., Hobfoll, 1989; Meijman & Mulder, 1998) and self-regulatory theories (e.g., Carver & Scheier, 1998; Vancouver et al., 2010) to explain how employees use breaks to deal with work demands.

However, these theories were not explicitly developed to explain or predict break-taking behavior, and thus, likely leave out important influences of break-taking decisions. Therefore, we conducted a qualitative study (Study 1) in which employees were asked open-ended questions

about a recent instance during which they (1) took a break, and (2) wanted to take a break, yet ultimately did not do so. Doing so allowed us to identify additional factors preceding the decision to take (or skip) a break at work. We then integrated the results of this qualitative study with the theoretical orientations described above to develop hypotheses regarding the processes via which workload may influence the decision to take – and not take – a break. Finally, we tested our hypotheses using a daily diary study (Study 2) in which full-time employees responded to questionnaires over five consecutive workdays.

The current research makes several important contributions. First, whereas past research has identified the benefits of breaks for employees, the factors that prompt or deter employees from taking breaks have remained largely unexplored. We address this gap by demonstrating that workload plays a critical role in shaping employees' voluntary and conscious decision to take, as well as skip, a break. Second, whereas there is some support for the idea that fatigue precedes the decision to take a break from work (Kim et al., 2021), we demonstrate that employees' decision to take a break can also be influenced by other daily experiences, such as negative affect and concerns regarding performance. Finally, the current studies highlight the importance of the work context – particularly the climate surrounding the degree to which breaks are acceptable – in determining whether or not employees choose to take a momentary break from work.

### **Workload as an Antecedent of Break-Taking Behavior**

Work is characterized by the pursuit and prioritization of goals (e.g., Lord et al., 2010; Neal et al., 2017). To complete their goals, workers exert physical and mental energy. More so, energy is a finite resource; employees deplete their energy by completing work tasks (Quinn et al., 2012) and recover energy via rest (Meijman & Mulder, 1998). Critically, because breaks allow individuals to recover the energy needed for work (Hunter & Wu, 2016; Zacher et al.,

2014), workload provides a natural starting point for understanding break-taking behavior. Specifically, workload is defined as the number of goals that need to be pursued, the difficulty of those goals, and the amount of progress remaining to be made to meet the goals (Bowling et al., 2015; Spector & Jex, 1999). However, existing theoretical accounts of how individuals respond to high workloads provide seemingly conflicting predictions regarding the effect that workload may have on discretionary break-taking. We elaborate on these theories below.

### **Stress-Related Theories versus Self-Regulatory Theories**

Two of the most influential theories describing the way individuals manage stressors like high workloads are Meijman and Mulder's (1998) effort-recovery (E-R) model and Hobfoll's (1989) conservation of resources (COR) theory. A central tenet of these stress-related theories is that exposure to demands (e.g., high workloads) results in fatigue (Demerouti et al., 2009; Geurts & Sonnentag, 2006). In response, employees engage in behaviors to help them restore their energy. One such behavior is taking a break (e.g., Hunter & Wu, 2016; Zacher, et al., 2014). As such, these theories suggest employees may take breaks to recover from fatigue that is caused by high workloads, thereby implying a positive relationship between workload and break-taking. Indeed, there is some empirical support for this perspective (Kim et al., 2021).

On the other hand, self-regulatory theories (e.g., Carver & Scheier, 1998; Vancouver et al., 2010) suggest that high workloads may deter break-taking. Self-regulatory theories describe the way individuals prioritize multiple, competing demands (Neal et al., 2017). A central tenet of these theories is that individuals tend to prioritize goals that are most in need. High workloads signal that a great deal of time and effort will be necessary to accomplish the task at hand. Moreover, we believe employees will generally be willing to spend the extra time and effort required to reduce high workloads, as valued employee outcomes (e.g., pay, promotion) often

depend on the successful completion of work assignments (Bergeron et al., 2013). Yet, because time within the workday is finite, more time spent on work tasks means less time will be available for breaks. Thus, contrary to predictions derived from stress theories, self-regulatory theories imply high workloads may diminish the frequency with which individuals take breaks.

### **Integration of Theoretical Accounts**

Although the theories described above appear to offer conflicting predictions regarding the influence of workload on break-taking behavior, we argue instead that these theories highlight different aspects of the same process. Whereas stress-related theories (Hobfoll, 1989; Meijman & Mulder, 1998) suggest that fatigue experienced as a result of a large workload will lead to increased break-taking behavior, self-regulatory theories (e.g., Carver & Scheier, 1998; Vancouver et al., 2010) suggest that large workloads may lead an individual to decide *not* to take a break, *despite* feeling fatigued. That is, in the face of a large workload, an individual may be unwilling to divert time away from the task at hand and instead choose to “power through” without a break, in spite of fatigue. Therefore, we expect workload to have a positive indirect effect on break-taking via fatigue, yet we also expect workload to moderate the relationship between fatigue and break-taking, such that this relationship is stronger when workloads are low, relative to when workloads are high. A heuristic version of our predictions is shown in Figure 1.

Nonetheless, it is important to acknowledge that neither set of theories was intended to explain break-taking *per se*. There are almost certainly important antecedents of break-taking unaccounted for by these frameworks. Therefore, before developing formal hypotheses, we sought to gather additional information regarding employees’ voluntary and conscious decisions to take a break or not. To this end, we conducted a qualitative study in which employees responded to open-ended questions regarding their reasons for taking and for not taking a break.

Prior to summarizing Study 1, we note that the studies included in this manuscript were conducted prior to the COVID-19 pandemic. The pandemic resulted in temporary changes in numerous work settings, such that many employees began working from home. These changes are likely to influence employees' break-taking behaviors to at least some extent (e.g., employees may take more frequent breaks). However, because Studies 1 and 2 were conducted prior to the pandemic, these temporary changes did not affect the findings.

## Study 1

### Method

#### *Participants*

We recruited individuals residing in the US from Amazon Mechanical Turk (MTurk) to complete a prescreen survey<sup>1</sup>. Individuals were eligible for the study if they worked 30 or more hours per week and took at least one break per workday on average. In total, 107 individuals met the criteria and completed the study. The sample was 54.2% male, 78.5% Caucasian, and had a mean age of 34.0 ( $SD = 11.1$ ) years. Participants worked in various sectors, including customer service (27.1%), information technology (17.8%), and research and development (8.4%). On average, participants worked 41.4 hours per week ( $SD = 6.1$ ) and had a job tenure of 6 years ( $SD = 5.1$ ). Participants received \$2.00 US for completing the study.

#### *Procedure*

To ensure a common understanding of “breaks,” participants were told that breaks referred to “periods of time during the workday in which an employee is engaging in activities that are not related to the job.” Next, participants were asked to recall an instance over the past week in which they *took* a break during the day, and to describe their reasons doing so via

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<sup>1</sup> 187 individuals completed the prescreen. The prescreen took approximately 1 minute to complete and individuals were not paid for the prescreen. This was clearly communicated to individuals prior to the prescreen.

several open-ended textboxes. Given our focus on discretionary breaks, we asked participants to focus on situations during which they made the conscious decision to take a break, as opposed to situations in which they were forced to take a break or in which they were formally expected to take a break. Finally, participants were asked to recall one instance over the past week in which they considered taking a break, but ultimately chose *not to take* a break. Participants then described their reasons for not taking a break at that moment<sup>2</sup>. Participants could list multiple motives when answering each question.

In addition to reporting their reasons for taking and for not taking a break, participants were also asked to answer additional questions as part of the Study (see Table 1). For example, participants were asked to report on the activity they were engaged in immediately before they took a break and to report the activity they engaged in during their break. Given that these questions were included for exploratory purposes, we summarize participants' answers to these additional questions in supplementary online materials rather than in the manuscript.

### ***Content Analysis***

We developed coding schemes for individuals' reasons for taking and for not taking a break using established content analysis guidelines (Smith, 2000). We henceforth refer to these two sets of motives as *positive* antecedents and *negative* antecedents, respectively. To develop the schemes, the first author and an industrial-organizational psychology doctoral student read all participants' responses to identify underlying themes. Upon reading the responses, we developed concrete definitions and examples for each theme. Next, two research assistants independently coded participants' responses by noting whether each theme listed in the coding scheme was

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<sup>2</sup> We also asked participants to describe their reasons for *considering* taking a break at that moment. These reasons did not differ from participants' reasons for *actually taking* a break. Thus, for brevity participants' reasons for considering a break are not discussed here, but are instead summarized in the SOM.



present or absent within each response. Whenever participants mentioned multiple antecedents (e.g., taking a break due to fatigue *and* hunger) in their response to the same question, both antecedents were noted as being present. Additionally, whenever a participant mentioned the same antecedent multiple times (e.g., fatigue *and* exhaustion), coders indicated the presence of the antecedent only once. The final coding schemes demonstrated acceptable inter-rater agreement reliability (mean Cohen's  $\kappa = .72$ ) based on recommended criteria (e.g., Fleiss, 1981; Landis & Koch, 1977). Disagreements among coders were resolved through discussion between coders and the first author. The final resolved codes were used for descriptive analyses.

## Results

Seven *positive* antecedents emerged: (1) fatigue, (2) physiological needs, (3) performance concerns, (4) negative affect, (5) desire to detach, (6) desire to socialize, and (7) non-work preoccupations; definitions and examples are included in Table 2. The most frequently reported positive antecedent was *fatigue* (45% of participants); several participants took a break due to feeling tired, fatigued, or exhausted. This was followed by *physiological needs* (30%), such as needing to eat food or use the restroom. The third most frequently reported antecedent was *performance concerns* (28%); many participants took a break due to perceived decrements in performance, or due to a desire to maintain high levels of performance throughout the day. For example, a participant mentioned needing a break “to be a more productive worker.” The fourth most commonly reported antecedent was *negative affect* (21%); several participants reported taking a break due to negative emotions such as annoyance and frustration. The fifth most cited antecedent was *desire to detach* (18%); some participants took a break to get away from their work task, the work environment, or individuals in the workplace setting (e.g., coworkers, clients). For instance, some participants mentioned “[not wanting] to deal with customers,” or

wanting to “get out of the office away from my computer.” *Desire to socialize* (e.g., “I wanted to talk to my coworker”; 6%) and *non-work preoccupations* (e.g., “I needed to fix my car”; 5%) also emerged as antecedents.

Seven *negative* antecedents emerged: (1) workload, (2) momentum, (3) expedience, (4) sudden change in the work situation, (5) the supervisor, (6) impression management, and (7) concern for coworkers; definitions and examples are included in Table 3. The most frequently mentioned negative antecedent was *workload* (33%); several participants mentioned not taking a break due to high demands or lack of time. This was followed by *momentum* (27%); several participants abstained from a break because a break would have disrupted their train of thought (e.g., “I needed to finish the code I was writing, not lose my momentum”) or would have resulted in an interruption (e.g., “[I] was working hard and in the moment and did not want to interrupt my work.”) The third most reported antecedent was *expedience* (25%); several participants mentioned not taking a break so they could complete their work rapidly or within a deadline (e.g., “I really wanted to finish before the end of the day”). Other antecedents included a *sudden change in the work situation* (e.g., “A client called as I was getting ready to go to lunch so I had to take the call”; 10%), the *supervisor* (e.g., “As I grabbed my keys I hear my boss yell over. He calls me in his office and has me going over multiple projects”; 8%), *impression management* (e.g., “coworkers can fire me”; 6%), and *concern for coworkers* (e.g., “I was needed”; 6%).

## **Discussion**

The results of Study 1 provide some initial support for the theoretical orientations presented earlier in this article. Most notably, in line with stress-related theories, fatigue emerged as a primary factor leading individuals to take a break. Likewise, in line with self-regulatory theories, workload was a primary reason individuals did *not* take a break despite wanting to do

so. Yet more importantly, Study 1 identified several additional factors influencing break-taking decisions. Thus, in the remainder of this manuscript we attempt to integrate the results from Study 1 with the theoretical perspectives highlighted at the beginning of the paper.

We begin by narrowing our scope to the antecedents of break-taking identified in Study 1 that are most germane to the current research. For instance, although *physiological needs* were listed as a relatively common reason individuals took a break from work in Study 1, we do not consider this antecedent in the remainder of the paper. In particular, the purpose of the current manuscript is to identify psychological factors leading to the conscious decision to take a break. Thus, physiological needs fall outside the scope of the manuscript. Likewise, we also do not include *desire to socialize* nor *non-work preoccupations* in our model moving forward. Although these factors may be important determinants of break-taking behavior, the current manuscript is oriented around breaks as a response to work demands; non-work factors are somewhat tangential. For the sake of expedience and clarity, we do not consider these factors further.

With regard to the reasons Study 1 participants gave for not taking a break, we opted to exclude *sudden changes in the work situation*. The purpose of the manuscript was to understand individuals' volitional decisions to take (or not take) breaks at work, yet arguably individuals who do not take a break because of a sudden change to their work situation (e.g., a client call) have not *chosen* to skip the break, but instead had little control over the decision. We also excluded the *supervisor* and *impression management* as individual variables in our model, as we believe these factors are reflections of the work group's climate regarding breaks. Indeed, Niu (2016) found that employees who believed their coworkers and supervisors valued breaks tended to take more breaks, relative to employees who believed breaks were frowned upon in their workplace. More so, unlike the other antecedents (e.g., workload, negative affect), an

employee's beliefs about the need to manage impressions and a supervisor's attitude toward breaks is unlikely to vary on a day-to-day basis, and is instead best captured by a between-subjects variable. Thus, rather than modeling the supervisor and impression management as distinct factors, we include Niu's climate construct in our model.

Finally, although Study 1 uncovered several break antecedents, its implications must be considered alongside its limitations. Compared to other qualitative methods such as interviews and focus groups, the survey design used in Study 1 did not allow us to obtain a great deal of deep insights into the psychological processes that underlie break-taking. Specifically, it was not possible for us to ask clarifying questions, nor did we ask participants to elaborate upon their answers. Yet, the use of an open-ended survey allowed us to gather responses from a larger and more occupationally diverse sample than we would have been able to gather via interviews or focus groups. Indeed, we see this as an important strength of Study 1 as it allowed us to minimize the probability that a critical antecedent of break-taking would remain overlooked.

Nevertheless, Study 1 does not clarify how different antecedents relate to each other. For instance, although many individuals explicitly listed large workloads as a reason for skipping a break, other negative antecedents, such as concerns about momentum and expedience, likely arise as a function of large workloads. In other words, it is possible that some individuals listed more distal reasons for skipping a break (workload), whereas others listed more proximal reasons (e.g., concerns for expedience). Similarly, many participants listed a desire to detach from work as a reason for taking a break. Yet it seems reasonable that some of the other factors identified in Study 1, such as fatigue and negative affect, may have preceded that desire. Thus, there is a need to clarify how these positive and negative antecedents of break-taking are related to each other. In the following section we integrate the results from Study 1 with the theoretical perspectives

described in the onset of the paper to develop specific hypotheses regarding the decision to take (or skip) a break at work. We then test these hypotheses using a daily diary design in Study 2.

### **Hypothesis Development**

Prior to Study 1 we outlined relatively broad predictions regarding the reasons individuals take (and skip) breaks at work based on stress theories (e.g., Hobfoll, 1989; Meijman & Mulder, 1998) and theories of self-regulation (e.g., Carver & Scheier, 1998; Vancouver et al., 2010). In the following sections we update these predictions by integrating these theoretical accounts with the findings from Study 1. These predictions are summarized in Figure 2.

#### **Desire to Detach as a Proximal Predictor of Break-Taking**

Many Study 1 participants listed a desire to detach from work as a reason for taking a break. Indeed, by taking a break employees can temporarily detach from the work situation both physically and psychologically (Sianoja et al., 2018). We argue that this desire to detach is a proximal predictor of break-taking. That is, prior to detaching from work by taking a break individuals form a desire to do so. Our prediction is consistent with past theory and research which show that behavioral intentions precede behavior (Ajzen, 1991; Armitage & Conner, 2001). Similarly, Blasche et al., (2017) found that intentions to take a break predicted the number of breaks employees took during the workday. Thus, we offer the following hypothesis:

H1: Desire to detach will be positively related to break-taking behavior.

Differentiating the desire to detach from work and the actual behaviors that facilitate this detachment (i.e., break-taking) is important for reconciling the differences in predictions between stress-related theories (e.g., Hobfoll, 1989; Meijman & Mulder, 1998) and self-regulatory theories (e.g., Carver & Scheier, 1998). That is, although a large workload may produce a desire to detach from work, the need to contend with workload may prevent an individual from actually

taking a break. Nonetheless, the mechanisms via which workload may lead to a desire to detach from work are still unclear. Along these lines, although Blache et al. (2017) found that break-taking intentions preceded break-taking behavior, their paper did not identify any antecedents of these intentions. Thus, below we turn our attention to potential mechanisms linking workload and the desire to detach from work. We then consider the potential moderating role of workload on the relationship between desire to detach and break-taking in a subsequent section.

### **Predictors of Employees' Desire to Detach from Work**

Based on stress theories (Hobfoll, 1989; Meijman & Mulder, 1998), we expect workload to be a key factor driving the desire to detach from work. Furthermore, this relationship is expected to be mediated by fatigue. High workloads require individuals to mobilize a great deal of effort and energy (Hockey, 1997); indeed, evidence from meta-analyses and daily diary studies show that workload is associated with fatigue (Sanz-Vergel et al., 2010; Sonnentag et al., 2010). In response to this fatigue, individuals are expected to desire a respite from work, and in turn, to take a break (Kim et al., 2021).

Yet the results of Study 1 indicate that there are likely to be additional factors beyond fatigue that may connect workload and the desire to detach from work. Many Study 1 participants indicated taking a break in response to negative affect, as well as concerns about the quality of their performance. We expect both negative affect and performance concerns to be the result of high workloads for the same reason as fatigue; high workloads are taxing and demand a great deal of resources. Thus, these factors may act as additional mediators between workload and the desire to detach from work. For one, there is strong evidence that handling large workloads is associated with negative affect (Bowling et al., 2015; Ilies et al., 2010; Kim et al., 2017). Likewise, high workloads have been linked with decreases in self-reported performance

(Fritz & Sonnentag, 2006), meaning concerns that one is not performing up to standards may be another deleterious effect of workload. Therefore, we offer the following hypothesis:

H2: Workload will be positively related to (a) fatigue, (b) negative affect, and (c) performance concerns.

Importantly, our rationale for the relationship between workload and fatigue, negative affect, and performance concerns is that high workloads tax energy. As a test of this logic, we expect the effects of workload on these constructs to be moderated by sleep quality. Sleep is a recovery activity that influences how energized individuals feel at the beginning of the day (Barnes, 2012; Christian & Ellis, 2011; Kim et al., 2021; Lanaj et al., 2014; Sonnentag et al., 2008). Importantly, when individuals experience poor quality sleep the previous night, they are less able to deal with high workloads relative to when they sleep well and are refreshed (Bakker et al., 2005; de Jonge & Dormann, 2006; Kühnel et al., 2018; Xanthopoulou et al., 2007). That is, high quality sleep provides individuals with the resources needed to handle high workloads without experiencing high levels of fatigue, negative affect, or concerns about their performance.

H3: Sleep quality will moderate the relationships between (a) workload and fatigue, (b) workload and negative affect, and (c) workload and performance concerns, such that the relationships will be stronger when sleep quality is low as opposed to high.

In turn, we expect these experiences to be positively related to employees' desire to detach from work. That is, fatigue, negative affect, and performance concerns are all signs that an individual may not have adequate energy to complete their assigned workload, and therefore require a break to "rest and recharge." Indeed, several studies have shown fatigue to reduce persistence on laboratory tasks (Hockey & Earle, 2006; Muraven, Tice, & Baumeister, 1998). Likewise, individuals often respond to negative emotions by removing themselves from the source of the negative emotions (Berkowitz, 1989; Berkowitz & Harmon-Jones, 2004; Folkman & Lazarus, 1980), such as by taking a break from the situation. Notably, a recent study suggests

that employees often choose to take breaks when their work tasks are aversive (Bosch & Sonnentag, 2019). Lastly, a person who is concerned that they are not performing their work tasks adequately may want to detach from work to rest and refocus attention, as otherwise the person risks making a mistake or causing an accident (Tucker et al., 2003).

H4: (a) Fatigue, (b) negative affect, and (c) performance concerns will be positively related to the desire to detach from work.

### **The Desire to Detach from Work versus Actually Taking a Break**

Up to this point we have argued that a desire to detach from work is a proximal antecedent of actual break-taking behavior, and that workload has an indirect impact on this desire via feelings of fatigue, negative affect, and concern for one's performance. However, simply because an individual has a desire to detach from work does not mean that this person will necessarily choose to take a break. Indeed, drawing on self-regulatory theories (Carver & Scheier, 1998; Vancouver et al., 2010) we expect workload to attenuate the relationship between the desire to detach from work and break-taking. Put simply, dealing with high workloads means there is less time available to take a break. Yet, drawing on the responses we received from Study 1 participants, we expect the moderating effect of workload on the relationship between desire to detach from work and break-taking to be mediated by concerns regarding expedience, momentum, and burdening one's coworkers. We elaborate on these predictions below.

#### ***Expedience Concerns***

Workload is expected to be positively related to expedience concerns, such that the more work an employee needs to accomplish on a given day, the more concerned this employee will be about completing the work rapidly or before some deadline. This argument is based on previous research within the self-regulation literature, which demonstrates that the more work there is to accomplish, the *faster* a person must work to meet the goal by the deadline (e.g.,



Carver & Scheier, 1998). Thus, the higher the workload, the more doubt an employee may experience regarding their ability to complete their work tasks on time (e.g., by the end of the day), leading them to feel a great deal of concern vis-à-vis expedience.

H5a: Workload will be positively related to expedience concerns.

In turn, we hypothesize that expedience concerns will attenuate the relationship between desire to detach from work and break-taking. Specifically, when individuals are particularly pressed for time, they are unlikely to take many breaks, even if they are also experiencing a strong desire to detach from work. For instance, individuals are often motivated to finish their tasks as quickly as possible, as doing so leaves time for other (potentially more enjoyable) tasks (Phan & Beck, 2020). Thus, when expedience is a concern, individuals are likely to prioritize the task at hand, rather than spending time on a break. Indeed, one Study 1 participant said that “it would probably be better to just hurry up and finish what [they were] doing” rather than to take a break. Therefore, we expect expedience concerns to moderate the relationship between desire to detach from work and break-taking behavior.

H5b: The relationship between desire to detach and break-taking behavior will be moderated by *expedience concerns*, such that the relationship will be weaker when expedience concerns are high as opposed to low.

The combination of H5a and H5b yields the following:

H5c: Workload will indirectly moderate the relationship between desire to detach and break-taking behavior via *expedience concerns*, such that the relationship will be weaker when workload is high as opposed to low.

### ***Momentum Concerns***

We also expect workload to be positively related to concerns about maintaining momentum. As noted above, the more work there is to accomplish, the more difficult it is to complete the work within a given deadline. To this end, relative to times when workload is relatively low, at times when individuals must manage high workloads they are likely to be more

motivated to avoid obstacles to their goal, such as interruptions and disruptions to their momentum. Indeed, past research shows that interruptions are often experienced as intrusive (Jett & George, 2003; Leroy et al., 2020; Puranik et al., 2020). Thus, the higher the workload, the more importance employees may attach to being fully immersed into their work tasks, and likewise, the more concerned they may be about being interrupted or losing momentum. In other words, we expect workload to be positively related to momentum concerns.

H6a: Workload will be positively related to momentum concerns.

Next, we expect momentum concerns to attenuate the relationship between desire to detach from work and break-taking behavior. Research on flow experiences suggest that when individuals feel engrossed in a given activity, they tend to continue engaging in that activity, even in the presence of discomfort or fatigue (Nakamura & Csikszentmihalyi, 2009). Similarly, while pursuing a focal goal, thoughts regarding alternative goals (e.g., taking a break) are often suppressed (Shah et al., 2002). Thus, to the degree that individuals are engrossed in the pursuit of a work goal, such that they have developed momentum toward completing the goal, they are unlikely to interrupt this progress for a break, even if they otherwise feel compelled to detach from work (e.g., due to fatigue, negative affect). Indeed, one Study 1 participant said they did not take a break because they were “in the moment and did not want to interrupt [their] work,” whereas another participant said they did not take a break because they “did not want to lose [their] train of thought.” Therefore, we expect concerns regarding maintaining momentum to moderate the relationship between the desire to detach from work and break-taking behavior.

H6b: The relationship between desire to detach and break-taking behavior will be moderated by *momentum concerns*, such that the relationship will be weaker when momentum concerns are high as opposed to low.

The combination of H6a and H6b yields the following:

H6c: Workload will indirectly moderate the relationship between desire to detach and break-taking behavior via *momentum concerns*, such that the relationship will be weaker when workload is high as opposed to low.

### ***Concern for Coworkers***

Lastly, we argue that workload will be positively related to concern for coworkers. Employees must collaborate and work together to meet their goals (e.g., Mathieu et al., 2008; Salas et al., 2004). Thus, fluctuations in workload that affect one employee often affect other employees within the same work group. Critically, the higher the workload, the more important it is for each employee within the group to exert high levels of effort if the goal is to be met. Thus, we expect employees to feel especially needed and concerned for their coworkers when workload is high as opposed to low.

H7a: Workload will be positively related to concern for coworkers.

Downstream, we predict that concerns for one's coworkers will attenuate the relationship between a desire to detach from work and break-taking. In particular, concern for coworkers reflects a sense of felt obligation to ensure the team reaches its goals. Self-regulatory research indicates that individuals tend to prioritize obligations over other types of goals (Beck, Scholer, & Schmidt, 2017; Shah et al., 2002). Indeed, one Study 1 participant said they did not take a break because they felt that their "responsibilities to [their] teammates were more important than [their] own personal comfort." Thus, when feeling particularly needed by their coworkers, employees may continue working instead of taking a break despite wanting to detach from work.

H7b: The relationship between desire to detach and break-taking behavior will be moderated by *concern for coworkers*, such that the relationship will be weaker when concern for coworkers is high as opposed to low.

The combination of H7a and H7b yields the following:

H7c: Workload will indirectly moderate the relationship between desire to detach and break-taking behavior via *concern for coworkers*, such that the relationship will be weaker when workload is high as opposed to low.

## Workplace Environment Effects on Break-taking Behavior

Finally, the results of Study 1 indicate that whether or not an individual takes a break at work is partly a function of the work environment. For instance, some participants said they did not take a break despite wanting to do so because of concerns regarding their supervisor and managing impressions. Along these lines, Niu (2016) introduced micro-break climate as a determinant of break-taking behavior. Whereas a strong micro-break climate is characterized by a high degree of autonomy over break-taking behavior, within weak micro-break climates taking breaks is perceived to be discouraged and “frowned upon” by management and coworkers. Thus, we argue that a weak micro-break climate will deter individuals from taking breaks, even when they experience a strong desire to detach from work. In other words, micro-break climate is expected to moderate the relationship between desire to detach and break-taking behavior.

H8: The relationship between desire to detach and break-taking behavior will be moderated by *micro-break climate*, such that the relationship will be weaker among individuals within a low as opposed to a high micro-break climate.

## The Full Model

Taken together, H1 through H8 describe the full model depicted in Figure 2. That is, we expect workload to indirectly influence break-taking behavior via fatigue, negative affect, performance concerns, and desire to detach. Further, we expect these indirect effects to be moderated by sleep quality, workload (via expedience concerns, momentum concerns, and concern for coworkers), and micro-break climate.

H9: There will be positive serial indirect effects of workload on break-taking behavior. Specifically, workload will be positively related to desire to detach via (a) *fatigue*, (b) *negative affect*, and (c) *performance concerns*, and desire to detach will be positively related to break-taking behavior downstream.

H10: The serial indirect effects of workload on break-taking behavior will be moderated by *sleep quality*, such that the effects will be stronger when sleep quality is low as opposed to high.

H11: The serial indirect effects of workload on break-taking behavior will be indirectly moderated by workload via (a) *expedience concerns*, (b) *momentum concerns*, and (c) *concern for coworkers*, such that the effects will be weaker when workload is high as opposed to low.

H12: The serial indirect effects of workload on break-taking behavior will be moderated by *micro-break climate*, such that the effect will be weaker among individuals within a weak as opposed to a strong micro-break climate.

## Study 2

### Method

#### *Participants*

Prior to the study, we prescreened 1000 individuals from MTurk. Because participants were to complete surveys at specific times within each day, we wanted to ensure that participants resided within the same time zone. Thus, the prescreen was only visible to individuals residing in US states within the Eastern Time Zone. To be eligible, individuals needed to work at least 30 hours per week, take at least one break per workday on average, work primarily during standard business hours (e.g., 9am to 5pm), and work during all five of the weekdays of the week in which the study was conducted. These criteria were met by 337 individuals, 328 of which consented to participate in the study. Only participants who completed both daily surveys on at least one workday were included in the analyses ( $N = 287$ ). The final sample was 54.7% male, 78.4% Caucasian, had a mean age of 38.2 ( $SD = 10.7$ ) years, and worked 41.8 hours per week ( $SD = 5.8$ ) on average. Participants worked in various sectors, including information technology (18.8%), customer service (17.4%), sales (13.6%), and accounting/finance (11.5%).

#### *Procedure*<sup>3</sup>

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<sup>3</sup> For exploratory purposes, we measured conscientiousness and honesty-humility during the prescreen, and measured well-being and performance as outcomes of break-taking behavior in the evening surveys. Including these variables in the model had no bearing on the results. Thus, these analyses are not summarized here but are instead included in the SOM.

**Prescreen.** Individuals completed a prescreen for which they received \$0.25 US. They responded to demographic questions, indicated the average number of breaks they took during a typical workday, and responded to the micro-break climate items. Next, eligible individuals were given a brief overview of the study. They then read and signed a consent form for the focal study. Participants were contacted on the following Monday to complete the daily surveys.

**Daily Surveys.** Participants completed two surveys per day over five consecutive workdays. Each day, participants were contacted at 11:00am to complete the *midday* survey and were contacted again at 5:00pm to complete the *evening* survey. Participants had 3 hours to complete each survey. This provided participants with adequate time to respond while isolating responses to a specific part of the workday. In the midday survey, participants reported their sleep quality with reference to the *previous* night and completed the break antecedents measures. In the evening survey, participants indicated the number of breaks taken within the last four hours of their workday (i.e., break-taking behavior).

**Compensation.** Participants received a *base pay* of \$0.50 for each survey completed, up to \$5.00 (\$0.50 x 10 surveys). To incentivize survey completion, participants also received a \$1.00 bonus for each day in which they completed *both* the midday and the evening surveys, up to \$5.00 US (\$1.00 x 5 days). Thus, participants could earn up to \$10.00 US in total.

### ***Measures***

**Micro-Break Climate.** We measured micro-break climate using Niu's (2016) 21-item scale, which includes four facets: *coworker norms* (e.g., “I often see my coworkers take micro-breaks in the workplace”), *supervisor norms* (“My supervisor encourages me to take micro-breaks when I need to”), *management support* (e.g., “Micro-breaks are frowned upon in my organization”), and *work-break autonomy* (e.g., “I totally have no authority for micro-breaks”).

Given our interest on the effects of micro-break climate as a whole, we created an overall index of micro-break climate instead of examining each facet separately. To do so, we created four item parcels where each parcel represents participants' mean score on each facet<sup>4</sup>. We then computed the mean of the four parcels to yield an overall indicator of micro-break climate. Participants responded to items on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*).

**Sleep Quality.** We assessed sleep quality using one item from the Pittsburgh Sleep Quality Index (Buysse et al., 1989): “How would you evaluate last night’s sleep?” (1 = *Very poor*, 5 = *Excellent*). This item was used in previous daily diary studies assessing sleep quality (Kim et al., 2021; Kühnel et al., 2017; Sonnentag et al., 2008) and has been shown to correlate with objective measures of sleep quality (Akerstedt, Hume, Minors, & Waterhouse, 1994).

**Break Antecedents.** We measured *fatigue*, *negative affect*, *performance concerns*, *desire to detach*, *momentum concerns*, *expedience concerns*, and *concern for coworkers* using items created for this research, and measured *workload* using items from Janssen (2001). Items are listed in Table 4<sup>5</sup>. When answering items, participants were asked to think about their feelings, experiences, and behaviors at work from the beginning of their workday up until now (i.e., when completing the questionnaire). Participants responded to the fatigue and negative affect items using a 5-point extent scale (1 = *not at all*, 5 = *extremely*). For the other antecedents, participants responded to items on a 5-point agreement scale (1 = *strongly disagree*, 5 = *strongly agree*).<sup>6</sup>

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<sup>4</sup> CFAs indicated that a one-factor model in which the four item parcels loaded onto the same factor provided the best fit to the data ( $\chi^2 = 83.06$ ,  $df = 2$ ,  $CFI = .970$ ,  $TLI = .910$ ,  $RMSEA = .168$ ,  $SRMR = .028$ ). In contrast, a four-factor model in which the 21 micro-break climate items were set to load onto their respective factor provided poor fit to the data ( $\chi^2 = 3442.66$ ,  $df = 183$ ,  $CFI = .796$ ,  $TLI = .766$ ,  $RMSEA = .111$ ,  $SRMR = .074$ ).

<sup>5</sup> Prior to Study 2, we validated the measures across two studies in which we followed established scale validation guidelines (Hinkin, 1998). For brevity, the results of these studies are not included here, but are summarized in the SOM.

<sup>6</sup> Because many of the break antecedent items were created for this research, we conducted tests of measurement invariance to verify that participants interpreted these items consistently across measurement periods (Vandenberg & Lance, 2000). The results provided support for measurement invariance and are described in detail in the SOM.

**Break-Taking Behavior.** We operationalized break-taking behavior as the number of breaks taken. Specifically, participants were asked: “Within the last four hours of your workday, how many breaks did you take?” This operationalization is consistent with prior break-taking research (Blasche et al., 2017; Hunter & Wu, 2016; Niu, 2016)<sup>7</sup>.

### *Analysis Plan*

Given that the data consisted of daily observations nested within persons, we tested our hypotheses using multilevel structural equation modeling (MSEM; Preacher et al., 2010). This was done using Mplus (Muthén & Muthén, 1998-2010). An important advantage of MSEM over conventional multilevel modeling (Raudenbush & Bryk, 2002) is that it allows researchers to test models in their entirety rather than in stages (e.g., Kline, 2015; Preacher et al., 2016). Within-person predictors were person-mean centered to remove between-person variance (Hofmann & Gavin, 1998), and micro-break climate (a between-person predictor) was grand-mean centered to facilitate interpretation of its main effects. All  $R^2$  values reported refer to the proportion of within-person variance accounted for by the model.

The model we tested is shown in Figure 2. Specifically, fatigue, negative affect, and performance concerns were regressed on workload, sleep quality, and the workload  $\times$  sleep quality interaction. Next, desire to detach was regressed on fatigue, negative affect, and performance concerns, and break-taking behavior was in turn regressed on desire to detach. Because we sought to examine the indirect moderating effects of workload on the relationship

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<sup>7</sup> We also measured individuals’ break duration, operationalized as the average duration of the breaks participants took during the last four hours of their workday. However, we believe that break frequency is a more appropriate indicator of the behaviors we sought to capture in the current research, namely the *decision* to take or not to take a break. That is, break frequency represents the number of times a person made this decision. However, inferences involving break duration would be less clear, as break duration also encompasses *the decision to return to work* after having taken a break, which is not the focus of our research. As such, break duration may not accurately represent the specific behavior we sought to capture, and is therefore not covered in the main manuscript. Nevertheless, we present the results obtained using break duration in the SOM.



between desire to detach and break-taking behavior, we also included paths from workload to expedience concerns, momentum concerns, concern for coworkers. Then, we regressed break-taking behavior on expedience concerns, momentum concerns, concern for coworkers, as well as their respective interaction terms involving desire to detach. Finally, we regressed break-taking behavior on micro-break climate as well as the desire to detach  $\times$  micro-break climate interaction. We also specified several covariances. Fatigue, negative affect, performance concerns, momentum concerns, and concern for coworkers were allowed to covary with one another. This was done because we sought to estimate the effects of workload on each of these variables independently of the other variables. For example, we wanted to estimate the relationship between workload and fatigue independent of negative affect.

All proposed indirect effects were tested via the Monte Carlo method (MacKinnon et al., 2007; MacKinnon et al., 2004; Preacher & Selig, 2012). One advantage of this method is that it accounts for the fact that indirect effect distributions tend to be asymmetrical (MacKinnon et al., 2002). Indirect effects were considered significant if the 95% confidence interval excluded zero.

## **Results**

### ***Descriptive Statistics***

Means, standard deviations, intercorrelations, intra-class correlations (ICC[1]), and internal consistency reliabilities are shown in Table 5. Notably, ICC(1) values ranged between .28 and .66. This indicates that a substantial proportion of the variance in the measured variables are within-person, thus justifying the use of MSEM. With regards to internal consistency estimates, for completeness we present both Cronbach's Alpha and coefficient Omega values in Table 5.

### *Hypothesis Tests*<sup>8</sup>

**Model Overview.** Given that the proposed model included a cross-level interaction (i.e., desire to detach  $\times$  micro-break climate on break-taking behavior), it was necessary to specify a random slope model using the “type = twolevel random” command in Mplus. Doing so allowed the slope of the relationship between desire to detach and break-taking to vary across individuals. However, conventional fit indices such as  $\chi^2$ , CFI, and RMSEA are not considered meaningful for interpreting the fit of random slope models (Mehta & Neale, 2005), and are therefore not typically provided by SEM software (Preacher, 2011; Schermelleh-Engel et al., 2014; Song et al. 2010). Thus, it was not possible to assess model fit by examining conventional fit indices.

Instead, we assessed model fit via a two-step process (see Klein & Moosbrugger, 2000; Maslowsky et al., 2015; Muthén, 2012). First, we estimated a *simplified* version of the model in which the desire to detach  $\times$  micro-break climate interaction was omitted and in which slopes were fixed. Aside from this difference, the simplified model was identical to the full model. Importantly, because the simplified model was a fixed slope model, conventional fit indices could be obtained; the model provided adequate fit to the data ( $\chi^2 = 231.191$ ,  $df = 43$ , CFI = .922, TLI = .835, RMSEA = .063, SRMR = .051). Second, we compared this simplified model to the full model via a log-likelihood ratio test. This test compares the log-likelihood value of both models to determine whether one model provides significantly worse fit to the data relative to the other. The test statistic was non-significant ( $D = 6.84$ ,  $df = 3$ ,  $p = .08$ ), meaning both models provided equivalently good fit to the data. Thus, the addition of the desire to detach  $\times$

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<sup>8</sup> We also tested the hypotheses while including age, gender, and job sector as predictors in the model. Neither age nor job sector had any meaningful effects on the results obtained. Likewise, the within-person relationships examined in Study 2 were of equivalent direction and magnitude for both men and women. However, gender was significantly related to break-taking behavior at the between-person level, such that women tended to take fewer breaks ( $M = 1.68$ ,  $SD = 1.05$ ) than men ( $M = 2.18$ ,  $SD = 1.86$ ,  $t(254.13) = 2.84$ ,  $p = .004$ ) on average.

micro-break climate interaction into the model did not meaningfully reduce model fit. In sum, model fit was no worse for the full model relative to the simplified model, which itself provided good fit to the data based on conventional criteria. Altogether, the analyses provide support for the proposed model.

**H1.** As shown in Table 6, the relationship between desire to detach ( $\gamma = .09$ ,  $SE = .06$ ,  $p = .135$ ) and break-taking behavior was not significant. Thus, H1 was not supported. However, because we hypothesized that desire to detach would *interact* with other variables to predict break-taking behavior, the main effect of desire to detach should be interpreted alongside the proposed interaction effects. We examine these effects in our tests of H5 through H8.

**H2.** As shown in Table 7, workload was positively related to fatigue ( $\gamma = .28$ ,  $SE = .03$ ,  $p < .001$ ), negative affect ( $\gamma = .24$ ,  $SE = .03$ ,  $p < .001$ ), and performance concerns ( $\gamma = .32$ ,  $SE = .04$ ,  $p < .001$ ), meaning H2a, H2b, and H2c were supported.

**H3.** As shown in Table 7, sleep quality moderated the effects of workload on fatigue ( $\gamma = -.09$ ,  $SE = .03$ ,  $p = .004$ ), negative affect ( $\gamma = -.06$ ,  $SE = .03$ ,  $p = .024$ ), and performance concerns ( $\gamma = -.13$ ,  $SE = .04$ ,  $p < .001$ ). These interactions are plotted in Figures 3, 4, and 5, respectively. Critically, in support of H3a through H3c, examinations of the simple slopes indicate that the effects of workload on all three dependent variables were stronger within days following poor quality sleep, relative to days following high quality sleep.

**H4.** As shown in Table 7, fatigue ( $\gamma = .11$ ,  $SE = .04$ ,  $p = .002$ ), negative affect ( $\gamma = .12$ ,  $SE = .04$ ,  $p = .004$ ), and performance concerns ( $\gamma = .17$ ,  $SE = .03$ ,  $p < .001$ ) were positively related to desire to detach. Thus, H4 was fully supported.

**H5.** Workload was positively related to expedience concerns ( $\gamma = .27$ ,  $SE = .03$ ,  $p < .001$ ), supporting H5a. Next, as shown in Table 6, the desire to detach  $\times$  expedience concerns ( $\gamma = -.18$ ,

$SE = .10, p = .063$ ) interaction hypothesized in H5b did not reach the conventional threshold of statistical significance. However, because H5b was a directional hypothesis and because the interaction would be considered significant using a one-tailed test, we probed the interaction to investigate its pattern (see Figure 6). Consistent with H5b, the relationship between desire to detach and break-taking behavior was weaker on days when expedience concerns were high ( $\gamma = .00, SE = .08, p = .966$ ) as opposed to low ( $\gamma = .18, SE = .08, p = .021$ ). In H5c, we tested whether workload *indirectly* moderated the relationship between desire to detach and break-taking behavior *via* expedience concerns. This indirect moderation effect was not significant at the .05 level (IE =  $-.048, 95\% CI [-.099, .004]$ ), but was significant at the .10 level (90%CI  $[-.091, -.005]$ ). Thus, we probed the interaction to investigate its pattern. In line with H5c, the relationship between desire to detach and break-taking behavior was weaker when workload was high ( $\gamma = .06, SE = .06, p = .293$ ) as opposed to low ( $\gamma = .11, SE = .06, p = .063$ ). In sum, the results provide partial support for H5.

**H6.** Workload was significantly related to momentum concerns ( $\gamma = -.07, SE = .02, p = .006$ ), but the relationship was negative rather than positive, contradicting H6a. Additionally, as shown in Table 6, the hypothesized desire to detach  $\times$  momentum concerns ( $\gamma = .04, SE = .13, p = .725$ ) interaction was non-significant. Thus, H6a and H6b are not supported. Because support for H6c necessitates support for H6a and H6b, H6c was also not supported.

**H7.** Workload was positively related to concern for coworkers ( $\gamma = .12, SE = .03, p < .001$ ), supporting H7a. However, as shown in Table 6, the hypothesized desire to detach  $\times$  concern for coworkers ( $\gamma = .02, SE = .10, p = .800$ ) interaction was non-significant, thus H7b was not supported. Because support for H7c depends on H7a and H7b, H7c was not supported.

**H8.** As shown in Table 6, the hypothesized desire to detach  $\times$  micro-break climate ( $\gamma = .20$ ,  $SE = .08$ ,  $p = .012$ ) interaction on break-taking behavior was significant. As shown in Figure 7, examination of the simple slopes indicated that the relationship between desire to detach and micro-break climate was weaker among individuals reporting a weak micro-break climate ( $\gamma = -.04$ ,  $SE = .08$ ,  $p = .625$ ), relative to individuals reporting a strong micro-break climate ( $\gamma = .21$ ,  $SE = .08$ ,  $p = .005$ ). Thus, H8 was supported.

**H9.** None of the proposed serial indirect effects of workload on break-taking behavior were significant, thus H9 was not supported. However, the absence of *main* serial indirect effects of workload does not necessarily preclude support for H10 through H12, which specified that there would be *moderated* serial indirect effects. We investigate these effects below.

**H10-H12.** In line with H10, H11a, and H12, the serial indirect effects of workload on break-taking were weaker when sleep quality and workload (via expedience concerns) were high as opposed to low, and weaker among individuals within a weak as opposed to a strong micro-break climate (see Table 8). This was the case regardless of whether the second stage mediator was fatigue, negative affect, or performance concerns. Yet, because neither momentum concerns nor concern for coworkers moderated the relationship between desire to detach and break-taking behavior (i.e., H6b and H7b were not supported), H11b and H11c were not supported.

## Discussion

In line with expectations, workload was found to be an important predictor of break-taking behaviors. Consistent with stress theories (Hobfoll, 1989; Meijman & Mulder, 1998), the results suggest that employees may want to detach from work and take a break due to the negative experiences that result from high workloads, such as fatigue, negative affect, and performance concerns. Additionally, consistent with previous research (Niu, 2016; Park et al.,

2021) and the findings of Study 1, the results of Study 2 indicate that work environments in which breaks are discouraged may deter employees from taking a break despite wanting to detach from work. However, support for the predictions derived from self-regulation models (Carver & Scheier, 1998; Vancouver et al., 2010) was mixed. Workload indirectly moderated the relationship between desire to detach and break-taking behavior via expedience concerns, yet the hypotheses regarding momentum concerns and concern for coworkers were not supported.

These unexpected results may be due to the items used to measure these constructs. First, we realize upon closer examination that the momentum concern items made reference to general situations (i.e., “when I am working [...]”, “[...] when I am in the middle of a task,” “when I am engrossed in my work [...]”). Yet, our intent was to assess participants’ experiences from the start of their workday up to the moment in which they were answering the items. This mismatch may have caused participants to report their general level of momentum concerns rather than their level of momentum concerns at a specific moment within the workday. As a result, the within-person variance in momentum concerns may have been constrained, leading to a non-significant desire to detach  $\times$  momentum concerns interaction.

Likewise, the concern for coworkers items may also have been too broad. We sought to assess the extent to which participants felt relied upon by their coworkers for the completion of work tasks. However, as noted by an anonymous reviewer, none of the concern for coworkers’ items specifically reference work tasks. Instead, these items appear to reference a perceived need to be present or available for other employees (e.g., “my coworkers would be overwhelmed without me around”). This is an important distinction because an employee may be present and be able to help coworkers if the need arises (e.g., by having an open door policy) without taking fewer breaks. In sum, the unsupported results involving momentum concerns and concern for

coworkers may have been due to the limitations of the measures used. Nonetheless, we acknowledge that this is a post-hoc explanation which will need to be tested via further research.

### **General Discussion**

Past research shows that breaks can help employees maintain high levels of energy and performance throughout the day (e.g., Henning et al., 1997; Wendsche et al., 2016; Zacher et al., 2014). As such, although breaks involve a temporary stoppage of specific work tasks, break-taking is an important work activity that allows employees to replenish the energy needed for work. Yet, employees' reasons for *taking* and for *not taking* a break have received little attention. This is problematic as employees sometimes refrain from taking a break despite wanting or needing a break (McLean et al., 2001; Right Management, 2011; Totaljobs, 2017). To address this gap, we proposed based on stress theories, self-regulatory theories, and past research that workload is a critical predictor of employees' voluntary decisions vis-à-vis break-taking. Notably, in Study 2 we found evidence to suggest that high workloads may prompt employees to desire a break, but that workload may also deter employees from acting upon this desire. Moreover, the current studies also point to employees' work climate as a boundary condition of the relationship between the desire to take a break and actual break-taking behavior.

### **Theoretical Implications and Future Directions**

#### ***Why do People Take Breaks?***

Based on past theorizing from the COR theory (Hobfoll, 1989) and the E-R model (Meijman & Mulder, 1998), we hypothesized that fatigue would emerge as a predictor of break-taking. That is, individuals must bring to bear limited resources to meet work demands, and may need breaks to recover these resources. In line with this theorizing and with recent studies (Kim et al., 2021), fatigue emerged as a predictor of break-taking in the current research. Yet, our

work expands upon past theorizing by highlighting additional reasons for taking a break. Indeed, across both studies we found that negative affect and performance concerns may also influence employees' decision to take a break. Thus, theory and research pertaining to fatigue—though essential—may not account for the full range of employees' reasons for taking breaks. Given this research's broad scope, we used broad theoretical perspectives as a starting point to unpack the processes that underlie break-taking. Yet, a more complete understanding of these processes may require a consideration of theory and research that specifically pertain to the manner in which employees regulate their emotions (e.g., Beal et al., 2005) and performance (e.g., Lord et al., 2010; Neal et al., 2017).

### ***Why do People Not Take Breaks?***

The Study 2 findings regarding workload provide novel insights into how individuals balance their work goals against non-work goals (e.g., maintaining energy). Earlier, we presented two conflicting predictions regarding the effects of workload on break-taking. That is, models of self-regulation (e.g., Carver & Scheier, 1998; Vancouver et al., 2010) suggest that workload results in decreased break-taking, whereas theories of stress (Hobfoll, 1989; Meijman & Mulder, 1998) suggest that workload may result in increased break-taking (Bowling et al., 2015; Ilies et al., 2010). To address this apparent contradiction, we proposed that that both theoretical perspectives highlight different aspects of the same process. That is, our expectation was that high workloads would lead employees to *want* to detach from work, but that high workloads would also deter these employees from *acting* upon this desire. The results of Study 2 provided some support for this proposition. That is, workload was indirectly related to employees' desire to detach via fatigue, negative affect, and performance concerns, yet workload also indirectly moderated the relationship between desire to detach and break-taking via expedience concerns.



In particular, the findings regarding expedience concerns suggest that individuals may refrain from taking a break when they want or need to complete their work *rapidly*. These findings are in line with theory and research within the self-regulation literature on goal progress *velocity* (i.e., rate of progress; Johnson et al., 2013). Briefly, slow progress can lead to negative emotions and feelings of doubt vis-à-vis success (Beck, Scholer, & Hughes, 2017; Phan & Beck, 2020) even after accounting for workload (Chang et al., 2009; Elicker et al., 2009). Moreover, in response to slow progress individuals may engage in behaviors to increase velocity, such as exerting more effort (Huang & Zhang, 2011) or taking shortcuts (Phan et al., in press). Similarly, Study 2 suggests that individuals may take fewer breaks to accomplish work more rapidly. Broadly, these findings indicate that to understand break-taking, it is important to consider not only *how much* work a person needs to accomplish, but *how rapidly* this work needs to be accomplished. Thus, incorporating past theory and research from the velocity literature may be a promising avenue towards unpacking the processes that underlie break-taking.

Future research may also investigate how the degree to which employees are motivated to reduce workloads affects break-taking behavior. In this paper we largely assumed that employees are willing to allocate the time and effort required by their workloads. This assumption provided a reasonable starting place for this research because employees generally need to meet work objectives to achieve desired outcomes (e.g., pay, promotion) and avoid undesired outcomes (e.g., sanctions, termination). However, this assumption likely does not apply to all employees at all times. For instance, unrealistically high workloads may leave employees feeling overwhelmed, annoyed, and demotivated (Kerr & LePelley, 2013). Indeed, in Study 2 we found workload to be positively related to negative affect. To the extent that negative affect reflects disengagement, this may explain the limited support for workload as a moderator of the

relationship between desire to detach and break-taking behavior in Study 2. Thus, it may be beneficial for future research to consider factors like the perceived value of accomplishing the goal (e.g., Sun et al., 2014) or goal commitment (e.g., Klein et al., 2001) as additional boundary conditions affecting the relationship between workload and break-taking behavior.

The current studies also highlight the role of perceived control as an important factor in employees' voluntary decision to take a break or not. Specifically, the results involving micro-break climate suggest that employees may not always feel they have the autonomy to take a break when they want to do so. These findings are consistent with the job demands-control model (JD-C; Karasek, 1979) which identified job control as an important predictor of employee well-being. In our view, a weak micro-break climate may lead to experiences similar to that of low job control. Whereas a weak micro-break climate is characterized by low levels of perceived autonomy to take a break, low job control is characterized by a perceived lack of autonomy within one's job more broadly. As such, future research on the processes underlying employees' decision to forego a break (despite wanting a break) may benefit from a consideration of theory and research pertaining to job control, such as the JD-C model.

### ***The Work Context***

The findings vis-à-vis micro-break climate also highlight the importance of considering the combined effects of daily experiences and the work context on break-taking. For the most part, previous studies within the break literature have adopted a within-person approach whereby individuals' daily experiences and behaviors are assessed over multiple days (e.g., Bosch & Sonnentag, 2019; Hunter & Wu, 2016; Kim et al., 2017; Kühnel et al., 2017; Trougakos et al., 2014). However, these studies have paid relatively less attention to the effect that the work context may have on these within-person relationships. In Study 2 we address this gap by

pointing to micro-break climate as an important contextual factor that can influence the extent to which workers will take breaks when they want to do so. An implication of this finding is that a full understanding break-taking may require researchers not only to investigate within-person processes, but to also examine the contextual factors moderating these processes. Nonetheless, in the current research micro-break climate perceptions were collected from individual workers. Future research should explore the degree to which these perceptions are accurate representations of managerial attitudes towards breaks. Likewise, future research should explore managerial behaviors that act as signals of the of micro-break climate.

Additionally, future research may examine the relationship between gender and discretionary break-taking behaviors. Notably, although the within-person relationships found in Study 2 were similar across genders, there was a main effect of gender on break-taking such that women took fewer breaks than men *in general* (see Footnote 8). A possible reason for this finding is that relative to men, women may perceive they are held to stricter norms regards to break-taking. That is, whereas men may feel free to take breaks as needed, women may be reluctant to do so for fear of being reprimanded. This explanation is consistent with previous studies which highlight the presence of different behavioral standards for men and women in the workplace (e.g., Heilman, 2012; Heilman & Chen, 2005; Rudman & Phelan, 2008). However, we urge caution when interpreting this finding, as gender differences were not the focus of the current research. Nevertheless, we encourage future research to investigate the role that gender may play in shaping individuals' break-taking behaviors on the job.

### **Practical Implications**

This research can also be applied to maximize employees' well-being without sacrificing productivity. For one, Study 2 suggests that employees are more likely to take breaks if their

workplace has a strong micro-break climate. As such, for organizations and leaders who seek to ensure their employees feel free to take breaks on the job, possible interventions may include relaxing restrictions regarding the timing, frequency, or duration of the breaks employees can take (Niu, 2016). However, we acknowledge that not all organizations are able or willing to provide more breaks to their employees. That said, such organizations may be well-served to enact measures that can reduce the number of breaks employees *want* in the first place. For example, Studies 1 and 2 suggest that employees may want to take breaks when experiencing negative affect. Accordingly, organizations can reduce employees' desire to take a break by addressing the work conditions, processes, and events that can lead to negative emotions. For instance, organizations can remove some of the hindrances that employees find frustrating (e.g., needless paperwork), replace obsolete tools and equipment, and reduce employees' physical discomfort on the job via ergonomic workspaces. In sum, improving employees' overall experience at work may lead employees to want fewer breaks.

Another practical implication is that employees may desire fewer breaks when they are *well-rested*. In Study 2, the deleterious effects of workload on fatigue, negative affect, and performance concerns were weaker following days in which sleep quality was high as opposed to low. This is consistent with past studies which highlight sleep as an important activity for recuperating the resources needed for work (Christian & Ellis, 2011; Kim et al., 2021; Lanaj et al., 2014; Sonnentag et al., 2008). Thus, another avenue for addressing the conditions that lead employees to want breaks may be to encourage rest during off-job time. For example, organizations may offer training sessions to improve employees sleep-related habits (Barnes, 2011). Organizations can also foster a well-rested workforce by ensuring workers can leave the work at work, as employees tend to recover better when they detach from work during off-job

time (Bennett et al., 2018; Sonnentag et al., 2008; Sonnentag & Fritz, 2015). To do so, organizations may discourage the use of work-related emails and calls outside work hours.

### **Strengths and Limitations**

A key strength of this research is its use of different methodologies for investigating the antecedents of break-taking. The exploratory approach used in Study 1 allowed us to identify numerous break antecedents, but provided little insight into how these antecedents relate to each other to predict break-taking. We addressed this limitation in Study 2 by formulating specific hypotheses which we tested using a daily diary design. This allowed us to examine the combined influence of individuals' day-to-day experiences and contextual factors on break-taking *over time*. This is a key advantage over a cross-sectional survey, which would not have clarified how individuals' break-taking behaviors vary day-to-day. Moreover, separating the measurement of the break antecedents and break-taking behavior across each workday allowed us to reduce the influence of common method variance on relationships (Podsakoff et al., 2003). Furthermore, the use of a large sample of employees from a wide variety of job sectors provides confidence in the generalizability of the results obtained.

Nonetheless, the implications of this research need to be considered alongside its limitations. One limitation of both studies is that they focused exclusively on the *conscious* processes that may influence break-taking. This focus was intentional, as we explicitly set out to understand the factors that influence employees' conscious, volitional decisions to take breaks. Nonetheless, non-conscious processes may also influence employees' decision to take a break or not. For instance, although the current studies suggest that individuals may take a break when they report experiencing fatigue, there is some evidence to suggest that individuals may not

always be fully aware of how fatigued they are (Henning et al., 1989). Future research on break-taking behaviors may benefit from a consideration of employees' awareness of their own fatigue.

Although Study 2 addresses many of Study 1's limitations, it does not allow for strong causal influences regarding the relationships observed. For instance, it is possible that individuals rationalize their break-taking behaviors by reporting higher workloads. Yet, Study 2's daily diary design partially addresses such concerns. First, person-mean centering allowed us to remove between-person variation in the proposed within-person predictors of break-taking, thus accounting for unmeasured person-level confounds that may otherwise have influenced the results (Hofmann & Gavin, 1998; Raudenbush & Bryk, 2002). Second, we measured the break antecedents separately from break-taking. This allows us to claim that the break antecedents *precede* actual break-taking. In sum, though Study 2 does not allow us to conclusively infer that increased desire to detach leads to increased break-taking, it does address some of the concerns vis-à-vis causality by accounting for potential confounds and establishing temporal precedence.

Similarly, in the current research we predicted that fatigue, negative affect, and performance concerns would be parallel mediators of the relationship between workload and desire to detach. Although this prediction was based on past theory and research on the effects of workload on these constructs, we cannot rule out that these negative experiences may occur at different points in time. For example, workload may lead to fatigue, which in turn may lead to performance concerns and negative affect in turn. Future research will be needed to determine whether any one of these mediators take temporal precedence over the others.

Finally, note that in Study 2 we did not include *all* of the break antecedents found in Study 1. Rather, to ensure that the scope of the study would remain manageable we only examined a subset of these antecedents. Yet, some of the antecedents excluded from Study 2

may play an important role in influencing break-taking behaviors. For example, in Study 2 we decided not to investigate the role of employees' physiological needs (e.g., needing to use the restroom) due to our focus on psychological predictors of break-taking. However, because these physiological needs were mentioned by a large number of participants, they are likely to be important predictors of break-taking behaviors. Further, although Study 1 participants primarily cited negative experiences as reasons for taking a break, we cannot rule out the possibility that *positive* experiences may also predict break-taking behaviors. For instance, a worker may take a break to savor a positive event that happened on the job. Conversely, an employee may also skip a break because they are enjoying their current work task. Thus, we encourage researchers to investigate antecedents of break-taking behaviors not covered in this manuscript.

### **Conclusion**

Employees often face tremendous demands on the job, such as high workloads. One way to deal with these demands is to take breaks. Although past research has demonstrated the benefits of breaks for employee well-being and performance, the antecedents of break-taking have been neglected. We address this gap across two studies by highlighting workload as a critical predictor of employees' break-taking behaviors. Notably, we found that the negative experiences employees encounter on the job due to high workloads may prompt employees to *want* a break. Yet, we also found that concerns vis-à-vis expedience and aspects of the work climate can deter employees from *actually* taking a break. By shedding light into some of the processes that underlie break-taking, this paper provides an empirical base for interventions aimed at encouraging employees to take breaks as needed. Downstream, ensuring employees take breaks as needed is likely benefit both organizations and workers, as breaks can help employees stay refreshed and energized on the job without compromising performance.

## **Declarations**

### **Ethical Approval**

Both Studies 1 and 2 were reviewed and approved by the University of [redacted for review] Office of Research Ethics (Study 1 ORE Approval #23097, “Break Motives Study”; Study 2 ORE Approval #40642, “Antecedents of Break-Taking”).

### **Consent to Participate and Consent to Publish**

All individuals who participated in Studies 1 and 2 provided informed consent to participate in the study. Participants across both studies also provided informed consent for their data to be included and presented in scientific publications.



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Table 1

*Questions Asked in Study 1*

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**Questions asked to participants about an instance in which they took a break**

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1. Please describe what you were doing at the moment in which you decided to take a break.
  2. Please describe your thoughts at the moment in which you decided to take a break.
  3. Please describe your feelings and emotions at the moment in which you decided to take a break.
  4. Why did you decide to take a break? If there are multiple reasons, please list all of them below.
  5. Please describe what you did during the break.
  6. Please provide your best estimate of how long the break was, in MINUTES. Please respond to this by entering a number.
- 

---

**Questions asked to participants about an instance in which they did not take a break**

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1. Please describe what you were doing at the moment in which you considered taking a break.
  2. Please describe your thoughts at the moment in which you considered taking a break.
  3. Please describe your feelings and emotions at the moment in which you considered taking a break.
  4. Why did you consider taking a break? If there are multiple reasons, please list all of them below.
  5. Why did you NOT take a break? If there are multiple reasons, please list all of them below.
  6. Please describe what you would have done during the break.
  7. Please provide your best estimate of how long the break would have been, in MINUTES. Please respond to this by entering a number.
-

Table 2

*Positive Break Antecedents (Study 1)*

<b>Antecedent</b>	<b>% of Participants</b>	<b>Definition</b>	<b>Examples</b>
<b>Fatigue</b>	<b>45%</b>	Participant indicated taking a break due to fatigue.	<ul style="list-style-type: none"> <li>• "I decided to take a break because I was mentally tired [...]"</li> </ul>
<b>Physiological Needs</b>	<b>30%</b>	Participant indicated taking a break due to a desire or need to (1) move, stretch, or otherwise engage in physical activity, (2) consume food or non-caffeinated beverage, (3) to consume coffee or any other caffeinated beverage/food (e.g., tea, Red Bull, etc.), (4) to smoke, or (5) to use the restroom.	<ul style="list-style-type: none"> <li>• "I needed to move and I needed some fresh air."</li> <li>• "I wanted to get something to eat"</li> <li>• "I wanted to get coffee"</li> <li>• "I really wanted a cigarette."</li> <li>• "I had to go to the restroom"</li> </ul>
<b>Performance Concerns</b>	<b>28%</b>	Participant reported taking a break due to perceived decrements in performance prior to the break, a desire to maintain some level of performance over the course of the day, or due to other concerns regarding his/her task performance.	<ul style="list-style-type: none"> <li>• "I just needed to a a few minutes away from the computer screen and all of the addition and calculations that go into putting together a competitive job bid. These numbers have to be accurate or we could lose out on the job."</li> </ul>
<b>Negative Affect</b>	<b>21%</b>	Participant indicated taking a break due to negative emotions or to reduce negative emotions (e.g., boredom, anxiety, frustration).	<ul style="list-style-type: none"> <li>• "I was getting rather frustrated."</li> <li>• "I felt irritated."</li> </ul>
<b>Desire to Detach</b>	<b>18%</b>	Participant indicated taking a break to get away from the work task/environment/situation or individuals in the workplace setting (e.g., coworkers, clients).	<ul style="list-style-type: none"> <li>• "To [...] get out of the office away from my computer"</li> <li>• "Step away and gather myself."</li> </ul>
<b>Desire to Socialize</b>	<b>6%</b>	Participants reported taking a break to engage in social interaction with other individuals.	<ul style="list-style-type: none"> <li>• "[...] so I could spend some time talking to my friend."</li> <li>• "I wanted to talk to my coworker"</li> </ul>
<b>Non-work preoccupations</b>	<b>5%</b>	Participant reported taking a break due to a desire or need to engage in a non-work activity (e.g., leisure, hobbies, chores, etc.)	<ul style="list-style-type: none"> <li>• "wanted to play on phone / wanted a snack"</li> <li>• "[...] to go and fix my car"</li> </ul>
<b>Other</b>	<b>9%</b>	Responses that do not fit any of the above categories were coded as "other."	

*N* = 107 participants. Because participants could endorse multiple motives, the percentages do not add to 100%.

Table 3

*Negative Break Antecedents (Study 1)*

<b>Antecedent</b>	<b>% of Participants</b>	<b>Definition</b>	<b>Examples</b>
<b>Workload</b>	<b>33%</b>	Participant indicated not taking a break due to having a high amount of work to accomplish.	<ul style="list-style-type: none"> <li>• "I had too much work to do and felt I couldn't swing it. I wanted to complete my tasks first."</li> </ul>
<b>Momentum</b>	<b>27%</b>	Participant indicated not taking a break to avoid "losing momentum," losing his/her train of thought, or disrupting his/her workflow, or mentioned making good progress towards his/her work tasks.	<ul style="list-style-type: none"> <li>• "I thought it would be best for me to finish up my analysis before taking my break, lest I take a break and then lose my train of thought and come back confused about what I had been previously doing"</li> </ul>
<b>Expedience</b>	<b>25%</b>	Participant indicated not taking a break to reduce the amount of work needing to be done in the future, or indicated not taking a break to minimize the total amount of time spent on the job (e.g., to go home early).	<ul style="list-style-type: none"> <li>• "I wanted to have an easy day the day after. So I decided not to take a break, because it was going to be worth it."</li> <li>• "because i would have had to stay late and I didn't want to do that"</li> </ul>
<b>Sudden change in the work situation</b>	<b>10%</b>	Participant indicated not taking a break because of an unexpected change in his or her perceived work situation.	<ul style="list-style-type: none"> <li>• "Because the quiet office I was working in suddenly became busy."</li> <li>• "I [...] realized I forgot to email my coworker about a project that needed to be submitted by the end of the day. I decided not to take a break so that I could finish my work and leave on time."</li> </ul>
<b>Supervisor</b>	<b>8%</b>	Participant indicated not taking a break because of his/her supervisor.	<ul style="list-style-type: none"> <li>• "As I grabbed my keys I hear my boss yell over. He calls me in his office and has me going over multiple projects essentially wanted the low down on my week."</li> </ul>
<b>Impression Management</b>	<b>6%</b>	Participant indicated not taking a break to look good, or to avoid looking bad, in front of his/her supervisors or other employees.	<ul style="list-style-type: none"> <li>• "i [sic] need to be more productive and coworkers can fire me"</li> </ul>
<b>Concern for Coworkers</b>	<b>6%</b>	Participant indicated not taking a break out of concern for his/her coworkers, or reported feeling needed by his/her coworkers.	<ul style="list-style-type: none"> <li>• "I didn't end up taking a break because I felt like my responsibilities to my teammates were more important than my own personal comfort."</li> </ul>
<b>Other</b>	<b>10%</b>	Responses that do not fit any of the above categories were coded as "other."	

*N* = 107 participants. Because participants could endorse multiple motives, the percentages do not add to 100%.



Table 4

*Positive and Negative Break Antecedent Items*

<b>Positive Break Antecedent Items</b>	<b>Negative Break Antecedent Items</b>
<p><b>Fatigue</b></p> <ul style="list-style-type: none"> <li>Tired</li> <li>Exhausted</li> <li>Drained</li> <li>Fatigued</li> <li>Sluggish</li> <li>Worn out</li> </ul> <p><b>Negative Affect</b></p> <ul style="list-style-type: none"> <li>Angry</li> <li>Frustrated</li> <li>Upset</li> <li>Annoyed</li> </ul> <p><b>Performance Concerns</b></p> <ul style="list-style-type: none"> <li>I am not being productive</li> <li>My performance is starting to suffer</li> <li>I am struggling with my work</li> <li>I am not performing as well as usual</li> </ul> <p><b>Desire to Detach</b></p> <ul style="list-style-type: none"> <li>I want a change in scenery</li> <li>I want some time for myself</li> <li>I want to get out of the office for a moment</li> <li>I want some time away from my work</li> </ul>	<p><b>Workload</b></p> <ul style="list-style-type: none"> <li>I have too much work to do</li> <li>I have to work extra hard to finish a task</li> <li>I can do my work comfortably (R)</li> <li>I have to deal with a backlog at work</li> <li>I have problems with the workload</li> </ul> <p><b>Momentum Concerns</b></p> <ul style="list-style-type: none"> <li>When I am working, I do my best to avoid interruptions</li> <li>I rarely stop working when I am in the middle of a task</li> <li>When I am engrossed in my work, I keep working no matter what</li> </ul> <p><b>Expedience Concerns</b></p> <ul style="list-style-type: none"> <li>I want to finish my work as soon as possible</li> <li>I want to complete all my work and get it over with</li> <li>I want to finish my work quickly so I don't have to worry about it later</li> </ul> <p><b>Concern for Coworkers</b></p> <ul style="list-style-type: none"> <li>I feel needed by my coworkers</li> <li>My coworkers need my help</li> <li>My coworkers would be overwhelmed without me around</li> <li>My coworkers need my support</li> </ul>

*Note.* (R) denotes a reverse-coded item.

Table 5  
Correlation Matrix (Study 2)

Variables	Correlations											
	1	2	3	4	5	6	7	8	9	10	11	
1. Micro-break climate	—											
2. Sleep Quality	.08	—										
3. Fatigue	-.09	-.51***	—									
4. Negative Affect	-.15**	-.20***	.72***	—								
5. Performance Concerns	-.08	-.26***	.69***	.68***	—							
6. Desire to Detach	-.02	-.33***	.51***	.45***	.56***	—						
7. Workload	-.20***	-.26***	.52***	.52***	.53***	.48***	—					
8. Expedience Concerns	.08	-.20***	.25***	.19**	.16**	.44***	.32***	—				
9. Momentum Concerns	.07	.17**	-.14*	-.06	-.28***	-.15*	-.05	.18**	—			
10. Concern for Coworkers	.03	.14*	-.02	.05	-.10	-.03	.21***	.19**	.19**	—		
11. Break-Taking Behavior	-.03	.18**	.22***	.37***	.39***	.15*	.16**	-.01	-.05	-.03	—	
Mean	3.70	3.37	1.97	1.52	2.08	3.28	2.52	3.89	3.69	3.31	1.90	
SD <sub>Between</sub>	.63	.71	.85	.66	.78	.96	.86	.76	.75	.85	1.57	
SD <sub>Within</sub>	—	.74	.70	.47	.70	.64	.51	.52	.42	.50	.97	
ICC(1)	—	.28	.46	.55	.41	.60	.66	.58	.69	.66	.61	
Cronbach's Alpha	.86	—	.97	.90	.92	.93	.88	.90	.85	.91	—	
Coefficient Omega	.86	—	.97	.90	.93	.93	.90	.90	.86	.90	—	

Note:  $n = 1435$  daily observations nested within  $N = 287$  individuals. Between-person correlations are shown below the diagonal, and within-person correlations are shown above the diagonal. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . For measures that were assessed multiple times, the mean  $\alpha$  and Omega cross all 5 days are displayed.

Table 6  
*Multilevel Regression Results Predicting Break-Taking Behavior (Study 2)*

Independent Variable	DV = Break-Taking Behavior			
	$\gamma$	SE	<i>t</i>	<i>p</i>
Intercept	1.92	.08	23.02	<.001
Workload	.00	.07	.03	.973
Sleep Quality	-.05	.06	-.79	.429
Workload $\times$ Sleep Quality	-.14	.09	-1.55	.122
Fatigue	.00	.07	.06	.956
Negative Affect	-.06	.08	-.73	.467
Performance Concerns	-.06	.06	-.91	.362
Desire to Detach	.09	.06	1.50	.135
Expedience Concerns	.06	.06	.98	.330
Momentum Concerns	-.11	.08	-1.36	.173
Concern for Coworkers	.06	.07	.90	.367
Micro-Break Climate	-.05	.13	-.36	.722
Desire to Detach $\times$ Workload	.11	.11	1.01	.310
Desire to Detach $\times$ Expedience	-.18	.10	-1.86	.063
Desire to Detach $\times$ Momentum Concerns	.04	.13	.35	.725
Desire to Detach $\times$ Concern for Coworkers	.02	.10	.25	.800
Desire to Detach $\times$ Micro-Break Climate	.20	.08	2.51	.012
R <sup>2</sup>				.04

*Note:*  $n = 1435$  daily observations nested within  $N = 287$  individuals. Micro-break climate was measured at the between-person level.

Table 7

*Multilevel Regression Results Predicting Fatigue, Negative Affect, Performance Concerns, and Desire to Detach (Study 2)*

Independent Variable	DV = Fatigue				DV = Negative Affect				DV = Performance Concerns				DV = Desire to Detach			
	$\gamma$	<i>SE</i>	<i>t</i>	<i>p</i>	$\gamma$	<i>SE</i>	<i>t</i>	<i>p</i>	$\gamma$	<i>SE</i>	<i>t</i>	<i>p</i>	$\gamma$	<i>SE</i>	<i>t</i>	<i>p</i>
Workload	.28	.03	9.29	<.001	.24	.03	9.42	<.001	.32	.04	9.29	<.001	.21	.04	5.77	<.001
Sleep Quality	-.59	.02	-28.29	<.001	-.15	.02	-7.97	<.001	-.41	.02	-17.15	<.001	-.12	.03	-3.83	<.001
Workload $\times$ Sleep Quality	-.09	.03	-2.86	.004	-.06	.03	-2.26	.024	-.13	.04	-3.61	<.001	-.01	.04	-.26	.798
Fatigue													.11	.04	3.07	.002
Negative Affect													.12	.04	2.86	.004
Performance Concerns													.17	.03	5.53	<.001
$R^2$				.51				.17				.33				.27

Note:  $n = 1435$  daily observations nested within  $N = 287$  individuals.

Table 8  
*Moderated Serial Indirect Effect Results (Study 2)*

	Stage 1		Stage 2		Stage 3		Mediation		
	Workload → Fatigue		Fatigue → Detach		Detach → Breaks		IE	LB	UB
Low SQ, Low Workload	.32	.03	.11	.04	.11	.06	.004†	.000	.009
Low SQ, High Workload	.32	.03	.11	.04	.06	.06	.002	-.001	.007
High SQ, Low Workload	.23	.03	.11	.04	.11	.06	.003†	.000	.006
High SQ, High Workload	.23	.03	.11	.04	.06	.06	.001	-.001	.005

	Stage 1		Stage 2		Stage 3		Mediation		
	Workload → Fatigue		Fatigue → Detach		Detach → Breaks		IE	LB	UB
Low SQ, Low MBC	.32	.03	.11	.04	-.04	.08	-.001	-.007	.003
Low SQ, High MBC	.32	.03	.11	.04	.21	.08	.007**	.002	.015
High SQ, Low MBC	.23	.03	.11	.04	-.04	.08	-.001	-.005	.002
High SQ, High MBC	.23	.03	.11	.04	.21	.08	.005**	.002	.011

	Stage 1		Stage 2		Stage 3		Mediation		
	Workload → NA		NA → Detach		Detach → Breaks		IE	LB	UB
Low SQ, Low Workload	.27	.03	.12	.04	.11	.06	.003†	.000	.008
Low SQ, High Workload	.27	.03	.12	.04	.06	.06	.002	-.001	.006
High SQ, Low Workload	.22	.03	.12	.04	.11	.06	.003†	.000	.006
High SQ, High Workload	.22	.03	.12	.04	.06	.06	.001	-.001	.005

	Stage 1		Stage 2		Stage 3		Mediation		
	Workload → NA		NA → Detach		Detach → Breaks		IE	LB	UB
Low SQ, Low MBC	.27	.03	.12	.04	-.04	.08	-.001	-.006	.003
Low SQ, High MBC	.27	.03	.12	.04	.21	.08	.006*	.002	.013
High SQ, Low MBC	.22	.03	.12	.04	-.04	.08	-.001	-.005	.002
High SQ, High MBC	.22	.03	.12	.04	.21	.08	.005**	.001	.011

	Stage 1		Stage 2		Stage 3		Mediation		
	Workload → Perf		Perf → Detach		Detach → Breaks		IE	LB	UB
Low SQ, Low Workload	.40	.04	.17	.03	.11	.06	.007†	.001	.015
Low SQ, High Workload	.40	.04	.17	.03	.06	.06	.004	-.002	.012
High SQ, Low Workload	.25	.04	.17	.03	.11	.06	.004†	.001	.010
High SQ, High Workload	.25	.04	.17	.03	.06	.06	.002	-.002	.007

	Stage 1		Stage 2		Stage 3		Mediation		
	Workload → Perf		Perf → Detach		Detach → Breaks		IE	LB	UB
Low SQ, Low MBC	.40	.04	.17	.03	-.04	.08	-.003	-.012	.006
Low SQ, High MBC	.40	.04	.17	.03	.21	.08	.014**	.005	.025
High SQ, Low MBC	.25	.04	.17	.03	-.04	.08	-.002	-.007	.004
High SQ, High MBC	.25	.04	.17	.03	.21	.08	.008**	.003	.016

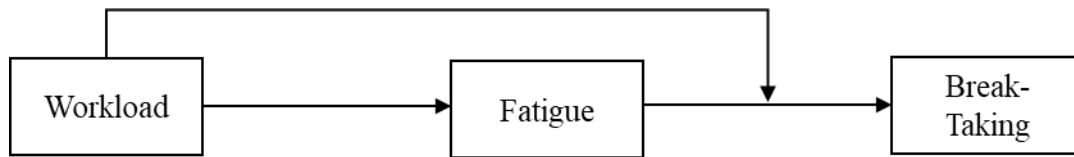
Note:  $n = 1435$  daily observations nested within  $N = 287$  individuals. SQ = Sleep quality. MBC =

Micro-break climate. Detach = Desire to detach. Breaks = Break-Taking Behavior. NA =

Negative affect. Perf = Performance concerns. Lower bound (LB) and upper bound (UB) of the

indirect effect (IE) are based on the 95% confidence interval. Micro-break climate was measured

at the between-person level. \*  $p < .05$ .



*Figure 1.* Heuristic model of the predictions.

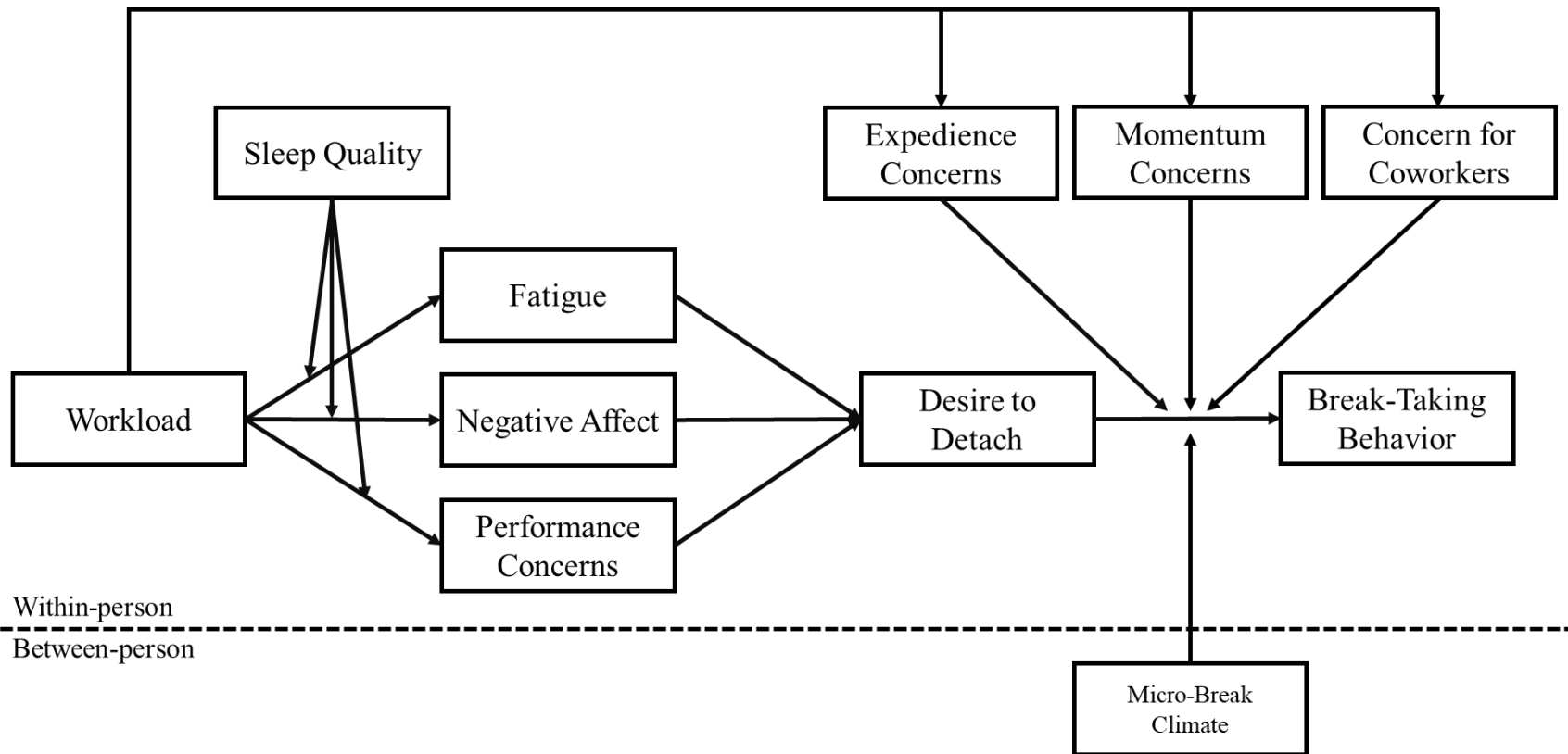


Figure 2. Full model tested in Study 2.

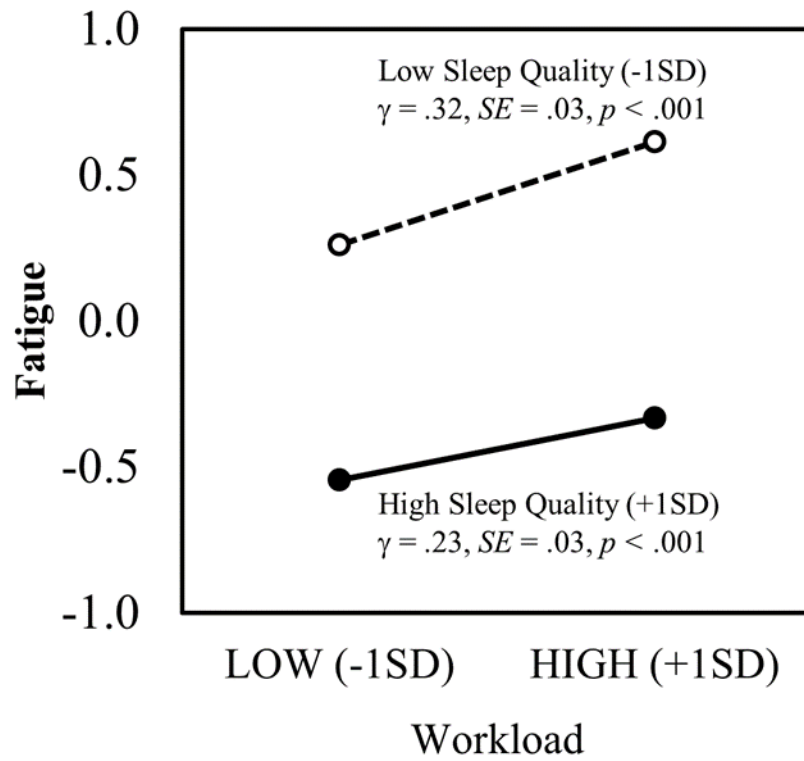
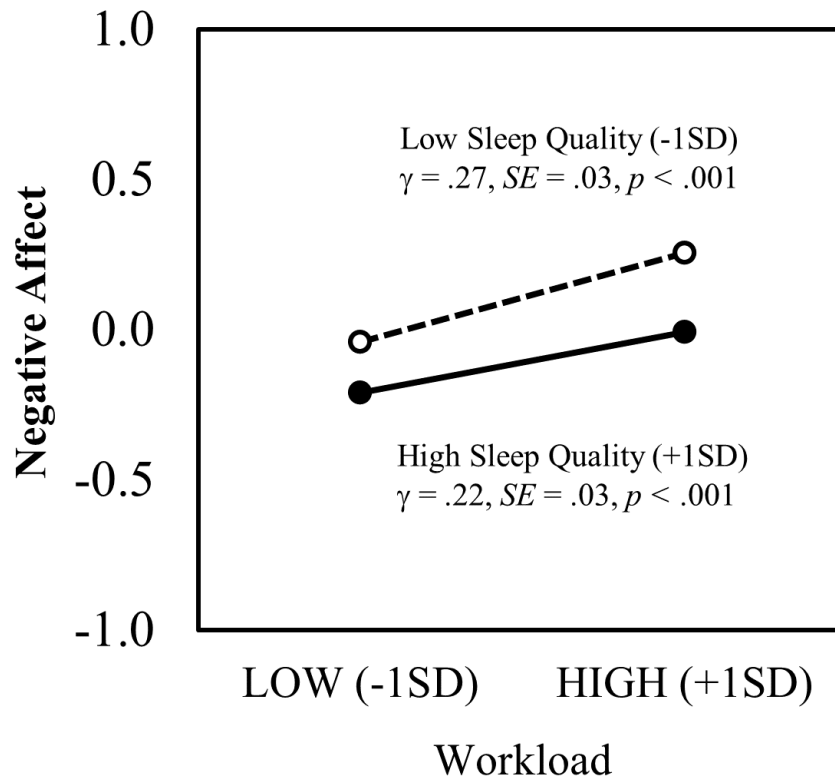


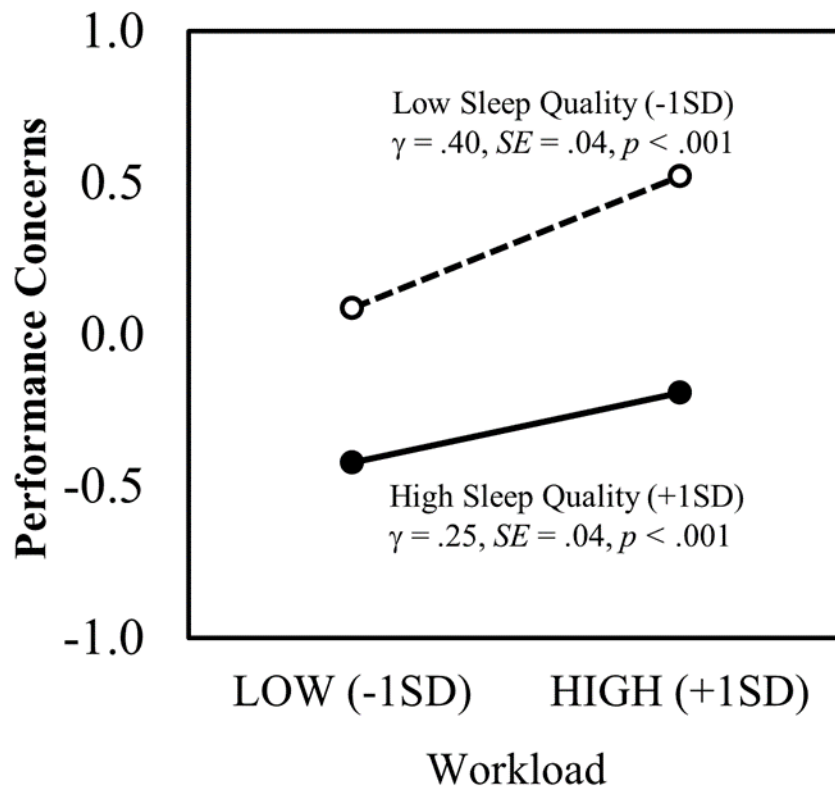
Figure 3. The interaction between workload and sleep quality predicting fatigue (Study 2).

Because fatigue was centered around each person's mean, the zero in the y-axis refers to the person's mean fatigue.





*Figure 4.* The interaction between workload and sleep quality predicting negative affect (Study 2). Because negative affect was centered around each person's mean, the zero in the y-axis refers to the person's mean negative affect.



*Figure 5.* The interaction between workload and sleep quality predicting performance concerns (Study 2). Because the performance concerns variable was centered around each person's mean, the zero in the y-axis refers to the person's mean performance concerns.

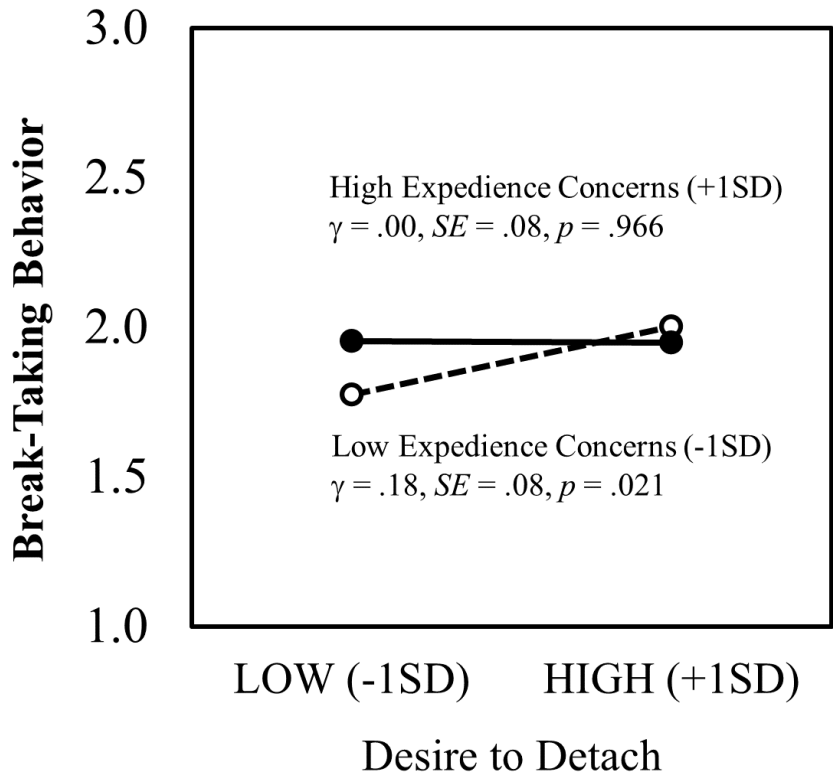


Figure 6. The interaction between desire to detach and expedience concerns predicting break-taking behavior (Study 2).

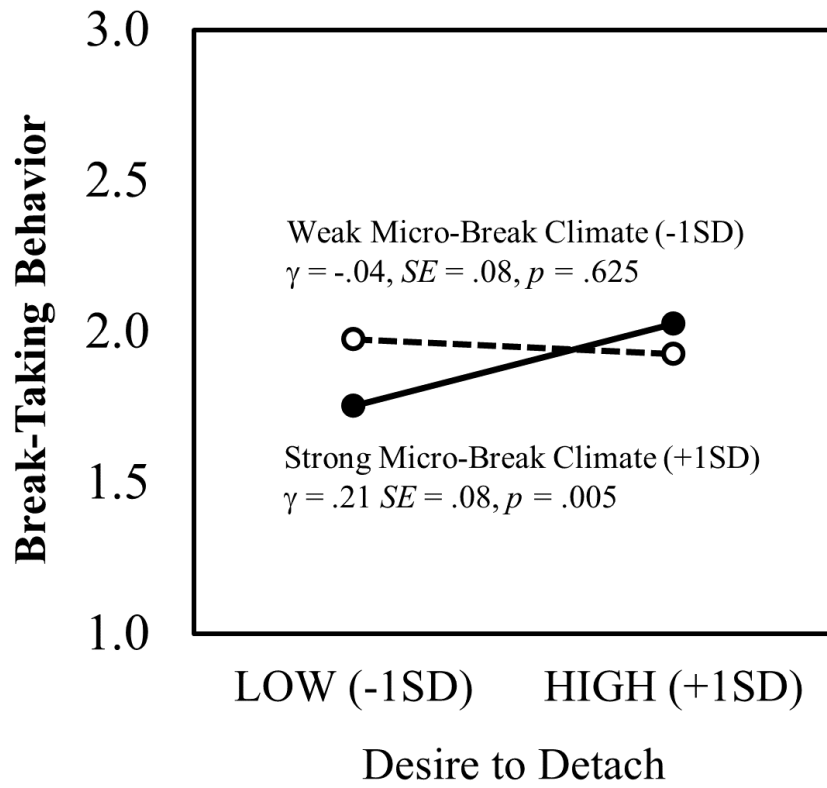


Figure 7. The interaction between desire to detach and micro-break climate predicting break-taking behavior (Study 2).