

1       Should I Stay or Should I Go? The Role of Daily Presenteeism as an Adaptive Response to  
2               Perform at Work Despite Somatic Complaints for Employee Effectiveness

3  
4       Rivkin, Wladislaw<sup>a</sup>, Diestel, Stefan<sup>b</sup> Gerpott, Fabiola H.<sup>c</sup>, & Unger, Dana<sup>d, e</sup>

5                               <sup>a</sup>Trinity College Dublin, Ireland

6                               <sup>b</sup>University of Wuppertal, Germany

7                               <sup>c</sup>WHU – Otto Beisheim School of Management, Germany

8                               <sup>d</sup>UiT The Arctic University of Norway

9                               <sup>e</sup>University of East Anglia, UK

10  
11                               **Author Note**

12               Correspondence concerning this article should be addressed to Wladislaw Rivkin, Trinity  
13 Business School – Trinity College Dublin, the University of Dublin, Dublin 2, Ireland, E-mail:  
14 [rivkinw@tcd.ie](mailto:rivkinw@tcd.ie)

15               An earlier version of this paper was accepted for presentation at the cancelled EAWOP  
16 conference 2022 in Glasgow as part of the symposium “New Perspectives on Events and their  
17 Consequences for Employee Well-being and Motivation”.

18                               **Authors’ Biographies**

19               <sup>a</sup>Dr. Wladislaw (Wlad) Rivkin is an Associate Professor in Organizational Behavior at  
20 Trinity Business School. His research, which has been published in high impact academic  
21 journals focuses on how self-regulation affects employees’ mental health, well-being, and  
22 effectiveness.

23               <sup>b</sup>Dr. Stefan Diestel is a professor of Work, Organizational and Business Psychology at the  
24 University of Wuppertal, Germany. In his research, he examines the impact of self-regulation,  
25 personality, leadership and emotional labor on employees’ functioning.

26           <sup>c</sup>Dr. Fabiola Heike Gerpott is a Professor of Leadership at WHU—Otto Beisheim School  
27 of Management, Germany. Her research blends management science, social psychology, and  
28 communication research. Identifying as an interdisciplinary researcher, she publishes in top-tier  
29 journals in different fields.

30           <sup>d</sup>Dr. Dana Unger is an Associate Professor in Work and Organizational Psychology at UiT  
31 The Arctic University of Norway. Her research interests are the well-being, work—life interface,  
32 and precarious careers of individuals and couples. She publishes in top-tier journals such as the  
33 Journal of Applied Psychology and Human Relations.

34

35           *This is the author accepted manuscript version of the manuscript that has undergone peer*  
36 *review and has been accepted by the publisher. This version may differ from the published*  
37 *manuscript as it has not undergone typesetting and has the publisher's logo on it*

38

39

40           Should I Stay or Should I Go? The Role of Daily Presenteeism as an Adaptive Response  
41 to Perform at Work Despite Somatic Complaints for Employee Effectiveness

42           Presenteeism – defined as the behavior of attending work in the state of ill-health  
43 (Aronsson et al., 2000) – has been labeled as an “800-Pound Gorilla” due to the tremendous  
44 costs for employees and organizations alike (Farrell, 2013). These costs are reflected by  
45 increases in burnout, impaired work-ability, and productivity loss (Johns, 2010; Miraglia &  
46 Johns, 2016; Ruhle et al., 2020; Skagen & Collins, 2016). Previous research has contributed to  
47 our understanding of presenteeism as a macro-level phenomenon by examining its prevalence  
48 across longer timeframes such as several months or years (Miraglia & Johns, 2016; Skagen &  
49 Collins, 2016). This research has identified global determinants (i.e., job demands and job  
50 resources) and consequences (i.e., long-term impairments in mental and physical health as well  
51 as sickness absence and impaired employee effectiveness) of presenteeism (Luksyte et al., 2015;  
52 Miraglia & Johns, 2016; Skagen & Collins, 2016).

53           Going beyond relevant insights provided by previous macro-level research, recently  
54 scholars proposed that studying presenteeism through a dynamic person-centered lens may  
55 contribute to a holistic understanding of this phenomenon. More specifically, applying a so far  
56 largely neglected process view of presenteeism can help to identify the intraindividual  
57 determinants and consequences of within-person fluctuations in presenteeism (Karanika-Murray  
58 & Biron, 2020; Lohaus & Habermann, 2019; Ruhle et al., 2020). The present micro-level study,  
59 which focuses on dynamic daily within-person fluctuations thus complements previous macro-  
60 level research on presenteeism (Lohaus & Habermann, 2019; McGregor et al., 2018; Miraglia &  
61 Johns, 2016; Ruhle et al., 2020). In this micro-level study, we empirically test the theoretical  
62 proposition that presenteeism is “(...) an adaptive response to the need to meet work commitments

63 during compromised health” (Karanika-Murray & Biron, 2020, p. 245) through examining somatic  
64 complaints (i.e., an indicator of compromised health) and work-goal progress (i.e., an indicator of  
65 the subjective need to meet work commitments) as joint determinants of presenteeism. Due to  
66 dynamic fluctuations of these two core determinants across days (Downes et al., 2020; Repetti,  
67 1993; Wolff et al., 2012), we argue that our proposed daily micro-level focus is most suitable to  
68 empirically test this theoretical proposition. Moreover, while previous macro-level research has  
69 highlighted that presenteeism is predominantly associated with negative consequences for  
70 employees and organizations such as reduced work effectiveness and associated productivity loss  
71 (Karanika-Murray et al., 2015; Karanika-Murray & Biron, 2020; Miraglia & Johns, 2016), our  
72 proposed micro-level framework can help disentangle the psychological mechanisms underlying  
73 these effects, which are not well understood yet (Whysall et al., in press). Finally, focusing on  
74 daily within-person fluctuations in presenteeism has the potential to broaden the scope of  
75 presenteeism research beyond general attendance behaviors (i.e., whether employees did or did  
76 not physically attend their workplace when ill; Johns, 2010; Lohaus & Habermann, 2019) by  
77 introducing this concept to work environments such as flexible work arrangements and  
78 particularly teleworking where attending one’s workplace is not required anymore (Malhotra,  
79 2021; Whysall et al., in press).

80         The present study thus aims to add to our scholarly understanding of presenteeism by  
81 proposing a dynamic within-person conceptualization of daily presenteeism, exploring its within-  
82 person determinants, and the psychological mechanisms underlying its potentially harmful  
83 effects for employee effectiveness. We develop our research model by integrating the health-  
84 performance framework of presenteeism (Karanika-Murray & Biron, 2020) and the model of the  
85 decision-making process for presenteeism (Whysall et al., in press) with ego-depletion theory

86 (Baumeister et al., 2000). Specifically, we examine the interplay of daily somatic complaints and  
87 work-goal progress as predictors of daily fluctuations in presenteeism. We argue that on days  
88 with higher work-goal progress, employees are less likely to engage in presenteeism when  
89 experiencing somatic complaints. In contrast on days with lower work-goal progress, employees  
90 are more likely to engage in presenteeism when experiencing somatic complaints. This is  
91 because according to the model of the decision-making process for presenteeism (Whysall et al.,  
92 in press) employees' engagement in presenteeism is contingent on the perceived value of this  
93 behavior. We thus propose that increased work-goal progress reduces the perceived value of  
94 engaging in presenteeism because employees have less to gain by continuing work despite ill  
95 health as they have already for the most part delivered on their daily performance requirements.  
96 We further integrate this notion with ego-depletion theory, which proposes that self-regulation  
97 (i.e., the regulation of cognition, behavior, and emotion for successful goal achievement) is an  
98 effortful cognitive process that draws on and depletes regulatory resources (Muraven &  
99 Baumeister, 2000). As presenteeism reflects an adaptive behavior to balance performance against  
100 limitations due to ill-health (Karanika-Murray & Biron, 2020), it requires employees' self-  
101 regulation to suppress their acute complaints and instead engage in work tasks for satisfactory  
102 work performance. Hence, we expect that presenteeism requires self-regulation, which impairs  
103 employees' functioning on the next workday through the depletion of employees' regulatory  
104 resources (cf. Figure 1). Corresponding with our micro-level within-person focus on daily  
105 presenteeism, we examine the proposed research model in a daily diary study. We focus on next-  
106 day work engagement and task performance as indicators of employee effectiveness, which have  
107 been suggested to rely on the availability of regulatory resources (Diestel et al., 2015; Gerpott et  
108 al., 2021).

109 – Please insert Figure 1 about here –

110 Our research offers three contributions to the presenteeism literature. First, we contribute  
111 to an integrative view on presenteeism by complementing the well-established macro-level  
112 between-person focus (Karanika-Murray & Biron, 2020; Miraglia & Johns, 2016; Ruhle et al.,  
113 2020; Skagen & Collins, 2016) through a micro-level within-person perspective on dynamic  
114 daily fluctuations of presenteeism (Whysall et al., in press). Therefore, we develop a within-  
115 person conceptualization and operationalization of daily presenteeism, which allows us to  
116 introduce a process view to presenteeism by investigating within-person fluctuations in  
117 presenteeism across workdays. This complementary perspective can help to move presenteeism  
118 research beyond mere attendance behaviors and examine this phenomenon in flexible work  
119 contexts where employees can decide to continue or abstain from working at any time during the  
120 day (i.e., teleworking, flexible working arrangements; Kniffin et al., 2021; Whysall et al., in  
121 press). Furthermore, our focus on daily fluctuations in presenteeism reduces potential recall bias,  
122 which may have affected previous findings of studies on presenteeism across longer timeframes  
123 (Bolger et al., 2003; Ruhle et al., 2020). Second, we advance our understanding of the core  
124 determinants of daily within-person fluctuations in presenteeism, that is, the factors that  
125 contribute to employees' engagement in daily presenteeism. Drawing on the health-performance  
126 framework of presenteeism (Karanika-Murray & Biron, 2020) and the model of the decision-  
127 making process for presenteeism (Whysall et al., in press) the present study examines day-  
128 specific interactions between momentary somatic complaints and daily work-goal progress on  
129 presenteeism to explain when and how employees engage in presenteeism. Given that task- or  
130 goal-related processes are suggested to have a strong impact on employees' attendance behavior  
131 (Whysall et al., in press) such evidence provides novel and nuanced insights into how the

132 subjective assessment of daily work goal achievement shapes presenteeism behavior. Third, we  
133 seek to expand our understanding of the underlying mechanisms of the harmful impacts of daily  
134 presenteeism on employee effectiveness by integrating the health-performance framework  
135 (Karanika-Murray & Biron, 2020) with ego depletion theory (Muraven & Baumeister, 2000).  
136 Based on this theoretical integration, we argue that self-regulation and associated ego depletion  
137 represent crucial psychological mechanisms that underly the harmful short-term impact of  
138 presenteeism on employees' performance. By extending the time frame of our study across two  
139 consecutive working days we provide a thorough test of the duration of the potential effects of  
140 presenteeism on outcomes, which are not only highly contingent upon the momentary  
141 availability of resources but also reflect the core dimension of employee effectiveness, which  
142 have also been demonstrated as relevant determinants of organizational effectiveness (Call &  
143 Ployhart, 2021). Expanding our understanding of these psychological mechanisms also offers  
144 practical contributions as it informs the development of interventions that can target ego  
145 depletion to reduce the detrimental impact of presenteeism on employees daily effectiveness  
146 (Sonnentag et al., 2020).

#### 147 **Presenteeism as a Daily Phenomenon**

148 In this study, going beyond previous research, we focus on day-to-day fluctuations of  
149 presenteeism as well as its daily determinants and consequences. On the between-person level,  
150 presenteeism research has already demonstrated its relevance for employees and organizations  
151 alike (Johns, 2010; Karanika-Murray & Biron, 2020; Lohaus & Habermann, 2019; Miraglia &  
152 Johns, 2016) with estimated costs of presenteeism potentially exceeding absenteeism (Farrell,  
153 2013; Hemp, 2004). Presenteeism affects a wide range of relevant individual and organizational  
154 outcomes such as employees' physical and mental health as well as sickness absence because it

155 not only directly impairs the ability to work (i.e., making more errors because of the inability to  
156 concentrate while working) but can also compromise physical and psychological recovery  
157 processes (Skagen & Collins, 2016; Sonnentag et al., 2017; Whysall et al., in press). Examining  
158 between-person differences in presenteeism (Miraglia & Johns, 2016; Skagen & Collins, 2016),  
159 this macro-level approach offers important insights into individual and organizational factors that  
160 contribute to presenteeism and its consequences. However, this research is also limited in several  
161 ways: First, cross-sectional and longitudinal studies implicitly assume that presenteeism is a  
162 relatively stable phenomenon that only fluctuates over longer time frames such as months or  
163 years. This assumption is challenged by more recent theoretical advancements. For example, the  
164 health-performance framework of presenteeism, as well as the model of the decision-making  
165 process for presenteeism view presenteeism as an adaptive dynamic behavior and thereby, imply  
166 that its determinants and consequences can exhibit considerable intraindividual fluctuations  
167 (Karanika-Murray & Biron, 2020; Whysall et al., in press). Second, although evidence indicates  
168 that presenteeism impairs employee effectiveness over longer periods (Skagen & Collins, 2016),  
169 the more immediate consequences of presenteeism and the psychological mechanisms  
170 responsible for these consequences remain unexplored (Lohaus & Habermann, 2019; Ruhle et  
171 al., 2020). Finally, the longitudinal time frames across which presenteeism has been examined  
172 raise the concern of recall bias that leads people to over-or underreport presenteeism (Ruhle et  
173 al., 2020; Skagen & Collins, 2016). Research in related areas (i.e., sickness absence) has indeed  
174 suggested that for time frames beyond two months recall bias can threaten the validity of study  
175 results (Severens et al., 2000; van Poppel, 2002; Voss et al., 2008).

176 To address these limitations, we develop and test a micro-level within-person model of  
177 presenteeism that is based on integrating the health-performance framework of presenteeism



178 (Karanika-Murray & Biron, 2020) and the associated model of the decision-making process for  
179 presenteeism (Whysall et al., in press) with ego-depletion theory (Muraven & Baumeister, 2000).  
180 The starting point for our theorizing draws on the aforementioned proposition that “(...)”  
181 presenteeism is an adaptive behavior that serves the purpose of balancing health constraints and  
182 performance demands” (Karanika-Murray & Biron, 2020, p. 244). This proposition implies that  
183 presenteeism is a dynamic behavior that can fluctuate across shorter time frames such as days. To  
184 illustrate, during the workday an employee may experience a health complaint in the form of a  
185 headache. This in turn requires them to consider whether they continue working despite being  
186 affected by ill health and thereby engage in presenteeism, which is dynamic as one may or may  
187 not decide to continue working for example depending on the nature of the headache (Whysall et  
188 al., in press). The dynamic nature of presenteeism can be further illustrated if we consider that  
189 the employee decides to engage in presenteeism by continuing to work. After a few hours, their  
190 headache may either have gotten worse or it has gotten better. In both cases, this is likely to  
191 reduce presenteeism as either the employee stops working due to a continued prevalence of the  
192 health complaint (i.e., resulting in absenteeism) or continues working without experiencing ill  
193 health. As this dynamic nature of presenteeism cannot be captured by some of the widely used  
194 operationalizations of presenteeism, which have been used in previous macro-level research (i.e.,  
195 the number of days one has gone to work even though the state of one's health should have  
196 implied taking sick leave; Lohaus & Habermann, 2019), we propose to extend the measurement  
197 of presenteeism to the day level by asking employees on a certain workday about the number of  
198 hours they spent working despite not feeling well enough to work. This dynamic  
199 conceptualization strongly aligns with recent theoretical developments, which consider  
200 presenteeism as a dynamic process (Karanika-Murray & Biron, 2020; Whysall et al., in press)

201 and thus not only allows to accurately capture shorter daily episodes of presenteeism but also to  
202 examine presenteeism in more flexible work contexts (i.e., flexible work and telework; Malhotra,  
203 2021; Whysall et al., in press). Such work settings do not require the decision to attend or not  
204 attend work for the whole workday but rather allow to determine work attendance flexibly  
205 (Whysall et al., in press). In light of the increased flexibility of occupational contexts associated  
206 with the Covid-19 pandemic (Kniffin et al., 2021), our proposed conceptualization and  
207 operationalization of daily presenteeism can pave the way to expand research on presenteeism to  
208 a variety of occupational contexts to which a traditional view of presenteeism as an attendance  
209 behavior may not be applicable.

#### 210 **Performing at Work Despite Ill Health – Somatic Complaints and Work-Goal Progress as** 211 **Core Determinants of Presenteeism**

212 Previous research has identified several macro-level determinants of presenteeism at the  
213 individual-, job-, and organizational level (for an overview, see Johns, 2010; Lohaus &  
214 Habermann, 2019; Miraglia & Johns, 2016). For example, at the individual level studies have  
215 demonstrated that a person's physical and mental health are negatively associated with  
216 presenteeism. At the job level, work demands such as role demands, long work hours, and time  
217 pressure positively relate to presenteeism. Finally, organizational-level factors such as working in  
218 the private sector and organizational size are negatively linked to presenteeism. However, this  
219 rich understanding of more general between-person differences associated with presenteeism  
220 cannot contribute to explaining within-person fluctuations in this phenomenon (Ruhle et al.,  
221 2020). That is, while an employee who suffers from chronic health complaints compared to  
222 another employee who is less affected by such complaints may be more likely to engage in  
223 presenteeism because across longer timeframes it is the only way to maintain adequate work

224 performance, it is not clear whether this relationship also materializes at the within-person level.  
225 For example, it is also possible that daily health complaints are only associated with daily  
226 presenteeism if there are outstanding performance demands that require an employee to engage  
227 in presenteeism on a specific day (Karanika-Murray & Biron, 2020; Whysall et al., in press). The  
228 functional equivalence of relations between levels of analysis (i.e., between- compared to within-  
229 person) is referred to as homology, which according to Chen et al. (2005, see also Gabriel et al.,  
230 2019) cannot be automatically inferred but rather must be empirically examined.

231         Based on propositions to focus on the dynamic nature of presenteeism as an adaptive  
232 behavior to deliver work performance despite limitations due to ill health (Karanika-Murray &  
233 Biron, 2020; Ruhle et al., 2020), the present research draws on theoretical notions of the health-  
234 performance framework (Karanika-Murray & Biron, 2020) and the model of the decision-  
235 making process for presenteeism (Whysall et al., in press) to conceptualize the interplay of health  
236 complaints and work-goal progress as core determinants of presenteeism. Whereas health  
237 complaints reflect the extent to which an employee's ill health compromises the ability to  
238 perform at work, work-goal progress represents a subjective assessment of the extent to which  
239 employees have yet to meet their performance requirements.

240         We propose that health complaints reflect one of the two core determinants of  
241 presenteeism because they are a sine qua non for presenteeism to occur. That is, the occurrence  
242 of ill health is a requirement for the consideration of whether one should engage in presenteeism  
243 absenteeism (Whysall et al., in press). In consideration of the micro-level within-person focus of  
244 our study we examine fluctuating acute or episodic complaints such as having a headache, upper-  
245 and lower back pain, or neck- and shoulder pain as indicators of ill health. These temporally  
246 transient states of ill-health have been previously demonstrated to considerably vary across days

247 (Hahn, 2000; Repetti, 1993; Wolff et al., 2012). In line with our initially presented example, on  
248 some days the experience of an acute headache may lead to more presenteeism as the employee  
249 continues working for the rest of the day while on other days they may engage in less  
250 presenteeism as they work for another hour but then stop working due to the persistent nature of  
251 the complaint. In assuming within-person daily variations, we still acknowledge that in some  
252 cases complaints can be so severe that continuing work is impossible. Yet, the relatively low  
253 means of daily complaints reported in previous studies (Hahn, 2000; Repetti, 1993; Wolff et al.,  
254 2012) suggest that in most cases daily fluctuations in health complaints rather reflect mild  
255 symptoms than severe health impairments.

256         Furthermore, drawing on Whysall et al's (in press) proposition that presenteeism can also  
257 be contingent on work-related factors, we argue that the extent to which an employee is still  
258 required to perform at work represents a crucial contingency that determines presenteeism. This  
259 is because employees are less likely to perceive value in continuing working without any major  
260 remaining performance goals, which in turn reduces the need to engage in presenteeism.

261 Accordingly, we propose that employees' daily work-goal progress reflects a subjective  
262 assessment of the remaining performance goals that an employee aims to fulfill on a certain day  
263 (Wanberg et al., 2010). Accordingly, low daily work-goal progress indicates that employees still  
264 have outstanding performance goals that they must complete on a focal day whereas high work-  
265 goal progress signals that satisfactory work performance has already been delivered.

266         In line with the proposition that the purpose of presenteeism is to balance performance  
267 goals against limitations due to ill health (Karanika-Murray & Biron, 2020), we argue that  
268 presenteeism is more likely to occur on days when employees experience high somatic  
269 complaints and at the same time low work-goal progress because on these days adaptive

270 engagement in presenteeism can help to deliver employees remaining performance goals. In  
271 contrast, when both somatic complaints and work-goal progress are high, we propose that there  
272 is no need to engage in presenteeism as employees as the perceived value of engaging in work  
273 while not having their full ability to work (i.e., presenteeism) decreases. This proposition  
274 corresponds with the model of the decision-making process for presenteeism, which suggests  
275 that besides ill-health the decision to engage in presenteeism is contingent on the perceived value  
276 of the presenteeism behavior (Whysall et al., in press). Accordingly, as daily work goal progress  
277 increases, there is a lesser perceived value associated with presenteeism because employees have  
278 for the most part already delivered on their performance goals. Finally, we expect lower levels of  
279 presenteeism on days with low somatic complaints independent of work-goal progress. This is  
280 because as previously suggested somatic complaints are a sine qua non for presenteeism to occur  
281 because of the seminal definition of presenteeism as working in the state of ill health (Aronsson  
282 et al., 2000).

283 *Hypothesis 1: Day-specific somatic complaints interact with day-specific work-goal*  
284 *progress in predicting day-specific presenteeism on the same day. The relationship between*  
285 *somatic complaints and presenteeism will be stronger on days with lower as compared to days*  
286 *with higher work-goal progress.*

### 287 **Ego Depletion as a Mediator Linking Presenteeism to Employee Effectiveness on the Next** 288 **Workday**

289 The proposition that presenteeism reflects an adaptive response to deliver adequate work  
290 performance despite ill health underpins the integration of the health-performance framework  
291 (Karanika-Murray & Biron, 2020) with ego-depletion theory (Muraven & Baumeister, 2000).  
292 This theory implies that acts of self-regulation draw on and deplete individuals' regulatory

293 resources and thus result in a state of diminished regulatory resources coined as ego depletion  
294 (Muraven & Baumeister, 2000), which are associated with a reduced ability or willingness to  
295 engage in further self-regulation. Previous research has convincingly demonstrated the crucial  
296 role of self-regulation and associated ego depletion when individuals engage in adaptive  
297 behaviors to cope with work demands that inhibit goal pursuit (Lian et al., 2017; Schmidt &  
298 Diestel, 2015; Schmidt & Neubach, 2007). These demands include but are not limited to work-  
299 related smartphone use (Gombert et al., 2018; Lanaj et al., 2014), aversive commute experiences  
300 (Zhou et al., 2017; Gerpott et al., 2021), time pressure (Diestel & Schmidt, 2009; Prem et al.,  
301 2016) emotional labor (Diestel et al., 2015; Konze et al., 2019), and injustice (Matta et al., 2017).  
302 The proposition that self-regulation plays a crucial role in adapting ones behaviors can be  
303 directly applied to the conceptualization of presenteeism as an adaptive behavior to achieve the  
304 goal of delivering a satisfactory work performance despite the reduction in one's ability to  
305 perform at work due to ill health proposed by the health-performance framework (Karanika-  
306 Murray & Biron, 2020). That is when engaging in presenteeism employees must self-regulate to  
307 inhibit their attention to the aversive sensations associated with their health impairments, and  
308 instead upregulate cognitions and behaviors that help support fulfilling their work commitments.  
309 Accordingly, presenteeism requires employees to cognitively suppress or distract themselves  
310 from their complaints and refrain from initiating actions to tend to those complaints (i.e., take a  
311 break and rest, contact the doctor). Instead, employees must self-regulate to focus their attention  
312 and behaviors on their work goals as they continue working. Drawing on these arguments, we  
313 propose that engaging in presenteeism depletes employees' regulatory resources as it requires  
314 self-regulation.

315 Previous research has established the crucial role of ego depletion for employees' work  
316 engagement and task performance on a focal day (Lian et al., 2017; Schmidt et al., 2016). This is  
317 because staying engaged at work and successfully completing work tasks requires employees'  
318 self-regulation to overcome motivational resistances when working on unattractive tasks, resist  
319 distractions, and maintain a high motivation when persisting with a work task (Gerpott et al.,  
320 2021; Rivkin et al., 2021). However, much less is known about the potential spillover of the  
321 harmful effects of ego depletion across days. That is, whether ego depletion before bedtime on  
322 one day affects work-related functioning on a subsequent day. In the present research, we expand  
323 notions on ego depletion by examining the spillover of evening ego depletion to next-day  
324 employee effectiveness. We argue that this spillover occurs because bedtime ego depletion  
325 represents a baseline for employees' next-day availability of regulatory resources  
326 notwithstanding recovery processes in the evening or during the night (Sonnentag & Fritz, 2015).  
327 More specifically, while previous research has supported the role of the recovery process in the  
328 evening after work for employees' availability of regulatory resources (i.e., sleep; psychological  
329 detachment; Germeys & de Gieter, 2018; Gombert et al., 2020; Rivkin et al., 2021), these  
330 recovery processes restore one's regulatory resources starting from a baseline. We argue that  
331 evening ego depletion represents such a baseline for the availability of regulatory resources. That  
332 is if, on a certain day an employee had to engage in high levels of self-regulation at work  
333 resulting in high levels of evening ego depletion, these levels will at least partially spill over to  
334 the next day. This is because even if recovery processes occur, the probability of full recovery is  
335 dependent on baseline levels of regulatory resources as represented by bedtime ego depletion.  
336 Accordingly, if bedtime ego depletion is high, it will be less likely that a full recovery of an  
337 employee's regulatory resources is possible. We thus expect that having high ego depletion at

338 bedtime will spill over to the next day and affect employees' effectiveness due to its role in the  
339 availability of regulatory resources on the next workday. Accordingly, we propose presenteeism  
340 and associated bedtime ego depletion as mediators of the relation between somatic complaints  
341 and employees' next-day work engagement and task performance. In line with our proposition  
342 that health complaints are a sine qua non for presenteeism, we propose somatic complaints rather  
343 than work-goal progress as a determinant of presenteeism in our mediation hypothesis.

344 *Hypothesis 2: Day-specific presenteeism and associated ego depletion mediate the*  
345 *within-person indirect negative relationships between somatic complaints and next-day (a) work*  
346 *engagement as well as (b) task performance.*

347 Integrating our previous hypotheses, we also propose that the interplay of somatic  
348 complaints and work-goal progress spills over to employees' next-day work engagement and task  
349 performance through presenteeism and associated ego depletion at bedtime. This is because, on  
350 days when employees perceive higher as compared to lower work-goal progress, they do not see  
351 the need to engage in presenteeism as a result of suffering from acute or episodic somatic  
352 complaints. Refraining from daily presenteeism, in turn, reduces ego depletion, which helps  
353 employees to be effective at work on the next workday. Based on these arguments, we delineate  
354 the following hypothesis:

355 *Hypothesis 3: Day-specific work-goal progress moderates the within-person indirect*  
356 *relationships between somatic complaints and employees' (a) work engagement and (b) task*  
357 *performance on the next workday via daily presenteeism and ego depletion. The relationships*  
358 *become stronger on days with lower as compared to higher work-goal progress.*

359 One potential reason for the scarcity of research on the spillover of ego depletion on  
360 employees' work-related functioning across days is the dominant role of sleep for the recovery of



361 regulatory resources. More specifically, as sleep affects physiological processes in the prefrontal  
362 cortex, it has been theoretically suggested and empirically demonstrated as a process that  
363 recovers regulatory resources (Barnes, 2012; Diestel et al., 2015; Gombert et al., 2018; Rivkin et  
364 al., 2021). While we concur with previous evidence on the restorative function of sleep for  
365 regulatory resources, we also propose that previous day levels of regulatory-resource availability  
366 at bedtime remain a relevant determinant of employees' work effectiveness on the next workday  
367 above and beyond the quality and duration of one's sleep. Thus, when investigating the proposed  
368 daily spillover of ego depletion to employees' work effectiveness we also control for sleep  
369 quality and -duration during the previous night to account for the unique role of evening levels of  
370 ego depletion in the relation between daily presenteeism to next-day work engagement and task  
371 performance. Finally, to demonstrate that bedtime ego depletion predicts next-day employee  
372 effectiveness over and beyond general health impairments on the next day we also control for  
373 next-day somatic complaints when predicting employee effectiveness.

374

375

## Method

### 376 Participants and Procedure

377

We conducted a daily diary study to test the proposed moderated-mediation model.

378

Ethical approval for the study was obtained by the ethics commission of [removed for blind peer

379

review]. The data were collected in the United Kingdom during a period in which many people

380

worked from home due to governmental COVID-19-related lockdown regulations. Participants

381

were recruited through Prolific Academic, which offers access to high-quality data (Palan &

382

Schitter, 2018; Peer et al., 2017). To ensure consistency among our participants, we applied a

383

prescreening to exclusively select employees who worked from home during the study period.

384           After giving their informed consent, participants received a pre-survey, which measured  
385 demographic characteristics. Starting on the following Monday after completing this pre-survey,  
386 participants received daily surveys on 15 workdays. We extended the length of our diary study  
387 beyond the recommended 10 workdays (Gabriel et al., 2019) to compensate for the potential data  
388 loss associated with investigating next-day spillover effects. That is, when examining next-day  
389 effects, the last study day is automatically removed from the data. We also excluded employee  
390 effectiveness (i.e., work engagement and task performance) data from the second and third  
391 Monday during the study period as we did not expect spillover effects of ego depletion at  
392 bedtime on next-day employee effectiveness to occur over the weekend (i.e., from Friday to  
393 Monday).

394           To determine the times at which surveys were distributed, we asked participants to  
395 indicate their estimated time at which they start work and go to bed. Participants received two  
396 surveys each day at the following times: noon survey – 4 hours after the start of work, bedtime  
397 survey – 2 hours before bedtime. If participants did not respond to a survey, they received a  
398 reminder after an hour. Each survey was active for 2 hours to be completed by participants.  
399 Participants received £0.50 for each completed survey. Moreover, they were awarded a bonus of  
400 £5.00 if they completed all daily surveys on 9 or more study days (Gabriel et al., 2019).

401           The initial sample of participants who completed the pre-survey consisted of  $N = 138$   
402 individuals. We excluded participants who did not complete any daily diary surveys throughout  
403 the study period, which resulted in a sample of  $N = 126$  (person-level response rate: 91%) who  
404 completed 995 out of 1512 (12 workdays per individual, which accounts for the exclusion of two  
405 Mondays and the last study day due to the focus on daily spillover effects) possible daily surveys  
406 (day-level response rate: 66%). These response rates correspond with previous daily-diary

407 studies (Fisher & To, 2012). To assess whether any factors affected the response rates we  
408 conducted t-tests to examine differences between participants who only completed the pre-survey  
409 but did not engage in the daily diary study ( $N = 12$ ) and those who took part in the daily diary  
410 study ( $N = 126$ ) in gender, age, general somatic complaints, weekly work time according to  
411 contract, and actual work time as a reflection of how demanding participants jobs. These t-tests  
412 did not indicate any differences between respondents and non-respondents (gender: [ $t = -0.91$ ,  $df$   
413  $= 13.27$ ,  $p = .38$ ], age: [ $t = 0.19$ ,  $df = 12.78$ ,  $p = .85$ ], general somatic complaints: [ $t = 1.06$ ,  $df =$   
414  $11.64$ ,  $p = .31$ ], weekly work time according to contract: [ $t = 1.55$ ,  $df = 17.59$ ,  $p = .14$ ], and  
415 actual work time: [ $t = -0.43$ ,  $df = 12.90$ s,  $p = .67$ ]), which suggests that the dropout was neither  
416 related to general demographics not to health- or work-related factors. We also tested the  
417 assumption whether workers facing the worst working conditions may be less likely to respond to  
418 the daily surveys by computing correlations between the number of daily surveys a participant  
419 has completed over their study period (i.e., 2 surveys per day) and their general somatic  
420 complaints, weekly work time according to contract, and actual work time. These correlations  
421 range from  $r_{\min} = -.06$  to  $r_{\max} = .05$  with  $p$ -values ranging from  $p_{\min} = .47$  to  $p_{\max} = .62$  and were  
422 all non-significant, which again suggests that the engagement of participants in the daily part of  
423 our study was not dependent on their health or work conditions. The average completion times  
424 for daily surveys were 2:06 pm for the noon and 9:26 pm for the bedtime surveys, respectively.  
425 Participants were employed in different sectors (17% IT and communication, 13% public  
426 administration, 13% teaching, and education, 11% finance and insurance, and 46% in other  
427 sectors), their age ranged from 20 to 61 years ( $M = 36.56$ ;  $SD = 9.55$ ), and the rate of female  
428 participants was 53%. Participants indicated that their dominant types of work were knowledge  
429 work (indicated by 98% of all participants), followed by interacting with customers (indicated by

430 33% of all participants), and creative work (indicated by 16% of all participants; selection of  
431 more than one option was possible).

### 432 **Measures and Control Variables**

433         At noon, we measured *somatic complaints* through a list developed by von Zerssen et al.  
434 (1970). We presented participants with a list of ten complaints and asked to what extent they  
435 experienced each complaint in the last few hours on a 4-point Likert scale (1= *Rarely or never*; 4 =  
436 *Most if not all the time*). Some exemplary complaints are: Having a headache, heavy- or tired legs,  
437 upper- and lower back pain, neck- or shoulder pain. We obtained an overall measure of somatic  
438 complaints by computing the mean across all complaints. Also, at noon, we assessed *work-goal*  
439 *progress* with six items (Wanberg et al., 2010). Participants were asked to rate the extent to which  
440 they achieved their work goal on a 5-Point Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*).  
441 An example is: “In the last few hours, I made good progress on my work goals.”

442         Before bedtime, we measured *presenteeism*. Following recommendations to assess  
443 presenteeism as the number of workdays one has worked despite being unwell during a certain  
444 period (i.e., a month or a year; Johns, 2010; Lohaus & Habermann, 2019), we adopted this  
445 measure to reflect a micro-level within-person daily assessment by asking participants “How  
446 many hours did you work today, even though you did not feel well enough to work?”  
447 Participants were asked to indicate the respective number of hours (e.g., 2.5 hours). Also, before  
448 bedtime, we measured *ego depletion* with a scale developed by Bertrams et al. (2011) with a 5-  
449 point rating format (1 = *Strongly disagree*; 5 = *Strongly agree*). The scale measures feelings of  
450 diminished regulatory resource availability (i.e., “Right now, I feel like my willpower is gone.”).

451         On the next workday at noon, *work engagement* was assessed on a 7-point Likert scale (1  
452 = *Strongly disagree*; 7 = *Strongly agree*) with nine items from the Utrecht Work Engagement

453 Scale (Schaufeli et al., 2006), which is composed of three dimensions: vigor (i.e., “Today, I felt  
454 strong and vigorous at my work.”), dedication (i.e., “Today, I was enthusiastic about my job.”),  
455 and absorption (i.e., “Today, I was immersed in my work.”). As suggested by Xanthopoulou et al.  
456 (2009), we aggregated the three dimensions into overall work engagement. We also measured  
457 day-specific *task performance* with four items (Williams & Anderson, 1991). Participants  
458 assessed their level of engagement in their core job activities on a 5-point Likert rating scale (1 =  
459 *Not at all*; 5 = *A great deal*). An example is “Today, I did my tasks well.”

460         The omega reliabilities (operationalized as internal consistencies: Lai & Lai, 2020) are  
461 reported in the diagonal of Table 1. While most of the reported reliabilities are above  
462 recommendations of .70 (Nunnally, 1978), the reliability for somatic complaints is below .70.  
463 This is because compared to the other scales, which represent reflective measurements, somatic  
464 complaints are measured through a formative scale. Formative scales assume that each item  
465 represents a fundamental and irreplaceable part of the construct (Markus, 2018). As items in  
466 formative scales are not conceptualized to correlate highly (i.e., as each item represents a unique  
467 rather than a common part of a latent construct; Markus, 2018) this explains the lower internal  
468 consistency of the scale to measure somatic complaints. Nevertheless, the within-person  
469 reliability of somatic complaints is  $\omega_w = .65$  and thus despite being measured with a formative  
470 scale approximates the suggested threshold of .70 (Nunnally, 1978).

#### 471 ***Control Variables***

472         First, to ensure that our relations are not biased by the overall number of hours  
473 participants worked on a certain day, we controlled for participants’ daily *work hours*. Moreover,  
474 as sleep has been identified as a strong determinant of employees’ energy and associated  
475 effectiveness (Litwiller et al., 2017), we controlled for *sleep quality* and *sleep duration* when

476 predicting next-day work engagement and task performance to demonstrate that the effects of  
477 ego depletion are independent of how well or how much an employee slept in the previous night.  
478 In line with Sonnentag and Binnewies (2013), sleep quality and sleep duration were each  
479 measured with one item each from the Pittsburgh Sleep Quality Index (i.e., sleep quality: “How  
480 would you rate the quality of your previous night’s sleep?”, [0 = *Very bad*; 3 = *Very good*]; sleep  
481 duration: “How many hours of actual sleep did you get in the last night?”; Buysse et al., 1989).  
482 Moreover, to demonstrate that ego depletion is a unique predictor of next-day employee  
483 effectiveness beyond general health complaints we controlled for next-day somatic complaints.  
484 Finally, to account for changes in work effectiveness outcomes from one day to another we  
485 controlled for *work engagement* and *task performance on the previous day* when predicting next-  
486 day work engagement and task performance, respectively.

#### 487 **Data Analysis**

488 Because of the nested structure, we used multilevel modeling to examine our hypotheses.  
489 All models were specified with the software Mplus 8.2 (Muthén & Muthén, 1997-2017) using  
490 Maximum Likelihood estimation with robust standard errors and Monte Carlo integration.

491 We tested the proposed hypotheses by specifying a 1-1-1-1 moderated-mediation model  
492 (Preacher et al., 2010). In this model on the within-person level, we first specified direct paths  
493 linking somatic complaints and work-goal progress with presenteeism. Further, the interaction  
494 (product term) of somatic complaints and work-goal progress was entered as a predictor of  
495 presenteeism to account for the proposed moderation effect. Furthermore, we added paths from  
496 somatic complaints and presenteeism to predict ego depletion and finally, somatic complaints,  
497 presenteeism, and ego depletion were specified to predict next-day work engagement and task  
498 performance to test the proposed mediation effect. We controlled for overall work time by adding

499 it as a predictor of all endogenous variables in our model. When predicting our outcomes next-  
500 day work engagement and task performance, we also controlled for next-day sleep quality and -  
501 duration as well as -somatic complaints. We also controlled for previous day work engagement  
502 and task performance (Gabriel et al., 2019). In our analyses, all variables were group-mean  
503 centered, which allowed us to exclusively focus on within-person relations (Enders & Tofighi,  
504 2007; Ohly et al., 2010).

505 Because the conventional bootstrapping method of re-sampling cannot be applied to  
506 multilevel modeling (Leeden et al., 2008; Preacher & Selig, 2012), we utilized a Monte Carlo  
507 approach of re-sampling to estimate the confidence intervals for the 1-1-1-1 moderated-mediation  
508 model (Preacher & Selig, 2012). Specifically, we computed bias-corrected 95% confidence  
509 intervals for the indirect effects based on 20,000 re-samples using the software provided by Selig  
510 and Preacher (2008). For testing moderated indirect effects, we followed Hayes and Preacher's  
511 (2010) recommendation and computed conditional indirect effects at lower ( $-1 SD$ ) and higher ( $+1$   
512  $SD$ ) levels of work-goal progress. A presence of an indirect effect is indicated if the confidence  
513 interval of the indirect effect does not include zero (Preacher et al., 2007).

#### 514 **Measurement Models**

515 We conducted multilevel confirmatory factor analyses (MCFAs) to assess the  
516 psychometric distinctiveness of our day-level measures. As we were predominantly interested in  
517 within-person relations, all models were specified on the within-person level, and all indicators  
518 were group-mean centered to remove between-person variance. The goodness of fit was assessed  
519 based on recommended cut-offs by Hu and Bentler (1999) of the following fit indices: Root  
520 Mean Square Error of Approximation (RMSEA)  $< .08$ , Tucker–Lewis index (TLI)  $> .90$ ,  
521 Comparative Fit Index (CFI)  $> .90$ , and Standardized Root Mean Square Residual (SRMR)

522 < .06. We examined the difference in model fit with the Satorra-Bentler (S-B) scaled  $\chi^2$   
523 difference test (Satorra & Bentler, 2001).

524 In line with our proposed theoretical model, we first examined a 5-Factor Model in which  
525 each variable is represented by one factor (i.e., somatic complaints, work-goal progress, ego  
526 depletion, work engagement, and task performance). This model yielded a satisfactory fit ( $\chi^2$   
527 [551] = 1346.70; RMSEA = .038; TLI = .934; CFI = .939; SRMR = .044). We also specified an  
528 alternative model to examine the distinctiveness of work engagement and task performance (i.e.,  
529 a 4-Factor Model:  $\chi^2$  [555] = 2269.51; RMSEA = .056; TLI = .859; CFI = .769; SRMR = .051),  
530 which performed worse than our hypothesized model (S-B scaled  $\chi^2 \Delta (4) = (456.71), p < .01$ ).

### 531 **Results**

532 Table 1 displays the descriptive statistics, internal consistencies, and correlations among  
533 all variables of our study.

534 – Please insert Table 1 about here –

535 Before testing our hypotheses, we examined the amounts of within- and between-person  
536 variance in all study variables by computing interclass correlation coefficients (Castro, 2002) and  
537 examining the proportion of variance at the within-person level. The amount of within-person  
538 variance in our variables ranges from 41% to 70%. In particular, and in line with our theoretical  
539 arguments, the proportion of within-person variance in presenteeism was 60%. These high  
540 proportions within-person level variance justify the application of multilevel analyses.

541 Figure 1 provides an overview of the conceptual model, and the results are presented in  
542 Table 2. Our results indicate that the specified model yielded a good data fit ( $\chi^2$  [48] = 190.27;  
543 RMSEA = .046; TLI = .900; CFI = .939; SRMR = .069). Hypothesis 1 predicts that somatic  
544 complaints and work-goal progress interact to predict presenteeism. More specifically, on days



545 with high work-goal progress, the relation between somatic complaints and presenteeism should  
546 become weaker. Our data indicate that the interaction between somatic complaints and work-goal  
547 progress is significantly related to presenteeism ( $\gamma = -0.77, p = .03$ ). To explore the pattern of this  
548 within-person interaction, we plotted the relationship between somatic complaints and  
549 presenteeism at conditional values of work-goal progress ( $\pm 1 SD$ ; Cohen et al., 2003). Figure 2  
550 demonstrates that the pattern of the interaction corresponds with our prediction. That is, on days  
551 when work-goal progress was lower than a person's average, there was a stronger positive relation  
552 between somatic complaints and presenteeism, whereas this relation was weaker on days with  
553 higher work-goal progress.

554 – Please insert Table 2 about here –

555 – Please insert Figure 2 about here –

556 Hypothesis 2 suggests that presenteeism and ego depletion mediate the relation between  
557 somatic complaints and (a) work engagement as well as (b) task performance on the next  
558 workday. Our results indicate that somatic complaints were positively related to presenteeism ( $\gamma$   
559 = 1.78,  $p < .01$ ), which in turn was positively related to ego depletion ( $\gamma = 0.03, p = .03$ ). After  
560 controlling for the respective outcomes on the previous day, sleep quality and -duration, and  
561 next-day somatic complaints ego depletion was significantly negatively related to next-day work  
562 engagement ( $\gamma = -0.12, p < .01$ ) and -task performance ( $\gamma = -0.09, p < .01$ ), which provides initial  
563 support for Hypothesis 2. We further examined the 95 % CIs of the proposed indirect effects. Our  
564 data supports Hypothesis 2 a) and 2b) as the 95% CIs for the indirect effects for both outcomes  
565 did not include zero (Work engagement:  $\gamma = -.007, p = .04$ ; 95% CI [-.020, -.000]; Task  
566 performance:  $\gamma = -.005, p = .04$ ; 95% CI [-.019, -.000]; cf. Table 2).

567 Moreover, we predicted that the daily indirect effects of somatic complaints on

568 employees' next-day work engagement (Hypothesis 3a) and task performance (Hypothesis 3b)  
569 via presenteeism and ego depletion are moderated by work-goal progress. To test these  
570 hypotheses, we examined conditional indirect effects for the sequential mediations via each  
571 outcome at high (+1 *SD*) and low (-1 *SD*) levels of work-goal progress. Our results indicate that  
572 work-goal progress moderates both proposed indirect effects on both outcomes. More  
573 specifically, for both work engagement ( $\gamma = -.009, p = .04; 95\% \text{ CI } [-.026, -.000]$ ) and task  
574 performance ( $\gamma = -.007, p = .04; 95\% \text{ CI } [-.09, -.000]$ ), we found a statistically significant  
575 indirect effect of somatic complaints through presenteeism and associated ego depletion on days  
576 with lower work-goal progress, whereas there were no significant indirect effects on days with  
577 higher work-goal progress (Work engagement  $\gamma = -.005, p = .08; 95\% \text{ CI } [-.016, .000]$ ; Task  
578 performance:  $\gamma = -.004, p = .08; 95\% \text{ CI } [-.012, .000]$ ; cf. Table 2).

579 To estimate the effect strength of our model, we calculated the amounts of variance in the  
580 outcomes variables explained by the proposed predictors. For that, we followed  
581 recommendations by Snijders and Bosker (2011) to compute the explained variance, which was  
582 22.1% for work engagement and 12.7% for task performance. These proportions of explained  
583 variance not only support the theoretical- but also the practical relevance of our study.

## 584 Discussion

585 Our research set out to contribute to theorizing in the area of presenteeism by developing  
586 and testing a micro-level within-person daily conceptualization of presenteeism and expanding  
587 our understanding of its daily determinants and next-day consequences. Drawing on the health-  
588 performance framework (Karanika-Murray & Biron, 2020) and the model of the decision-  
589 making process for presenteeism (Whysall et al., in press), our study identified somatic  
590 complaints and work-goal progress as joint core determinants of presenteeism. That is, on days

591 with higher work-goal progress, employees are less likely to engage in presenteeism as a  
592 consequence of higher daily somatic complaints than on days with lower work-goal progress.  
593 Furthermore, the proposition that presenteeism is an adaptive behavior to deliver performance  
594 requirements despite limitations due to ill health (Karanika-Murray & Biron, 2020) informed the  
595 theoretical integration of ego-depletion theory (Muraven & Baumeister, 2000). Specifically, that  
596 engaging in presenteeism requires employees' self-regulation, which depletes their regulatory  
597 resources and reduces their work effectiveness on the following day. Our daily-diary study  
598 supports this proposition as ego depletion mediates the relationship between daily somatic  
599 complaints and associated presenteeism to employees' next-day work engagement and task  
600 performance. In sum, our research demonstrates that on days with higher somatic complaints,  
601 higher daily work-goal progress can help employees to protect and preserve their work  
602 engagement and task performance on the following day by reducing presenteeism and associated  
603 ego depletion.

604         Our study contributes to the literature on presenteeism in three ways. First, it expands  
605 theorizing on presenteeism by complementing previous macro-level between-person research  
606 (Miraglia & Johns, 2016; Ruhle et al., 2020; Skagen & Collins, 2016) through a micro-level  
607 within-person lens on presenteeism (Whysall et al., in press). We draw on recent theoretical  
608 advancements that consider presenteeism as a dynamic adaptive behavior to deliver on work  
609 requirements despite performance limitations due to ill health (Karanika-Murray & Biron, 2020;  
610 Whysall et al., in press) to develop a micro-level conceptualization of daily presenteeism. We  
611 further propose to operationalize daily presenteeism as the number of hours an employee worked  
612 during the day despite not feeling well enough to work. Our study supports the theoretical  
613 proposition that presenteeism is an adaptive behavior as it exhibits considerable within-person

614 variation across days. Specifically, more than half (60%) of the variation in presenteeism occurs  
615 on the within- as compared to between-person level day level. This variation has, however, been  
616 overlooked by previous presenteeism research, which has argued that in the short-term (i.e., daily  
617 or weekly) presenteeism has a relatively low prevalence and thus has exclusively focused on  
618 between-person differences in presenteeism across time periods starting from a few months to  
619 several years (Lohaus & Habermann, 2019; Miraglia & Johns, 2016; Ruhle et al., 2020; Skagen  
620 & Collins, 2016). Our micro-level focus also allowed us to examine presenteeism in a sample of  
621 teleworkers during the pandemic as one of the work settings to which previous macro-level  
622 conceptualizations of presenteeism were not applicable. This is because teleworkers do not have  
623 to physically attend work and can flexibly adapt their attendance behavior (Ruhle et al., 2020;  
624 Whysall et al., in press). Accordingly, we argue that our study may pave the way for research on  
625 presenteeism in light of contemporary changes in the workplace, which were at least partially  
626 triggered through the COVID-19 pandemic and will become more widespread in the working  
627 world of the future such as tele- and hybrid working ((Kniffin et al., 2021; Ruhle et al., 2020;  
628 Whysall et al., in press). Furthermore, the proposed operationalization of daily presenteeism also  
629 has methodological implications as it reduces recall bias – a major concern of past presenteeism  
630 research (Lohaus & Habermann, 2019; Miraglia & Johns, 2016; Ruhle et al., 2020; Skagen &  
631 Collins, 2016). We propose to use this measure alongside the total number of hours an employee  
632 has worked that day, which can help to increase the accuracy of the assessment of presenteeism by  
633 comparing it to the overall number of hours people worked that day.

634           Second, our study also extends recent theoretical frameworks that adopt a dynamic view  
635 of presenteeism by exploring its day-to-day determinants (Karanika-Murray & Biron, 2020;  
636 Whysall et al., in press). More specifically, to the best of our knowledge, our research is the first

637 to empirically examine the theoretical notion that presenteeism is an adaptive behavior to  
638 balance work performance requirements against limitations due to ill health (Karanika-Murray &  
639 Biron, 2020). In doing so we were able to also offer initial support for the model of the decision-  
640 making process for presenteeism (Whysall et al., in press) by demonstrating that day-specific  
641 somatic complaints interact with work-goal progress to predict day-to-day fluctuations in  
642 presenteeism. The present interaction patterns clearly show how and when employees engage in  
643 daily presenteeism, which results from an imbalance between the progress made at work and the  
644 extent of experienced ill health. This in turn offers support for Whysall et al's (in press)  
645 proposition that the decision to engage in presenteeism is contingent on the perceived value of  
646 presenteeism among other factors. Accordingly, our focus on work-goal progress sheds light on  
647 the important but so far neglected role of individuals' subjective assessments of their daily work  
648 progress as a core contingency, which determines whether the occurrence of work performance  
649 impairments due to ill health will result in presenteeism. This also implies that employees will  
650 likely not engage in presenteeism as a consequence of experiencing somatic complaints during  
651 the workday if they made sufficient progress to achieve their daily work goals and thus do not  
652 see much value of engaging in presenteeism.

653         Third, our study also deepens our understanding of the harmful impact of presenteeism  
654 on employee effectiveness. Whereas previous research has demonstrated deleterious impacts of  
655 presenteeism on employee effectiveness (Luksyte et al., 2015; Miraglia & Johns, 2016, 2021),  
656 our research expands on ego depletion as one of the key mechanisms responsible for these  
657 harmful effects. Our theoretical integration of the health performance framework with ego  
658 depletion theory (Muraven & Baumeister, 2000) provides novel insights into how and why day-  
659 specific presenteeism harms work engagement and task performance on the following day. By

660 identifying self-regulation and associated ego depletion as crucial mechanisms responsible for  
661 the harmful consequences of presenteeism, we also challenge anecdotal evidence that  
662 presenteeism may have short-term benefits in terms of higher effectiveness. While this may  
663 apply for effectiveness on the day employees engage in presenteeism, our findings indicate that  
664 the drawbacks of presenteeism manifest on the following day as reduced work engagement and  
665 task performance as it depletes employees' regulatory resources. In regard to this finding,  
666 controlling for daily work hours, previous day outcomes, and sleep quality and -duration helps to  
667 rule out various alternative mechanisms and to substantiate the crucial mediating role of ego  
668 depletion in linking presenteeism to employee effectiveness on the next workday.

### 669 **Practical Implications**

670 Our study also offers some practical implications. First and foremost, we present  
671 evidence that underlines the necessity to prevent presenteeism when it happens, that is during  
672 regular workdays. Organizations and managers do not only have a moral obligation to safeguard  
673 the health of their employees but there is also a business case for ensuring that employees refrain  
674 from working when ill because presenteeism reduces work effectiveness further down the line  
675 (Farrell, 2013). To prevent presenteeism, we propose strategies for employees and their  
676 managers. *Employees* may find it eye-opening to learn that day-level presenteeism is related to  
677 poorer work engagement and task performance on the next workday. Thus, what might look like  
678 an incongruence between health- and work commitments may be no trade-off at all: When ill,  
679 protecting and preserving one's health today means avoiding negative work-related  
680 consequences tomorrow. *Managers* should monitor whether staff members continue working  
681 when experiencing somatic complaints and instruct them to stop working if it becomes evident  
682 that employees are engaging in presenteeism. We show that increasing employees' work-goal

683 progress is particularly effective in reducing the relation between somatic complaints and  
684 presenteeism and its spillover to employee effectiveness on the next workday. Accordingly,  
685 managers might offer their targeted support to employees who feel unwell to improve their work-  
686 goal progress by, for example, giving positive feedback about employees' achievement of daily  
687 work goals. Furthermore, managers should be aware that not all somatic complaints and  
688 presenteeism are plainly visible and apparent. Consequently, they should highlight that  
689 presenteeism is not rewarded but in fact, disapproved. How managers deal with colleagues'  
690 episodes of ill-health is informative in this respect (e.g., do they call out the presenteeism  
691 behavior or remain quiet, thereby indirectly accepting it?). Managers should also avoid working  
692 when ill themselves as they would represent negative role models undermining their previous  
693 activities to prevent presenteeism (Dietz et al., 2020).

694         Second, our study demonstrates that presenteeism has negative effects on employees'  
695 work engagement and task performance via self-regulation processes and associated ego  
696 depletion. As preventing presenteeism may not always be possible, organizations can further  
697 support employees' functioning by targeting the self-regulatory processes associated with  
698 presenteeism. For example, we expect that the self-regulatory requirements of presenteeism can  
699 be reduced if employees engage in functional presenteeism (Karanika-Murray & Biron, 2020).  
700 For example, if managers are aware that employees experience certain performance impairments  
701 due to somatic complaints they may adapt performance requirements so that these remain  
702 attainable for employees. Another possibility is to encourage employees to only work on  
703 inherently enjoyable work tasks when engaging in presenteeism as these tasks are unlikely to tax  
704 additional self-regulation processes as employees do not need to overcome motivational barriers  
705 when completing such tasks (Rivkin et al., 2018).

## 706 **Limitations and Suggestions for Future Research**

707        Besides the theoretical and practical contributions, our research is also subject to some  
708 limitations. First, we examined a within-person framework of presenteeism in a sample of white-  
709 collar employees who worked from home during the COVID-19 pandemic, which from our view  
710 provides a rather conservative test of presenteeism and its correlates. This is because participants  
711 in our sample may have enjoyed privileges beyond those of blue-collar or office-based  
712 employees (i.e., working from home, flexible work schedules; Bapuji et al., 2020). The base rate  
713 of daily somatic complaints and presenteeism should differ between employees who can work  
714 from home and employees who must attend their workplace given that the former group is  
715 protected by telework policies aimed at preserving employees' and associated public health  
716 during the COVID-19 pandemic (Widera et al., 2010). Thus, future research may focus on blue-  
717 collar and office-based employees to reliably estimate the "true" costs of the presumable "800-  
718 pound gorilla of [daily] presenteeism" (Farrell, 2013).

719        Second, because our study is based exclusively on self-reports its results may have been  
720 subject to common-method variance problems (Podsakoff et al., 2003). However, this issue is  
721 alleviated by demonstrating an interaction effect between somatic complaints and work-goal  
722 progress on presenteeism as common method variance reduces the likelihood of detecting  
723 interaction effects (Siemsen et al., 2010). Considering the focus of our study, external ratings  
724 (i.e., one's partner, -colleagues, -supervisor) of presenteeism or somatic complaints would also  
725 be deficient as complaints and ill health are not always observable by others (Gabriel et al.,  
726 2019). However, future studies could obtain more objective measures of regulatory resource  
727 availability by using cognitive (i.e., a Stroop-Test; Gino et al., 2011) or physiological (i.e., heart-  
728 rate variability; Zahn et al., 2016) assessments.



729           Third, the relations proposed in our model (i.e., the determinants and consequences of  
730 presenteeism) may be subject to heterogeneity, that is a considerable variability depending on  
731 between-person characteristics. Drawing on previous research, employees' age, gender or  
732 profession, or income (Böckerman et al., 2012) may affect the interplay of somatic complaints  
733 and work-goal progress in predicting presenteeism as well as the effect of presenteeism on next-  
734 day employee effectiveness through ego depletion. Accordingly, our micro-level within-person  
735 operationalization of daily presenteeism paves the way for future studies to explore between-  
736 person characteristics that moderate the proposed relations and thereby further expand our  
737 understanding of the boundary conditions that affect the determinants and consequences of  
738 presenteeism.

739           Finally, future studies may go beyond the scope of our research by examining further  
740 mediators of the relation between presenteeism and impaired employee effectiveness. More  
741 specifically, theoretical arguments suggest that the interruption or absence of recovery processes  
742 is at least partially responsible for the negative consequences of presenteeism on employee well-  
743 being and associated work-related functioning (Johns, 2010). Moreover, depending on the nature  
744 of work fatigue may be yet another mechanism that links presenteeism to next-day employee  
745 effectiveness (Aronsson et al., 2000). Accordingly, future research on presenteeism could focus  
746 on impaired recovery processes (i.e., psychological detachment, relaxation, mastery, and control;  
747 Sonnentag & Fritz, 2007) and fatigue as additional mechanisms, which underlie the costs of  
748 presenteeism. Moreover, future research could also go beyond work-related functioning by  
749 exploring how daily presenteeism affects employees' daily well-being.

750   **Conclusion**

751           In a nutshell, our study expands presenteeism research through a micro-level within-  
752 person perspective by demonstrating that daily presenteeism is determined by balancing the  
753 requirement to adhere to work commitments despite limitations in work performance due to ill  
754 health. Accordingly, work-goal progress attenuates the relation between somatic complaints and  
755 presenteeism because it reduces the perceived necessity to engage in presenteeism. Finally, our  
756 study indicates that presenteeism reflects an act of effortful self-regulation, which impairs  
757 employees' next-day effectiveness through the depletion of regulatory resources.

758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803

## References

- Aronsson, G., Gustafsson, K., & Dallner, M. (2000). Sick but yet at work. An empirical study of sickness presenteeism. *Journal of Epidemiology & Community Health, 54*(7), 502–509. <https://doi.org/10.1136/jech.54.7.502>
- Bapuji, H., Patel, C., Ertug, G., & Allen, D. G. (2020). Corona Crisis and Inequality: Why Management Research Needs a Societal Turn. *Journal of Management, 46*(7), 1205–1222. <https://doi.org/10.1177/0149206320925881>
- Barnes, C. M. (2012). Working in our sleep. *Organizational Psychology Review, 2*(3), 234–257. <https://doi.org/10.1177/2041386612450181>
- Baumeister, R. F., Muraven, M., & Tice, D. M. (2000). Ego Depletion: A Resource Model of Volition, Self-Regulation, and Controlled Processing. *Social Cognition, 18*(2), 130–150. <https://doi.org/10.1521/soco.2000.18.2.130>
- Bertrams, A., Unger und, A., & Dickhäuser, O. (2011). Momentan verfügbare selbstkontrollkraft - Vorstellung eines Messinstruments und erste Befunde aus pädagogischpsychologischen Kontexten (Momentary Available Self-Control Strength - Introduction of a Measurement Instrument and First Evidence from Paedagogic. *Zeitschrift Für Pädagogische Psychologie (Journal of Paedagogical Psychology), 25*(3), 185–196. <https://doi.org/10.1024/1010-0652/a000042>
- Böckerman, P., Bryson, A., & Ilmakunnas, P. (2012). Does high involvement management improve worker wellbeing? *Journal of Economic Behavior & Organization, 84*(2), 660–680. <https://doi.org/10.1016/j.jebo.2012.09.005>
- Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology, 54*(1), 579–616. <https://doi.org/10.1146/annurev.psych.54.101601.145030>
- Buysse, D. J., Reynolds, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh sleep quality index: A new instrument for psychiatric practice and research. In *Psychiatry Research* (Vol. 28, Issue 2, pp. 193–213). [https://doi.org/10.1016/0165-1781\(89\)90047-4](https://doi.org/10.1016/0165-1781(89)90047-4)
- Call, M. L., & Ployhart, R. E. (2021). A Theory of Firm Value Capture from Employee Job Performance: A Multidisciplinary Perspective. *Academy of Management Review, 46*(3), 572–590. <https://doi.org/10.5465/amr.2018.0103>
- Castro, S. L. (2002). Data analytic methods for the analysis of multilevel questions. *The Leadership Quarterly, 13*(1), 69–93. [https://doi.org/10.1016/S1048-9843\(01\)00105-9](https://doi.org/10.1016/S1048-9843(01)00105-9)
- Chen, G., Bliese, P. D., & Mathieu, J. E. (2005). Conceptual Framework and Statistical Procedures for Delineating and Testing Multilevel Theories of Homology. *Organizational Research Methods, 8*(4), 375–409. <https://doi.org/10.1177/1094428105280056>
- Diestel, S., Rivkin, W., & Schmidt, K.-H. (2015). Sleep quality and self-control capacity as protective resources in the daily emotional labor process: Results from two diary studies. *Journal of Applied Psychology, 100*(3), 809–827. <https://doi.org/10.1037/a0038373>
- Diestel, S., & Schmidt, K.-H. (2009). Mediator and moderator effects of demands on self-control in the relationship between work load and indicators of job strain. *Work & Stress, 23*(1), 60–79. <https://doi.org/10.1080/02678370902846686>
- Dietz, C., Zacher, H., Scheel, T., Otto, K., & Rigotti, T. (2020). Leaders as role models: Effects of leader presenteeism on employee presenteeism and sick leave. *Work & Stress, 34*(3), 300–322. <https://doi.org/10.1080/02678373.2020.1728420>
- Downes, P. E., Reeves, C. J., McCormick, B. W., Boswell, W. R., & Butts, M. M. (2020).

- 804 Incorporating Job Demand Variability Into Job Demands Theory: A Meta-Analysis. *Journal*  
805 *of Management*, XX No. X, 014920632091676. <https://doi.org/10.1177/0149206320916767>
- 806 Enders, C. K., & Tofighi, D. (2007). Centering Predictor Variables in Cross-Sectional Multilevel  
807 Models: A New Look at an Old Issue. *Psychological Methods*, 12(2), 121–138.  
808 <https://doi.org/10.1037/1082-989X.12.2.121>
- 809 Farrell, P. (2013). *The Real 800-Pound Gorilla of Presenteeism*. [https://hbr.org/2013/05/the-](https://hbr.org/2013/05/the-worst-kind-of-presenteeism)  
810 [worst-kind-of-presenteeism](https://hbr.org/2013/05/the-worst-kind-of-presenteeism)
- 811 Fisher, C. D., & To, M. L. (2012). Using experience sampling methodology in organizational  
812 behavior. *Journal of Organizational Behavior*, 33(7), 865–877.  
813 <https://doi.org/10.1002/job.1803>
- 814 Gabriel, A. S., Podsakoff, N. P., Beal, D. J., Scott, B. A., Sonnentag, S., Trougakos, J. P., & Butts,  
815 M. M. (2019). Experience Sampling Methods: A Discussion of Critical Trends and  
816 Considerations for Scholarly Advancement. *Organizational Research Methods*, 22(4), 969–  
817 1006. <https://doi.org/10.1177/1094428118802626>
- 818 Germeys, L., & de Gieter, S. (2018). A diary study on the role of psychological detachment in the  
819 spillover of self-control demands to employees' ego depletion and the crossover to their  
820 partner. *European Journal of Work and Organizational Psychology*, 27(1), 140–152.  
821 <https://doi.org/10.1080/1359432X.2017.1417259>
- 822 Gerpott, F. H., Rivkin, W., & Unger, D. (2021). Stop and go, where is my flow? How and when  
823 daily aversive morning commutes are negatively related to employees' motivational states  
824 and behavior at work. *Journal of Applied Psychology*. <https://doi.org/10.1037/apl0000899>
- 825 Gino, F., Schweitzer, M. E., Mead, N. L., & Ariely, D. (2011). Unable to resist temptation: How  
826 self-control depletion promotes unethical behavior. *Organizational Behavior and Human*  
827 *Decision Processes*, 115(2), 191–203. <https://doi.org/10.1016/j.obhdp.2011.03.001>
- 828 Gombert, L., Konze, A.-K., Rivkin, W., & Schmidt, K.-H. (2018). Protect Your Sleep When  
829 Work is Calling: How Work-Related Smartphone Use During Non-Work Time and Sleep  
830 Quality Impact Next-Day Self-Control Processes at Work. *International Journal of*  
831 *Environmental Research and Public Health*, 15(8), 1757.  
832 <https://doi.org/10.3390/ijerph15081757>
- 833 Gombert, L., Rivkin, W., & Schmidt, K.-H. (2020). Indirect Effects of Daily Self-Control  
834 Demands on Subjective Vitality via Ego Depletion: How Daily Psychological Detachment  
835 Pays Off. *Applied Psychology*, 69(2), 325–350. <https://doi.org/10.1111/apps.12172>
- 836 Hahn, S. E. (2000). The effects of locus of control on daily exposure, coping and reactivity to  
837 work interpersonal stressors: *Personality and Individual Differences*, 29(4), 729–748.  
838 [https://doi.org/10.1016/S0191-8869\(99\)00228-7](https://doi.org/10.1016/S0191-8869(99)00228-7)
- 839 Hayes, A. F., & Preacher, K. J. (2010). Quantifying and Testing Indirect Effects in Simple  
840 Mediation Models When the Constituent Paths Are Nonlinear. *Multivariate Behavioral*  
841 *Research*, 45(4), 627–660. <https://doi.org/10.1080/00273171.2010.498290>
- 842 Hemp, P. (2004). Presenteeism: At Work-But Out of It. *Harvard Business Review*, 82(10), 49–58.  
843 [https://www.npg-rsp.ch/fileadmin/npg-](https://www.npg-rsp.ch/fileadmin/npg-rsp/Themen/Fachthemen/Hemp_2004_Presenteeism.pdf)  
844 [rsp/Themen/Fachthemen/Hemp\\_2004\\_Presenteeism.pdf](https://www.npg-rsp.ch/fileadmin/npg-rsp/Themen/Fachthemen/Hemp_2004_Presenteeism.pdf)
- 845 Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis:  
846 Conventional criteria versus new alternatives. *Structural Equation Modeling: A*  
847 *Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- 848 Johns, G. (2010). Presenteeism in the workplace: A review and research agenda. *Journal of*  
849 *Organizational Behavior*, 31(4), 519–542. <https://doi.org/10.1002/job.630>

- 850 Karanika-Murray, M., & Biron, C. (2020). The health-performance framework of presenteeism:  
851 Towards understanding an adaptive behaviour. *Human Relations*, 73(2), 242–261.  
852 <https://doi.org/10.1177/0018726719827081>
- 853 Karanika-Murray, M., Pontes, H. M., Griffiths, M. D., & Biron, C. (2015). Sickness presenteeism  
854 determines job satisfaction via affective-motivational states. *Social Science & Medicine*,  
855 139, 100–106. <https://doi.org/10.1016/j.socscimed.2015.06.035>
- 856 Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., Bamberger,  
857 P., Bapuji, H., Bhave, D. P., Choi, V. K., Creary, S. J., Demerouti, E., Flynn, F. J., Gelfand,  
858 M. J., Greer, L. L., Johns, G., Kesebir, S., Klein, P. G., Lee, S. Y., ... Vugt, M. van. (2021).  
859 COVID-19 and the workplace: Implications, issues, and insights for future research and  
860 action. *American Psychologist*, 76(1), 63–77. <https://doi.org/10.1037/amp0000716>
- 861 Konze, A.-K., Rivkin, W., & Schmidt, K.-H. (2019). Can faith move mountains? How implicit  
862 theories about willpower moderate the adverse effect of daily emotional dissonance on ego-  
863 depletion at work and its spillover to the home-domain. *European Journal of Work and*  
864 *Organizational Psychology*, 28(2), 137–149.  
865 <https://doi.org/10.1080/1359432X.2018.1560269>
- 866 Lai, M. H. C., & Lai, H. C. (2020). *Composite Reliability of Multilevel Data: It's About*  
867 *Observed Scores and Construct Meanings*. 26(1), 90–102.  
868 <https://doi.org/10.1037/met0000287.supp>
- 869 Lanaj, K., Johnson, R. E., & Barnes, C. M. (2014). Beginning the workday yet already depleted?  
870 Consequences of late-night smartphone use and sleep. *Organizational Behavior and Human*  
871 *Decision Processes*, 124(1), 11–23. <https://doi.org/10.1016/j.obhdp.2014.01.001>
- 872 Leeden, R. van der, Meijer, E., & Busing, F. M. T. A. (2008). Resampling Multilevel Models. In  
873 *Handbook of Multilevel Analysis* (pp. 401–433). Springer New York.  
874 [https://doi.org/10.1007/978-0-387-73186-5\\_11](https://doi.org/10.1007/978-0-387-73186-5_11)
- 875 Lian, H., Yam, K. C., Ferris, D. L., & Brown, D. (2017). Self-Control at Work. *Academy of*  
876 *Management Annals*, 11(2), 703–732. <https://doi.org/10.5465/annals.2015.0126>
- 877 Litwiller, B., Snyder, L. A., Taylor, W. D., & Steele, L. M. (2017). The relationship between  
878 sleep and work: A meta-analysis. *Journal of Applied Psychology*, 102(4), 682–699.  
879 <https://doi.org/10.1037/apl0000169>
- 880 Lohaus, D., & Habermann, W. (2019). Presenteeism: A review and research directions. *Human*  
881 *Resource Management Review*, 29(1), 43–58. <https://doi.org/10.1016/j.hrmr.2018.02.010>
- 882 Luksyte, A., Avery, D. R., & Yeo, G. (2015). It is worse when you do it: Examining the  
883 interactive effects of coworker presenteeism and demographic similarity. *Journal of Applied*  
884 *Psychology*, 100(4), 1107–1123. <https://doi.org/10.1037/a0038755>
- 885 Malhotra, A. (2021). The Postpandemic Future of Work. *Journal of Management*, 47(5), 1091–  
886 1102. <https://doi.org/10.1177/01492063211000435>
- 887 Markus, K. A. (2018). Three Conceptual Impediments to Developing Scale Theory for Formative  
888 Scales. *Methodology*, 14(4), 156–163. <https://doi.org/10.1027/1614-2241/a000154>
- 889 Matta, F. K., Scott, B. A., Colquitt, J. A., Koopman, J., & Passantino, L. G. (2017). Is  
890 Consistently Unfair Better than Sporadically Fair? An Investigation of Justice Variability  
891 and Stress. *Academy of Management Journal*, 60(2), 743–770.  
892 <https://doi.org/10.5465/amj.2014.0455>
- 893 McGregor, A., Sharma, R., Magee, C., Caputi, P., & Iverson, D. (2018). Explaining variations in  
894 the findings of presenteeism research: A meta-analytic investigation into the moderating  
895 effects of construct operationalizations and chronic health. *Journal of Occupational Health*

- 896 *Psychology*, 23(4), 584–601. <https://doi.org/10.1037/ocp0000099>
- 897 Miraglia, M., & Johns, G. (2016). Going to work ill: A meta-analysis of the correlates of  
898 presenteeism and a dual-path model. *Journal of Occupational Health Psychology*, 21(3),  
899 261–283. <https://doi.org/10.1037/ocp0000015>
- 900 Miraglia, M., & Johns, G. (2021). The Social and Relational Dynamics of Absenteeism From  
901 Work: A Multilevel Review and Integration. *Academy of Management Annals*, 15(1), 37–67.  
902 <https://doi.org/10.5465/annals.2019.0036>
- 903 Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources:  
904 Does self-control resemble a muscle? *Psychological Bulletin*, 126(2), 247–259.  
905 <https://doi.org/10.1037//0033-2909.126.2.247>
- 906 Muthén, L. K., & Muthén, B. O. (2017). *Mplus User's Guide. Eighth Edition.* (Muthén &  
907 Muthén (eds.)). CA: Muthén & Muthén.
- 908 Nunnally, J. C. (1978). *Psychometric Theory (2nd ed.)*. McGraw-Hill Education.
- 909 Ohly, S., Sonnentag, S., Niessen, C., & Zapf, D. (2010). Diary Studies in Organizational  
910 Research. *Journal of Personnel Psychology*, 9(2), 79–93. [https://doi.org/10.1027/1866-](https://doi.org/10.1027/1866-5888/a000009)  
911 [5888/a000009](https://doi.org/10.1027/1866-5888/a000009)
- 912 Palan, S., & Schitter, C. (2018). Prolific.ac—A subject pool for online experiments. *Journal of*  
913 *Behavioral and Experimental Finance*, 17, 22–27.  
914 <https://doi.org/10.1016/j.jbef.2017.12.004>
- 915 Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative  
916 platforms for crowdsourcing behavioral research. *Journal of Experimental Social*  
917 *Psychology*, 70, 153–163. <https://doi.org/10.1016/j.jesp.2017.01.006>
- 918 Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method  
919 biases in behavioral research: A critical review of the literature and recommended remedies.  
920 *Journal of Applied Psychology*, 88(5), 879–903. [https://doi.org/10.1037/0021-](https://doi.org/10.1037/0021-9010.88.5.879)  
921 [9010.88.5.879](https://doi.org/10.1037/0021-9010.88.5.879)
- 922 Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing Moderated Mediation  
923 Hypotheses: Theory, Methods, and Prescriptions. *Multivariate Behavioral Research*, 42(1),  
924 185–227. <https://doi.org/10.1080/00273170701341316>
- 925 Preacher, K. J., & Selig, J. P. (2012). Advantages of Monte Carlo Confidence Intervals for  
926 Indirect Effects. *Communication Methods and Measures*, 6(2), 77–98.  
927 <https://doi.org/10.1080/19312458.2012.679848>
- 928 Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for  
929 assessing multilevel mediation. *Psychological Methods*, 15(3), 209–233.  
930 <https://doi.org/10.1037/a0020141>
- 931 Prem, R., Kubicek, B., Diestel, S., & Korunka, C. (2016). Regulatory job stressors and their  
932 within-person relationships with ego depletion: The roles of state anxiety, self-control effort,  
933 and job autonomy. *Journal of Vocational Behavior*, 92, 22–32.  
934 <https://doi.org/10.1016/j.jvb.2015.11.004>
- 935 Repetti, R. L. (1993). Short-term effects of occupational stressors on daily mood and health  
936 complaints. *Health Psychology*, 12(2), 125–131. [https://doi.org/10.1037/0278-](https://doi.org/10.1037/0278-6133.12.2.125)  
937 [6133.12.2.125](https://doi.org/10.1037/0278-6133.12.2.125)
- 938 Rivkin, W., Diestel, S., & Schmidt, K.-H. (2018). Which daily experiences can foster well-being  
939 at work? A diary study on the interplay between flow experiences, affective commitment,  
940 and self-control demands. *Journal of Occupational Health Psychology*, 23(1), 99–111.  
941 <https://doi.org/10.1037/ocp0000039>

- 942 Rivkin, W., Diestel, S., Stollberger, J., & Sacramento, C. (2021). The role of regulatory, affective,  
943 and motivational resources in the adverse spillover of sleep in the home domain to  
944 employee effectiveness in the work domain. *Human Relations*, 001872672110524.  
945 <https://doi.org/10.1177/00187267211052469>
- 946 Ruhle, S. A., Breitsohl, H., Aboagye, E., Baba, V., Biron, C., Correia Leal, C., Dietz, C., Ferreira,  
947 A. I., Gerich, J., Johns, G., Karanika-Murray, M., Lohaus, D., Løkke, A., Lopes, S. L.,  
948 Martinez, L. F., Miraglia, M., Muschalla, B., Poethke, U., Sarwat, N., ... Yang, T. (2020).  
949 “To work, or not to work, that is the question” – Recent trends and avenues for research on  
950 presenteeism. *European Journal of Work and Organizational Psychology*, 29(3), 344–363.  
951 <https://doi.org/10.1080/1359432X.2019.1704734>
- 952 Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment  
953 structure analysis. *Psychometrika*, 66(4), 507–514. <https://doi.org/10.1007/BF02296192>
- 954 Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The Measurement of Work Engagement  
955 with a Short Questionnaire: A Cross-National Study. *Educational and Psychological*  
956 *Measurement*, 66(4), 701–716. <https://doi.org/10.1177/0013164405282471>
- 957 Schmidt, K.-H., Beck, R., Rivkin, W., & Diestel, S. (2016). Self-control demands at work and  
958 psychological strain: The moderating role of physical fitness. *International Journal of Stress*  
959 *Management*, 23(3), 255–275. <https://doi.org/10.1037/str0000012>
- 960 Schmidt, K.-H., & Diestel, S. (2015). Self-Control Demands. *Journal of Personnel Psychology*,  
961 14(1), 49–60. <https://doi.org/10.1027/1866-5888/a000123>
- 962 Schmidt, K.-H., & Neubach, B. (2007). Self-control demands: A source of stress at work.  
963 *International Journal of Stress Management*, 14(4), 398–416. [https://doi.org/10.1037/1072-](https://doi.org/10.1037/1072-5245.14.4.398)  
964 5245.14.4.398
- 965 Selig, J. P., & Preacher, K. J. (2008). *Monte Carlo method for assessing mediation: An*  
966 *interactive tool for creating confidence intervals for indirect effects [Computer software]*.
- 967 Severens, J. L., Mulder, J., Laheij, R. J. F., & Verbeek, A. L. M. (2000). Precision and accuracy  
968 in measuring absence from work as a basis for calculating productivity costs in The  
969 Netherlands. *Social Science and Medicine*, 51(2), 243–249. [https://doi.org/10.1016/S0277-](https://doi.org/10.1016/S0277-9536(99)00452-9)  
970 9536(99)00452-9
- 971 Siemsen, E., Roth, A., & Oliveira, P. (2010). Common Method Bias in Regression Models with  
972 Linear, Quadratic, and Interaction Effects. *Organizational Research Methods*, 13(3), 456–  
973 476. <https://doi.org/10.1177/1094428109351241>
- 974 Skagen, K., & Collins, A. M. (2016). The consequences of sickness presenteeism on health and  
975 wellbeing over time: A systematic review. *Social Science & Medicine*, 161, 169–177.  
976 <https://doi.org/10.1016/j.socscimed.2016.06.005>
- 977 Sonnentag, S., & Binnewies, C. (2013). Daily affect spillover from work to home: Detachment  
978 from work and sleep as moderators. *Journal of Vocational Behavior*, 83(2), 198–208.  
979 <https://doi.org/10.1016/j.jvb.2013.03.008>
- 980 Sonnentag, S., Eck, K., Fritz, C., & Kühnel, J. (2020). Morning Reattachment to Work and Work  
981 Engagement During the Day: A Look at Day-Level Mediators. *Journal of Management*,  
982 46(8), 1408–1435. <https://doi.org/10.1177/0149206319829823>
- 983 Sonnentag, S., & Fritz, C. (2007). The Recovery Experience Questionnaire: Development and  
984 validation of a measure for assessing recuperation and unwinding from work. *Journal of*  
985 *Occupational Health Psychology*, 12(3), 204–221. [https://doi.org/10.1037/1076-](https://doi.org/10.1037/1076-8998.12.3.204)  
986 8998.12.3.204
- 987 Sonnentag, S., & Fritz, C. (2015). Recovery from job stress: The stressor-detachment model as

- 988 an integrative framework. *Journal of Organizational Behavior*, 36(S1), S72–S103.  
989 <https://doi.org/10.1002/job.1924>
- 990 Sonnentag, S., Venz, L., & Casper, A. (2017). Advances in recovery research: What have we  
991 learned? What should be done next? *Journal of Occupational Health Psychology*, 22(3),  
992 365–380. <https://doi.org/10.1037/ocp0000079>
- 993 van Poppel, M. N. M. (2002). Measuring sick leave: a comparison of self-reported data on sick  
994 leave and data from company records. *Occupational Medicine*, 52(8), 485–490.  
995 <https://doi.org/10.1093/occmed/52.8.485>
- 996 von Zerssen, D., Koeller, D. M., & Rey, E. R. (1970). Die Befindlichkeits-Skala (B-S)--ein  
997 einfaches Instrument zur Objektivierung von Befindlichkeitsstörungen, insbesondere im  
998 Rahmen von Längsschnittuntersuchungen. *Arzneimittel-Forschung/Drug Research*.  
999 Voss, M., Stark, S., Alfredsson, L., Vingard, E., & Josephson, M. (2008). Comparisons of self-  
1000 reported and register data on sickness absence among public employees in Sweden.  
1001 *Occupational and Environmental Medicine*, 65(1), 61–67.  
1002 <https://doi.org/10.1136/oem.2006.031427>
- 1003 Wanberg, C. R., Zhu, J., & van Hooft, E. A. J. (2010). The Job Search Grind: Perceived Progress,  
1004 Self-Reactions, and Self-Regulation of Search Effort. *Academy of Management Journal*,  
1005 53(4), 788–807. <https://doi.org/10.5465/amj.2010.52814599>
- 1006 **Whysall, Z., Karanika-Murray, M., & Chen, H. (in press). Understanding the process of decision-**  
1007 **making for presenteeism behavior: An integration and conceptual model. In L. Lapierre &**  
1008 **C. Cooper (Eds.), *Companion to organizational stress and well-being*. Cambridge**  
1009 **University Press.**
- 1010 Widera, E., Chang, A., & Chen, H. L. (2010). Presenteeism: A Public Health Hazard. *Journal of*  
1011 *General Internal Medicine*, 25(11), 1244–1247. <https://doi.org/10.1007/s11606-010-1422-x>
- 1012 Williams, L. J., & Anderson, S. E. (1991). Job Satisfaction and Organizational Commitment as  
1013 Predictors of Organizational Citizenship and In-Role Behaviors. *Journal of Management*,  
1014 17(3), 601–617. <https://doi.org/10.1177/014920639101700305>
- 1015 Wolff, J. K., Brose, A., Lövdén, M., Tesch-Römer, C., Lindenberger, U., & Schmiedek, F. (2012).  
1016 Health is health is health? Age differences in intraindividual variability and in within-person  
1017 versus between-person factor structures of self-reported health complaints. *Psychology and*  
1018 *Aging*, 27(4), 881–891. <https://doi.org/10.1037/a0029125>
- 1019 Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement  
1020 and financial returns: A diary study on the role of job and personal resources. *Journal of*  
1021 *Occupational and Organizational Psychology*, 82(1), 183–200.  
1022 <https://doi.org/10.1348/096317908X285633>
- 1023 Zahn, D., Adams, J., Krohn, J., Wenzel, M., Mann, C. G., Gomille, L. K., Jacobi-Scherbening,  
1024 V., & Kubiak, T. (2016). Heart rate variability and self-control-A meta-analysis. In  
1025 *Biological Psychology* (Vol. 115, pp. 9–26). Elsevier B.V.  
1026 <https://doi.org/10.1016/j.biopsycho.2015.12.007>
- 1027 Zhou, L., Wang, M., Chang, C.-H., Liu, S., Zhan, Y., & Shi, J. (2017). Commuting stress process  
1028 and self-regulation at work: Moderating roles of daily task significance, family interference  
1029 with work, and commuting means efficacy. *Personnel Psychology*, 70(4), 891–922.  
1030 <https://doi.org/10.1111/peps.12219>  
1031



**Table 1**  
*Means, Standard Deviations, Internal Consistencies (Cronbach's Alpha), and Intercorrelations*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Somatic complaints - Noon (t)	.65	<b>-0.11</b>	<b>0.22</b>	<b>0.16</b>	-0.01	-0.02	<b>0.19</b>	0.01	<b>0.09</b>	<b>-0.25</b>	<b>-0.18</b>	-0.02		
2. Work goal progress - Noon (t)	0.00	.87	<b>-0.09</b>	<b>-0.10</b>	0.06	0.05	-0.04	0.05	0.01	<b>0.55</b>	<b>0.52</b>	<b>0.09</b>		
3. Presenteeism - Bedtime (t)	0.11	-0.14	-	<b>0.08</b>	-0.03	-0.04	-0.05	-0.02	-0.02	<b>-0.10</b>	<b>-0.08</b>	0.02		
4. Ego depletion - Bedtime (t)	0.15	-0.16	0.06	.92	<b>-0.09</b>	<b>-0.11</b>	0.02	0.06	0.02	<b>-0.22</b>	<b>-0.20</b>	-0.03		
5. Work engagement - Noon (t+1)	0.03	<b>0.68</b>	-0.05	<b>-0.21</b>	.95	<b>0.67</b>	<b>-0.29</b>	<b>0.40</b>	<b>0.31</b>	0.02	0.02	-0.01		
6. Task performance - Noon (t+1)	0.02	<b>0.65</b>	-0.10	<b>-0.21</b>	<b>0.67</b>	.92	<b>-0.19</b>	<b>0.31</b>	<b>0.21</b>	0.01	0.01	-0.02		
7. Somatic complaints - Noon (t+1)	<b>0.97</b>	0.02	0.08	0.09	0.03	0.03	.65	<b>-0.19</b>	<b>-0.11</b>	-0.06	-0.05	0.03		
8. Sleep quality - Noon (t+1)	<b>-0.24</b>	<b>0.37</b>	0.02	<b>-0.28</b>	<b>0.48</b>	<b>0.34</b>	<b>-0.25</b>	-	<b>0.55</b>	-0.02	-0.06	-0.03		
9. Sleep duration - Noon (t+1)	-0.18	0.08	-0.12	-0.15	<b>0.22</b>	0.14	<b>-0.19</b>	<b>0.46</b>	-	-0.03	-0.05	0.01		
10. Work engagement - Noon (t)	-0.02	<b>0.74</b>	-0.12	<b>-0.24</b>	<b>0.94</b>	<b>0.63</b>	0.01	<b>0.44</b>	<b>0.20</b>	.95	<b>0.71</b>	<b>0.13</b>		
11. Task performance - Noon (t)	-0.01	<b>0.67</b>	<b>-0.19</b>	<b>-0.20</b>	<b>0.58</b>	<b>0.92</b>	0.02	<b>0.27</b>	0.11	<b>0.63</b>	.92	<b>0.13</b>		
12. Work hours - Bedtime (t)	0.01	0.15	-0.17	0.16	0.10	0.04	-0.04	0.10	-0.06	0.05	-0.01	-		
13. Age	-0.01	<b>0.31</b>	0.03	<b>-0.22</b>	<b>0.23</b>	<b>0.32</b>	0.03	0.08	-0.15	<b>0.28</b>	<b>0.31</b>	-0.06		
14. Gender	-0.16	0.07	-0.16	-0.15	0.06	0.11	-0.13	0.16	0.05	0.03	0.06	<b>0.21</b>	0.06	-
M	1.11	3.17	0.57	2.85	4.29	4.03	1.10	2.93	7.17	4.25	4.00	7.97	36.56	1.47
SD	0.17	0.26	1.22	0.84	1.16	0.70	0.17	0.55	0.84	1.17	0.71	1.01	9.55	0.50

Note. Omega within values ( $\omega^w$ ) for within-person reliability were computed in line with recommendations from Lai and Lai (2020) and are presented in the diagonal. Correlations below the diagonal are person-level correlations (N = 126). Correlations above the diagonal are day-level correlations (N = 995). Numbers in bold  $p < .05$

Table 2

*Unstandardized coefficients from the MSEM model and conditional indirect effects.*

	Presenteeism - Bedtime (t)			Ego depletion - Bedtime (t)			Work engagement- Noon (t+1)			Task performance- Noon (t+1)		
	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z	Estimate	SE	z
<b>Within-level</b>												
Work engagement - Noon (t)							0.003	0.032	0.088			
Task performance - Noon (t)										-0.005	0.031	-0.162
Work time - Bedtime -(t)	0.051	0.029	1.740	0.017	0.028	0.612	-0.001	0.025	-0.046	-0.009	0.017	-0.533
Somatic complaints - Noon (t+1)							-1.794	0.297	-6.037**	-0.731	0.202	-3.616**
Sleep quality - Noon (t+1)							0.380	0.070	5.405**	0.220	0.050	4.409**
Sleep duration - Noon (t+1)							0.135	0.049	2.729**	0.037	0.033	1.132
Somatic complaints - Noon (t)	1.776	0.532	3.340**	0.892	0.179	4.977**	0.264	0.217	1.216	0.096	0.174	0.555
Work goal progress - Noon (t)	-0.087	0.053	-1.640									
Presenteeism - Bedtime (t)				0.033	0.015	2.161*	-0.024	0.023	-1.049	-0.015	0.016	-0.911
Ego depletion - Bedtime (t)							-0.120	0.043	-2.815**	-0.090	0.031	-2.920**
Somatic complaints x Work goal progress	-0.766	0.362	-2.116*									
Residual variance	1.390	0.238	5.840**	0.554	0.039	14.146**	0.579	0.053	10.869**	0.268	0.031	8.582**
<b>Indirect effects</b>												
				<b>Moderator: Work goal progress</b>			<b>Estimate (SE)</b>	<b>p</b>	<b>95% CI indirect effect:</b>			
									<b>LL 95% CI UL 95% CI</b>			
Work engagement				Mean			-0.007 (.005)	.036	<b>-0.0204 -0.0002</b>			
				High			-0.005 (.004)	.080	-0.0162 0.0003			
				Low			-0.009 (.007)	.035	<b>-0.0257 -0.0003</b>			
Task performance				Mean			-0.005 (.004)	.035	<b>-0.0148 -0.0002</b>			
				High			-0.004 (.003)	.079	-0.0117 0.0002			
				Low			-0.007 (.005)	.035	<b>-0.0186 -0.0003</b>			

*Note.* Estimates are unstandardized, resulting from one overall analysis including the prediction of all outcomes in one model.  
\*  $p < .05$ . \*\*  $p < .01$ . Controlling for previous-day lagged values for each endogenous variable did not affect the results.

Figures

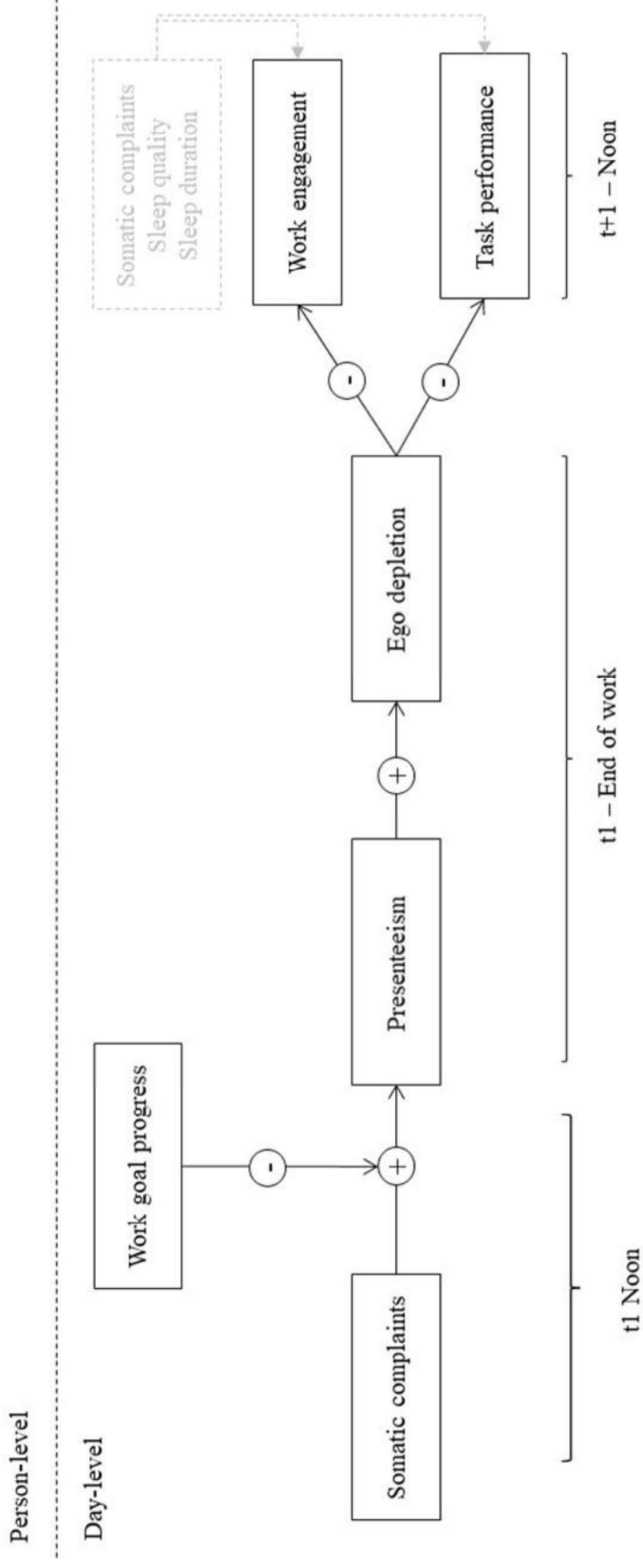


Figure 1. Theoretical model.

Note: Main control variables in grey.

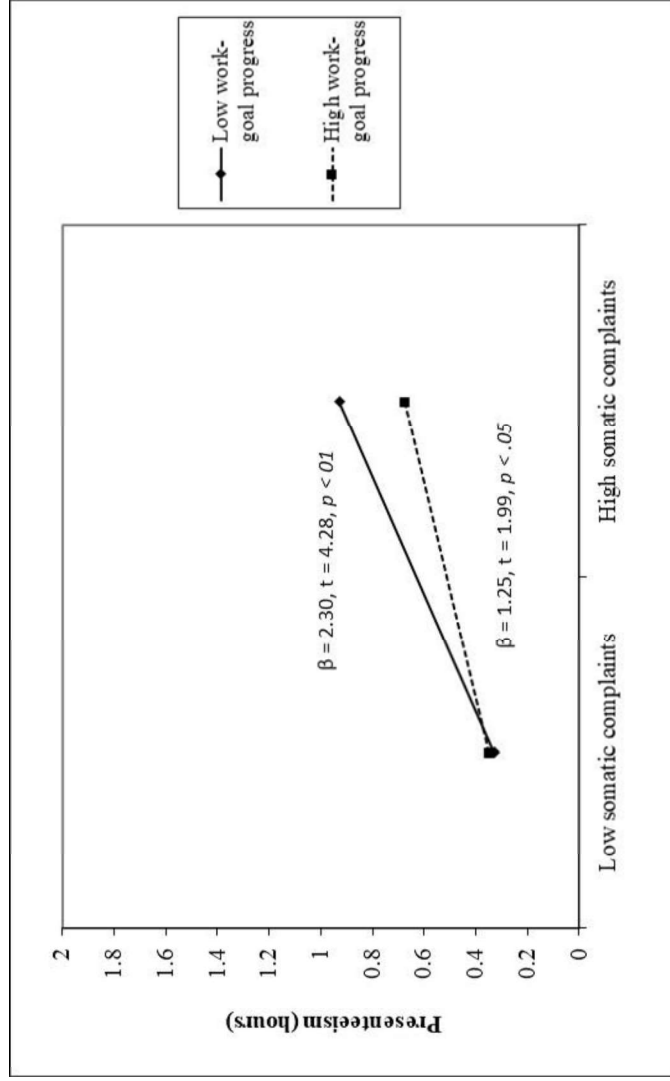


Figure 2. Day-specific interaction of work-goal progress and somatic complaints predicting presenteeism.