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Burnout and self-regulation failure: A diary study of self-undermining and job crafting among nurses

Marta Roczniewska[1,2] | Arnold B. Bakker[3,4]

[1]Faculty in Sopot, SWPS University of Social Sciences and Humanities, Warszawa, Poland

[2]Procome Research Group, Medical Management Centre, Department of Learning, Informatics, Management and Ethics, Karolinska Institutet, Stockholm, Sweden

[3]Center of Excellence for Positive Organizational Psychology, Erasmus University Rotterdam, Rotterdam, The Netherlands

[4]Department of Industrial Psychology and People Management, University of Johannesburg, Johannesburg, South Africa

Correspondence
Marta Roczniewska, Procome Research Group, Medical Management Centre, Department of Learning, Informatics, Management and Ethics, Karolinska Institutet, 171 77 Stockholm, Sweden.
Email: marta.roczniewska@ki.se

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Abstract

Aim: The objective was to test how nurse burnout impairs day-to-day adaptive self-regulation strategies that link levels of regulatory resources with employee job performance.

Background: Regulatory resources help employees manage their thoughts, feelings, and behaviours on a daily basis. On days when these resources are low, employees may engage in maladaptive self-regulation: more self-undermining (i.e. creating additional obstacles) and less job crafting (i.e. optimizing job demands and resources), which debilitates their work performance. We expected that self-regulation is impaired especially when individuals exhibit low motivation and low ability to regulate their behaviour, that is, when they experience elevated burnout.

Design: This research used a daily diary design. Nurses responded to a general survey and then completed daily diary surveys in three different moments: before, during and after work for 10 consecutive workdays (total reports $N = 732$).

Method: A sample of 81 nurses from Polish hospitals and primary healthcare centres completed self-reported questionnaires between January and March 2018. Hypotheses were tested using multilevel modelling in Mplus.

Results: Momentary self-regulatory capacity before work was negatively related to self-undermining and positively related to job crafting, and it indirectly predicted daily job performance. As hypothesized, these indirect relationships were moderated by general, chronic burnout. We found that only for employees with low levels of burnout, daily self-regulation was linked with better functioning via increased job crafting and decreased self-undermining.

Conclusion: Chronic burnout disturbs day-to-day behaviour regulation. Individuals with elevated burnout symptoms have difficulty to translate momentary boosts in regulatory resources into adaptive strategies that are linked with higher performance.

Impact: Our findings call for better recovery programmes, strategic Human Resource Management practices aimed at reducing factors that deplete daily self-regulatory resources, and finally top-down interventions preventing burnout among employees in the healthcare system.

KEYWORDS
burnout, daily diary study, JD-R theory, job crafting, job performance, nurses, self-regulation, self-undermining

1 | INTRODUCTION

Burnout is a serious problem in health care, and its repercussions may be especially dangerous for nurses' day-to-day functioning at work. Medical staff burnout and fatigue have been related to higher odds of healthcare-associated infections (Cimiotti et al., 2012), major medical errors (Shanafelt et al., 2010) and even patient death (Tourangeau et al., 2007). Nurses who experience burnout provide patients with suboptimal care (Garcia et al., 2019) which may threaten their safety (West et al., 2018). Adverse events, such as medical errors, may add to the cost of each patient's care, e.g. in an Australian hospital, such events have been estimated to add approximately $460,000,000 to the total cost of care per year (Tourangeau et al., 2007). Several studies have provided evidence of a negative relationship between burnout and nurses job performance (Garcia et al., 2019; Parker & Kulik, 1995). Existing literature suggests these issues are present worldwide (Aiken et al., 2012). Compared with physicians, nurses are engaged in more direct patient contact and complete more daily tasks related to patient care; thus, their work may exert a more central impact on patients. Accordingly, a meta-analysis linking burnout with job performance showed that nurse burnout was more strongly related to reduced quality and safety of care than it was for physicians (Salyers et al., 2017). Thus, the link between nurse burnout and reduced job performance matters because it is associated with negative consequences for patient care, as well as potential healthcare system costs.

While this state of affairs is unfortunate, it is unclear how exactly burnout impairs healthcare professionals' daily functioning. How do nurses at risk for burnout differ from healthy nurses in terms of daily behaviours? In this study, we aim to investigate how burnout impairs day-to-day functioning among nurses with elevated burnout. While research points to reduced performance in this group, the exact mechanism, that is, daily processes that are responsible for it, is unclear. There is a knowledge gap concerning what exactly happens in a workday for individuals who suffer from burnout compared

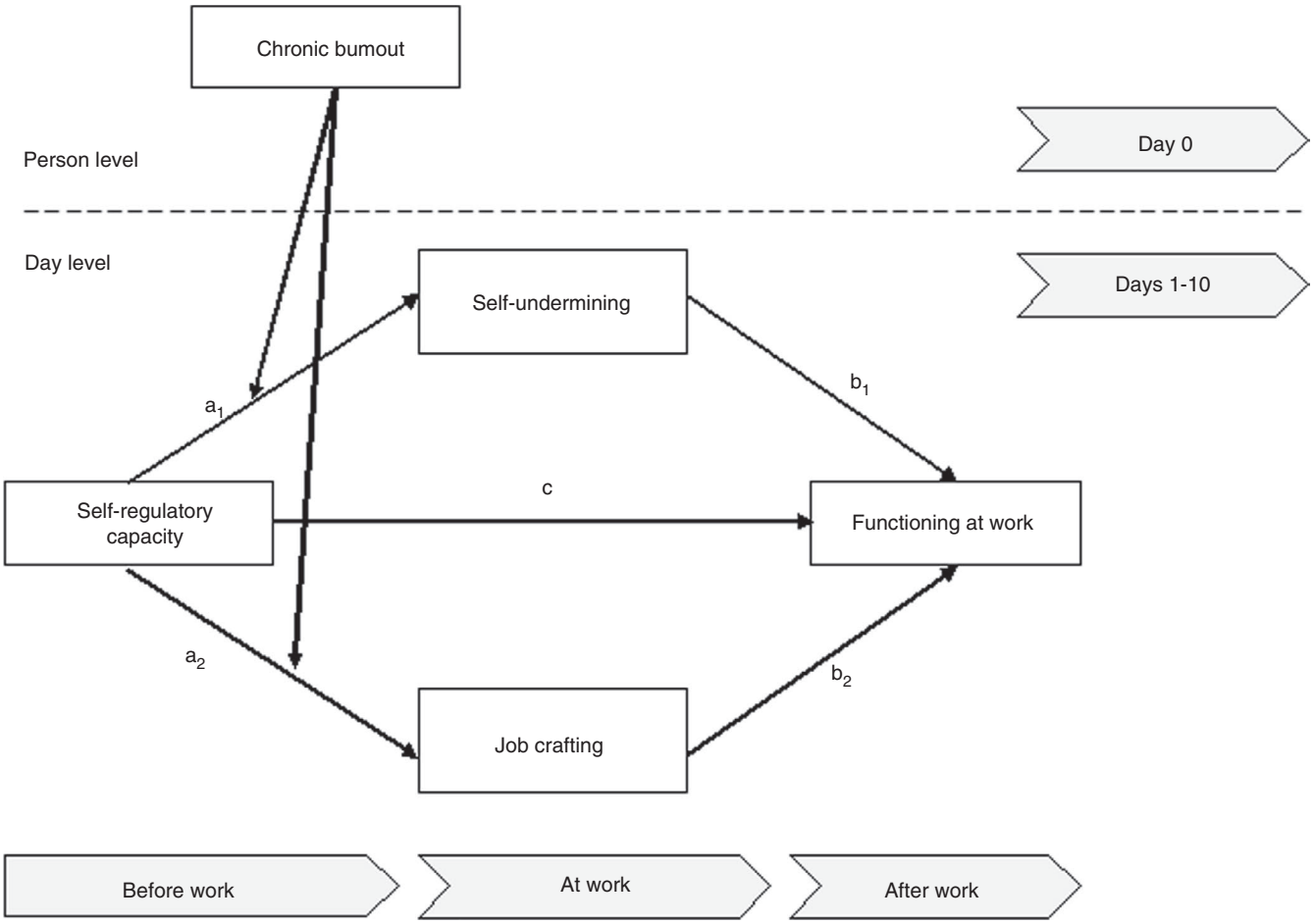

FIGURE 1 Conceptual model and measurement timeline

with those who do not experience burnout symptoms. Previous research has particularly focused on job demands and resources as antecedents of burnout (Bakker et al., 2014; Bakker & De Vries, 2021). Although this approach is important because it illuminates the crucial role of the context, it neglects the within-individual processes that may lead to a progression of burnout. Uncovering these daily processes may help understand to what extent individuals who experience elevated burnout make matters worse for themselves by engaging in maladaptive behaviour regulation. Thus, not only do we contribute to closing relevant research gaps but also this study has practical implications for processes that may be helpful for individuals who suffer from burnout.

In our study, we focus on the nurses who experience mild symptoms of burnout but are still working to observe how they regulate their behaviour on a day-to-day basis. To investigate this phenomenon, we developed a self-regulation model of burnout (see Figure 1). We integrated previous literature concerning self-regulation failure at work (Dai et al., 2015; Lanaj et al., 2014; Wehrt et al., 2020), Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2017; Demerouti & Bakker, 2011) and Conservation of Resources (COR) theory (Hobfoll, 1989).

2 | BACKGROUND

Successful self-regulation—by which people manage their thoughts, feelings and behaviours—is the foundation of healthy psychological functioning (Hoyle, 2014). Capacity to self-regulate may vary *within* individuals depending on the temporary resources available to them. Self-regulatory resources refer to 'internal energy that is consumed when regulating attention, persevering at difficult tasks, and managing emotions' (p. 1098) (Lanaj et al., 2016). These resources fluctuate contingent on, for example, the amount of sleep (Christian & Ellis, 2011), experienced emotions (Chester et al., 2016) or previous efforts in self-control (Prem et al., 2016). Dealing with demanding social interactions (Finkel et al., 2006) and regulating emotions (Trougakos et al., 2015) may temporarily reduce an individual's self-regulatory resources. In their professional lives, nurses must engage in activities that involve focusing attention, resisting distractions and managing behaviours, all of which draw from the same pool of limited self-regulatory resources. Consequently, nurses begin each workday with different levels of self-regulatory resources (Lanaj et al., 2016), and these "starting levels" may determine the extent to which they engage in adaptive or maladaptive regulation throughout the day.

When self-regulatory resources are low, individuals are less able to manage their attention, emotions and behaviour effectively (Wehrt et al., 2020). Experimental research has demonstrated that when resources are drained, people become mentally and physically passive (Vonasch et al., 2017), are less able to sustain effort (Hagger et al., 2010) and are more likely to lose focus (Englert et al., 2015). Depleted individuals also spend more time engaging in off-task behaviours (Bazzy & Woehr, 2017). Thus, low self-regulatory capacity is likely to lead to dysfunctional actions that generate additional problems, that is, self-undermining—maladaptive behaviours that create obstacles which undermine performance (Bakker & Costa, 2014). Unlike self-handicapping (Jones & Berglas, 1978), self-undermining is not a conscious strategy to protect self-esteem in case of failure. Rather, self-undermining is a set of undesirable reactive workplace behaviours that compromises adequate functioning such as making mistakes, communicating poorly or creating a backlog in work. Self-undermining results from high levels of job strain (Bakker & Costa, 2014). Given the previous literature linking self-regulatory resources depletion with maladaptive functioning, we propose:

> **Hypothesis 1** *On days when self-regulatory capacity is relatively low, individuals are more likely to engage in self-undermining behaviours.*

Self-regulatory resources enable employees to regulate their behaviour not only to pursue their work goals but also optimize their work environment. According to JD-R theory (Demerouti & Bakker, 2011), workplace characteristics can be categorized into job demands and job resources. Job demands require effort and are, therefore, associated with physical or psychological costs. Job resources, on the other hand, are those aspects of the work environment that are functional in achieving goals, help reduce job demands and their consequences, as well as stimulate employee development (Demerouti & Bakker, 2011). Employees can proactively redesign their jobs to find a better person–job fit. This bottom-up strategy is referred to as *job crafting* (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001), and has been observed across many professions, including nurses (Bakker, 2018; Chang et al., 2020). Job crafting is an adaptive strategy that allows employees to ultimately be more engaged and productive (Rudolph et al., 2017). Especially expansion-oriented job crafting, that is, where individuals increase their job resources and challenging job demands, has shown promising results (Lichtenthaler & Fischbach, 2019; Rudolph et al., 2017). For instance, nurses may seek more job resources (e.g. support from colleagues) to help them cope with the workload. They may also actively look for challenges in their work (e.g. introduce a new initiative) to satisfy their personality-driven needs (Tims & Bakker, 2010).

As an extra-role behaviour, job crafting requires an employee to 'go the extra mile', that is, do more than is expected by the organization given the job description. Therefore, to engage in job crafting, employees need more self-regulatory resources. Research demonstrates that energy is a prerequisite for proactivity (Sonnentag, 2003). Job crafting attempts among healthcare professionals led to better outcomes when their vigour was high (Bakker, 2018). Research shows that individuals who experience mental fatigue are more resistant to exert additional effort (van der Linden et al., 2003). As argued by COR theory (Hobfoll et al., 2018), individuals who are low on resources are likely to retain and protect their resources rather than mobilize new ones. Thus, effort expenditure is governed by a concern for resource conservation (Hobfoll, 1989; Kruglanski et al., 2012). When momentary self-regulatory resources are low,

individuals may be reluctant to invest further resources and perceive further effort as costly or aversive (Kurzban et al., 2013). Overall, depleted individuals may favour more resource-conserving behaviours and refrain from exerting additional effort on tasks that do not relate to core tasks. Thus, while job crafting may be seen as adaptive behaviour, we propose that nurses are less likely to engage in such behaviour with decreasing levels of self-regulatory resources.

Hypothesis 2 *On days when self-regulatory capacity is relatively low, individuals are less likely to engage in job crafting.*

2.1 | How burnout impairs self-regulation

In addition to daily fluctuations in self-regulatory capacity, there may be individual differences in *motivation* and *capacity* to regulate one's behaviour. Namely, individuals may not be willing or able to exert effort and engage in self-regulation. Job burnout is a clear example of a prolonged condition of reduced motivation and ability to regulate because it comprises chronic fatigue, cynicism about the value of one's work as well as low professional efficacy (Maslach et al., 2001). When individuals experience burnout, they 'feel as though they lack the adaptive resources and cannot give more to their job' (Halbesleben & Buckley, 2004) (p. 859). Consequently, they may have less capability or motivation to regulate their cognitive, affective and behavioural responses. Thus, from a self-regulation perspective, burnout represents a condition of chronically low self-regulation capacity.

While on certain days individuals who experience burnout may feel more energetic than usual, overall, their condition is characterized by chronic cognitive, emotional and physical depletion. A diary study comparing the diurnal patterns of exhaustion in clinical burnout with those of healthy individuals showed that burned-out individuals typically suffer continuously from a severe fatigue throughout the day, which suggests a severe energy erosion (Sonnenschein et al., 2007). We propose that this chronic depletion in burnout interferes with daily self-regulation processes. We suggest that the erosion of resources in chronic burnout further exacerbates the negative consequences of momentary resource depletion and thwarts potential positive consequences of momentary resources surge. Specifically, the reduced effort, slower performance, increased mistakes and interpersonal conflicts that accompany burnout create additional hassles that lead to an accumulation of job demands (Bakker & Costa, 2014), further exacerbating the negative consequences of momentary resource depletion:

Hypothesis 3 *Burnout moderates the relationship between daily self-regulatory capacity and self-undermining. Only for individuals with low (vs. high) levels of burnout, daily self-regulatory capacity is negatively related to self-undermining.*

In burnout, the momentary self-regulatory resources available to individuals need to be focused on dealing with the additional demands they create through self-undermining (Bakker & Costa, 2014). While job crafting functions as an adaptive strategy to deal with suboptimal work environment that may be responsible for the burnout in the first place, individuals who experience burnout lack the motivation or capability necessary to do so. Additionally, conservation of resources theory (Hobfoll et al., 2018) posits that people who are low on resources are likely to retain and protect their resources to maximize their ability to manage and mitigate anticipated stress rather than mobilize new resources. Overall, we predict that:

Hypothesis 4 *Burnout moderates the positive relationship between daily self-regulatory capacity and job crafting. Only for individuals with low (vs. high) levels of burnout, daily self-regulatory capacity is positively related to job crafting.*

The adaptive and maladaptive regulation via job crafting and self-undermining (respectively) is likely to further affect employee performance. When employees craft their jobs by seeking advice, developing their competences or asking for more responsibilities, it helps their productivity because their job characteristics are more aligned with their preferences. Indeed, research has linked daily job crafting with improved job performance (Petrou et al., 2012). In contrast, self-undermining exacerbates everyday performance by creating additional job demands that employees have to deal with, which may divert them from their core tasks (Bakker & Costa, 2014; Bakker & Wang, 2020).

Overall, we propose two pathways from high self-regulatory capacity to better job performance: through (a) less self-undermining and (b) more job crafting. From previous argumentation it follows, however, that these daily processes will be impaired for individuals who experience elevated burnout:

Hypothesis 5 *Burnout moderates the indirect relationship between daily self-regulatory capacity and job performance through self-undermining. Only for individuals who have relatively low (vs. high) levels of burnout does self-regulatory capacity translate into better performance at work via reduced self-undermining on a daily basis.*

Hypothesis 6 *Burnout moderates the indirect relationship between self-regulatory capacity and job performance through job crafting. Only for individuals who have relatively low (vs. high) levels of burnout does self-regulatory capacity translate into better performance at work via increased job crafting on a daily basis.*

3 | THE STUDY

3.1 | Aim/s

The objective of the study was to investigate how daily peaks and drops in self-regulatory resources translate into job crafting and self-undermining among nurses (Hypotheses 1–2), as well as to examine how nurse burnout impairs day-to-day behaviours that link levels of self-regulatory resources with employee job performance (Hypotheses 3–6).

3.2 | Design

The study used intensive longitudinal method (Bolger & Laurenceau, 2013) in form of a daily diary. As shown in Figure 1, on Day 0 participants completed a measure of chronic burnout. Daily measures were completed on workdays 1–10 at three time points: before work (self-regulation capacity), during work (job crafting and self-undermining), and after-work (job performance).

3.3 | Participants

We recruited a convenience sample of nurses with the help of an undergraduate student. Individuals were able to participate if they were female nurses, actively working at the time of the study. To ensure data quality, we followed the recommendations for student-recruited samples (Demerouti & Rispens, 2014). The student followed a standardized protocol and contacted various hospitals in Poland via telephone. In addition, the student approached nurses in her personal network who could invite additional participants. First, the student informed potential participants of the study procedure (i.e. responding daily on 10 working days) and asked about their preferred method for filling out the forms (online vs. paper-and-pencil). Ninety-eight nurses agreed to participate, most of whom (92%) preferred the paper-and-pencil booklet due to workplace regulations about accessing external online materials. In 4 weeks, the student contacted the nurses again to provide them with a booklet containing the instructions and scales. Most of the nurses ($N = 91$) confirmed their initial interest to participate in the study. After 3 weeks, the student contacted the nurses again to collect the booklets. Eighty-three booklets were retrieved (91%); the other nurses resigned from participation. One of the nurses did not complete the burnout scale and was excluded from further data processing.

3.4 | Data collection

The booklet consisted of three parts: introductory information, a general survey and the daily surveys. The first two pages of the booklet provided information on the purpose of the study, listed participants' rights as human subjects and gave detailed instructions on when to fill in each of the scales.

The general survey comprised demographic questions and trait-level measures. It contained a heading that read *Day 0*. Participants were instructed to complete this part before the daily surveys. The other part of the booklet consisted of day-level measures divided into three segments: before, during and after work. The pages were labelled in the upper corner with the day number and time point (e.g. Day 1 to before work) to facilitate the recording process for the participants. The nurses were instructed to complete the before-work survey prior to starting work, the at-work survey during the second half of their shift and the after-work survey after they had returned home from work. No specific hours were imposed. Participants were asked to complete the daily measures on 10 consecutive workdays. The longest working period in a row was 8 days, while the shortest was 2 days.

We administered Polish adaptations of the instruments or followed a back-translation procedure (Brislin, 1970). The items in the diary were shortened and adapted to reflect the day level (Ohly et al., 2010). Following recommendations (Geldhof et al., 2014), for daily measures, we computed two-level composite reliability (omega; ω). Table 1 shows variables and characteristics of the instruments applied to measure them.

3.5 | Ethical considerations

This study received approval from the Departmental Ethics Committee (decision number: WKE/S15/V/1). We obtained written informed consent from all participants in accordance with the Declaration of Helsinki.

3.6 | Data analysis

Because the data are hierarchically structured (days are nested within persons), we applied multilevel analysis to test our hypotheses using Mplus Version 8 (Muthén & Muthén, 2017). This approach allows for the variance of the Level-1 variables (i.e. day level) to be decomposed into latent within- and between-person variance. Therefore, the relationships between day-level variables are estimated at both the within- and the between-person levels. Consequently, the path coefficients for the within-person level represent day-level relationships. We centred job burnout at the grand mean (Enders & Tofighi, 2007). Unstandardized coefficient estimates are reported throughout the text and tables.

In the model we propose, the predictor, the mediators and the outcome variable are measured daily and constitute Level 1 variables. Therefore, this model corresponds to a 1–1–1 mediation model where indirect effects were specified on the within-person level (Preacher et al., 2010). Following Preacher et al., (2010), these within-person-level indirect effects were obtained by multiplying the within-person-level predictor-mediator path (path *a*) with the within-person-level mediator-outcome path (path *b*). To this model, we added job burnout as a person-level (i.e. a Level 2) moderator. The moderation of the indirect effect occurs between the predictor variable (i.e. self-regulatory capacity) and mediating variables (i.e. self-undermining, job crafting); thus, this model represents a first-stage moderated mediation (Edwards & Lambert, 2007). We tested the significance of simple indirect effects at the day level at different values of job burnout. This approach corresponds to simple slope analysis for assessing moderation (Bauer et al., 2006). We tested all hypotheses in a cross-level model (see Figure 1), specifying random intercepts and a random slope for paths a_{w1} (self-regulatory capacity → self-undermining) and a_{w2} (self-regulatory capacity → job crafting) and fixed slopes for paths b_{w1} (self-undermining → functioning) and b_{w2} (job crafting → functioning).

TABLE 1 Study variables and measures

Variable	Measurement point	Measure	Polish adaptation	Number of items	Sample items	Response scale (from–to)	Reliability
Burnout	Day 0	Maslach Burnout Inventory–Human Services Survey (Maslach & Jackson, 1981)	Pasikowski (2000)	22	"I feel burned out from my work" "I have become more callous toward people since I took this job"	0 (never) to 6 (always)	α^a = .86
Self-regulatory capacity	Days 1–10; before work	State Self-Control Capacity Scale (Christian & Ellis, 2011)	Back-translation	6	"I feel sharp and focused" "My mental energy is running low" [reverse-coded]	1 (not at all) to 7 (very much)	ω^b = .86/.95
Job crafting	Days 1–10; at work	Job Crafting Scale (Tims et al., 2012)	Roczniewska & Retowski (2016)	6	"I made sure that I used my capacities to the fullest" "I took on new tasks and challenges"	1 (totally uncharacteristic of me) to 5 (completely characteristic of me)	ω = .70/.88
Self-undermining	Days 1–10; at work	Self-Undermining Scale (Bakker & Wang, 2020)	Back-translation	5	"I made mistakes" "I created confusion when I communicated with others at work"	1 (totally uncharacteristic of me) to 5 (completely characteristic of me)	ω = .60/.80
Functioning at work	Days 1–10; after work	*Social dysfunction* subscale from the General Health Questionnaire (GHQ–28) (Goldberg & Hillier, 1979)	Makowska & Merecz (2000)	5	"To what extent did you manage to deal well with your tasks today?" "To what extent were you satisfied with the way you performed today?"	1 (definitely not) to 4 (definitely yes)	ω = .76/.91

[a]Cronbach's alpha (α) for reliability.

[b]Omega reliability (ω) for day/person level.

3.7 | Validity and reliability/rigour

Each segment in participants' booklets instructed them to write down the date and time of completion. These time stamps were carefully analysed by a research assistant who coded the responses as correct (e.g. a participant declared she was working a dayshift and the time stamp corresponded to daytime), incorrect (e.g. a participant declared she was working a nightshift, but the time stamp corresponded to daytime) or incomplete (e.g., only the date was provided with no time stamp). The analysis revealed that most participants (89%) adhered to the rules and recorded appropriate dates/times, while the rest reported no, incomplete or invalid information. We excluded all data points where individuals did not comply with the rules or where dates/times were not completed, leaving 732 observations. Each participant had to provide at least two matched beginning-of-work, at-work and end-of-work surveys to allow for within-person predictions. For most participants (n = 47; 58%), we had all 10 observations. We excluded one participant who had no variation in all her responses across 10 days for any of the variables measured. The resulting sample used for the analysis consisted of 81 participants, providing data from 732 matched observations. On average, participants provided 9 daily records.

To test the construct validity of the measures, we conducted a series of multilevel confirmatory factor analyses. The results indicated that proposed model with one factor at the between-person level (i.e. burnout) and four factors at the within-person level (i.e. self-regulatory capacity, job crafting, self-undermining and functioning) fit the data reasonably well, $\chi 2$ = 1275.54, df = 412, RMSEA = 0.054, CFI = 0.86, $SRMR_{within}$ = 0.096, $SRMR_{between}$ = 0.113. This measurement model was superior to all other models with one, two or three factors at the within-person level (see Appendix 1 for fit statistics), $\Delta \chi^2 > 603.46$, $ps < .001$.

4 | RESULTS

4.1 | Descriptive statistics

All study participants (N = 81) were female nurses. The final sample had an average age of 39.48 years (SD = 10.75) and job tenure of 15.13 years (SD = 11.02). Most nurses (n = 66) were employed in

TABLE 2 Means, standard deviations, ICC indices and intercorrelations of the study variables

Variable	M	SD	ICC	1	2	3	4	5
Person level								
1. Burnout	1.89	0.70	–	–	–	–	–	–
Day level								
2. Self-regulatory capacity	5.55	1.24	.45	−.57***	–	.22***	−.25***	.21***
3. Job crafting	3.22	0.75	.40	−.35**	.50***	–	−.12***	.27***
4. Self-undermining	1.88	0.65	.46	.47***	−.64***	−.27*	–	−.31***
5. Functioning	3.17	0.49	.31	−.20	.42***	.05	−.68**	–

Note: Means and standard deviations are averaged across 10 days. Correlations at the day level are displayed above the diagonal (N = 732), and correlations at the person level are displayed below the diagonal (N = 81). ICC, intraclass coefficient.

*p < .05;; **p < .01;; ***p < .001.

only one institution (hospital, clinic and health centre), eight nurses worked in two distinct places and nine participants did not disclose this information. Sixty per cent of the nurses worked 12-hour shifts, whereas the others worked shifts ranging from 4 to 10 hours. Seventy-one per cent of the shifts reported during this study were day shifts.

Table 2 presents the means, standard deviations and correlations between the study variables. The intraclass correlation coefficients (ICC1) ranged between 0.33 and 0.47 (see Table 1). This result indicates that using multilevel modelling techniques is appropriate, that is, variance is explained both between (31–46%) and within persons (54–69%).

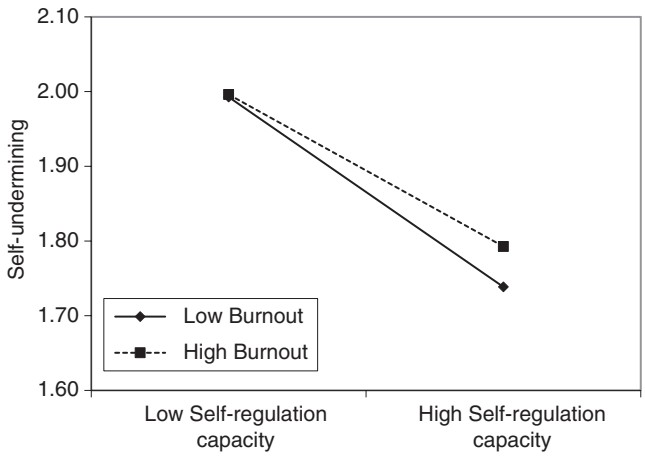

FIGURE 2 Interaction plot of job burnout as a moderator of the relationship between daily self-regulatory capacity and self-undermining

4.2 | Hypotheses Testing

According to Hypothesis 1, daily self-regulatory capacity is negatively related to self-undermining. Supporting our assumptions, the random slope between self-regulatory capacity before work and self-undermining at work was significant and negative (γ = −0.16, SE = 0.03, p < .001). On days when nurses had fewer resources to regulate their behaviour, they were more likely to engage in self-undermining behaviours.

Hypothesis 2 stated that low daily self-regulatory capacity is related to low daily job crafting. The results demonstrated that daily levels of self-regulatory capacity before work were positively linked with job crafting (γ = 0.15, SE = 0.03, p < .001). Supporting Hypothesis 2, on days when individuals had less resources to regulate their behaviour, they engaged in job crafting less often.

In Hypothesis 3, we predicted that burnout moderates the link between self-regulatory resources and self-undermining. We regressed the random slope between self-regulatory capacity and self-undermining (path a_{w1}) on the person-level variable burnout. Burnout positively predicted path a_{w1} (self-regulatory capacity → self-undermining; γ = 0.03, SE = 0.01, p = .001). We plotted the relationship between self-regulatory capacity and self-undermining at conditional values of job burnout (see Figure 2). Simple slope analyses revealed that the slope was negative and steeper for individuals who scored low on burnout (−1SD γ = −0.12, SE = 0.03, p < .001), and the slope was non-significant for individuals who scored high on burnout (+1SD γ = −0.07, SE = 0.04, p = .094). Figure 2 shows that the difference between individuals who score relatively high vs. low on burnout occurred on days when self-regulatory capacity was high rather than when these resources were low. Individuals who scored low on burnout undermined their performance less when they possessed more self-regulatory resources. In contrast, individuals who experienced elevated levels of burnout engaged in self-undermining to the same extent regardless of their daily self-regulatory capacity levels.

Hypothesis 4 stated that burnout inhibits the positive relationship between daily self-regulatory capacity and job crafting. We regressed the random slope between self-regulatory capacity and job crafting (path a_{w2}) on the person-level variable burnout. Contrary to our predictions, burnout did not moderate significantly the daily relationship between self-regulatory capacity and job crafting (γ = −0.02, SE = 0.01, p = .104).

TABLE 3 Conditional indirect effects of self-undermining and job crafting at distinct values of burnout

Estimated indirect	Estimate	SE
Self-regulatory capacity → Self-undermining → Functioning		
at −1 SD of burnout	0.03**	0.01
at *M* = 0 of burnout	0.02*	0.01
at +1 SD of burnout	0.01	0.01
Self-regulatory capacity → Job crafting → Functioning		
at −1 SD of burnout	0.02**	0.01
at *M* = 0 of burnout	0.02*	0.01
at +1 SD of burnout	0.01	0.01

Note: Estimates are unstandardized estimates from Mplus 8.
*$p < .05$; **$p < .01$.

As expected, daily levels of self-regulatory capacity were positively linked with nurses functioning ($\gamma = 0.05$, SE = 0.02, $p = .019$). Also, daily job crafting predicted functioning at work positively ($\gamma = 0.15$, SE = 0.03, $p < .001$) and self-undermining negatively ($\gamma = -0.22$, SE = 0.05, $p < .001$).Because all paths in the expected mediation were significant, we examined the indirect effects of self-undermining and job crafting in the link between self-regulatory capacity and functioning at work. The indirect effects of self-undermining ($\gamma = 0.03$, SE = 0.01, $p < .001$) and job crafting ($\gamma = 0.02$, SE = 0.01, $p = .001$) were both statistically significant.

Finally, to verify Hypotheses 5 and 6, we tested a multilevel moderated mediation model by specifying a moderated lower-level mediation model with indirect effects demonstrated at different values of burnout (see Table 3).

As Table 2 shows, self-regulatory capacity had a positive indirect effect on functioning at work via less self-undermining for persons with lower burnout (–1 SD: $\gamma = 0.03$, SE = 0.01, $p = .001$) but not for persons with higher burnout levels (+1 SD: $\gamma = 0.01$, SE = 0.01, $p = .106$). On days when they have considerable self-regulatory resources, only individuals with low general levels of burnout exhibit fewer self-undermining behaviours and, thus, perform better. This finding supports Hypothesis 5.

The simple indirect effect of self-regulatory capacity on functioning at work via job crafting behaviours was positive only for persons with relatively low scores on burnout (–1 SD: $\gamma = 0.02$, SE = 0.01, $p = .007$) and not for persons with relatively high scores on burnout (+1 SD: $\gamma = 0.01$, SE = 0.01, $p = .087$). This result indicates that only individuals with low general levels of burnout are able to use their daily self-regulatory resources: on the days they have considerable energy, they proactively change their job design and perform well. Thus, Hypothesis 6 was supported as well.

5 | DISCUSSION

In this study, we integrate literatures on self-regulation at work (Lanaj et al., 2014) and JD-R theory (Demerouti & Bakker, 2011) to explain why chronic burnout is linked with impaired performance on a daily basis. The findings indicate that nurses who experience burnout do not use the peaks in their self-regulatory capacity to improve their performance by proactively optimizing their work design or refraining from self-undermining. Burnout seems to increase the likelihood of maladaptive self-regulation. Our findings suggest that daily motivational and health impairment pathways unfold differently for people with higher (vs. lower) levels of chronic burnout. This dynamic model may elucidate how burnout progresses over time and the proposed mechanisms should be investigated in future longitudinal research.

5.1 | Theoretical implications

Our study answers a call to investigate the specific daily behaviours that impair job performance among employees who experience burnout engage in that impair their performance (Bakker & Costa, 2014; Bakker & De Vries, 2021). We find that employees are less likely to undermine their work execution on days when they have the energetic resources to regulate their behaviour. However, this is not true for employees with elevated burnout: on days when their self-regulatory resources increase, these individuals still tend to undermine their jobs by creating additional obstacles or making errors. Investigating these daily acts illuminates why past studies showed that burned-out employees tend to report more job demands over time (Demerouti et al., 2004). This dangerous pattern may serve as a mechanism explaining the persistence of burnout: a daily peak in self-regulatory capacity seems to be insufficient to alleviate the negative effects of chronic depletion.

Our study adds knowledge on bottom-up job redesign interventions by demonstrating that their effectiveness depends on individuals' characteristics. Research on job crafting suggests that employees may seek job resources to cope with the strain originating from imbalance in their job characteristics (Tims & Bakker, 2010). Many studies to date have demonstrated that such imbalance increases the likelihood of burnout (Demerouti et al., 2001). In our study, we tested whether individuals who are most in need of job redesign (i.e. who reported mild burnout) are able to translate their self-regulatory resources into better performance through job crafting. Our findings imply that nurses who experience elevated job burnout do not have the capability or the motivation necessary to correct the imbalance in their job characteristics with proactive strategies like job crafting. This pattern is consistent with COR theory (Hobfoll et al., 2018), which argues that employees who experience a scarcity of resources are likely to maintain and protect the resources they gain rather than mobilize additional resources.

Overall, our findings suggest that daily motivational and health impairment pathways unfold differently for people with higher (vs. lower) levels of chronic burnout. This dynamic model may elucidate how burnout progresses over time and the proposed mechanisms should be investigated in future longitudinal research.

5.2 | Practical implications

Our findings linked nurses' low daily self-regulatory resources levels with more self-undermining, lack of proactivity, and low job performance, which poses a serious hazard to the quality and safety of patient care. Thus, we call for strategic Human Resource Management practices aimed at better management of employee self-regulatory resources, such as recovery programs (Querstret et al., 2020). Managers should pay attention to shift scheduling (Gifkins et al., 2020), and processes regulating how to handle spikes in workload may be warranted. Management should build a workplace culture that respects nurses' days off, promotes taking breaks with energy-restorative activities (Fritz et al., 2011) and prevents unscheduled overtime.

Our findings showed that burned-out nurses are less able to use peaks in self-regulatory resources to increase their performance via job crafting. A practical implication is that special solutions should be designed for employees who experience elevated burnout. Although bottom-up job crafting interventions have been successfully implemented in health care (Gordon et al., 2018), our results imply a need for top-down work re-design interventions to correct the imbalance between job demands and job resources. It is important to provide employees at risk of burnout with feasible workloads, opportunities to influence their work situation (e.g. shift scheduling; Gifkins et al., 2020) and access to social job resources, that is, help from team members or feedback opportunities (Roczniewska et al., 2020).

5.3 | Limitations

Here, we note several limitations of our research. First, all study measures were based on self-reports, which raises concerns that observed relations may be biased by common method variance (CMV) (Podsakoff et al., 2003). Some of this concern may be alleviated, since the surveys were spaced in time (before, during and after work), which is deemed effective for minimizing CMV (Johnson et al., 2011). Moreover, the cross-level interaction is unlikely to be explained by CMV, as hierarchical analyses tend not to produce artificial interactions (Evans, 1985). Nevertheless, future research might use different sources of information, such as performance reports or colleague ratings.

Second, all participants were recruited by one student assistant, which may raise concern about sample homogeneity. However, while the student initially contacted a small number of respondents from her network, they provided her with contacts to other nurses. Additionally, the student called different healthcare centres. This procedure could be considered comparable with network sampling (a form of snowball sampling; Demerouti & Rispens, 2014). A meta-analysis demonstrated that results from student-recruited samples do not differ from non-student–recruited samples other than smaller effect sizes (Wheeler et al., 2014). Another limitation is that all study participants were Polish nurses, and observational studies conducted in Europe demonstrate that Polish nurses report less favourable work environment conditions, such as understaffing or poor nurse–physician relationship (Li et al., 2013). This pattern may raise questions about generalizability of these results. Finally, the sample size at the person level is lower than in some other diary method research (Ohly et al., 2010), which may have rendered the study underpowered to detect the interaction between burnout and self-regulatory capacity for job crafting.

Most nurses in this study experienced low or mild burnout. Thus, we were unable to examine how individuals who suffer from severe burnout regulate their behaviour on a daily basis. Yet, even with mild burnout symptoms, we observed traces of maladaptive patterns of self-regulation. Importantly, mild burnout complaints may persist over several years (Leone et al., 2008) and develop into more serious burnout complaints (Schaufeli et al., 2009). Our findings are important as they show maladaptive behaviours that occur even in mild cases. Future research could focus on development from mild to severe burnout over time to observe whether the progression of burnout occurs due to the maladaptive regulation patterns we uncovered.

6 | CONCLUSION

Burnout is a serious issue among healthcare professionals: more than one in three nurses exhibit this syndrome (Gómez-Urquiza et al., 2017). Our research showed that even mild burnout disturbs day-to-day behaviour control among nurses who are unable to use daily peaks in their capacities to regulate their behaviour. Employees with high levels of burnout need help to structurally change their working conditions. The necessity for solutions tailored to different subgroups requires leaders to be able to detect individuals at risk for burnout. We propose that self-undermining behaviours should be among the signs to look for.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the author(s).

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ORCID

Marta Roczniewska https://orcid.org/0000-0003-0815-1455
Arnold B. Bakker https://orcid.org/0000-0003-1489-1847

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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