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TWO TALES OF BURNOUT AND BALANCE: WORKPLACE BOREDOM AND WORK
OVERLOAD

MARIA TERESA ALMEIDA ESTÊVÃO CORDEIRO DE SOUSA, 3744

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Professor Pedro Neves, PhD

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Abstract

Although boredom at work poses serious consequences for employees and organizations, research has paid little attention to this phenomenon, especially when compared to other problematic experiences such as work overload. Building upon the Self-Determination Theory and the Effort-Recovery Model, our study compares the impact of these two apparently opposite constructs on burnout and work-life balance, and examines the potential mediating role of work-related rumination. Using a sample of 152 participants, who answered three questionnaires separated by a one-week interval, we found partial support for our hypotheses. Workplace boredom and work overload led to emotional exhaustion and disengagement, via affective rumination. Moreover, while work overload had a negative impact on work-life balance partially mediated by detachment, boredom had a positive effect on this variable fully mediated by detachment. These findings stress the importance of addressing boredom as powerful and dangerous workplace emotion.

Keywords: Workplace boredom, work overload, burnout, work-life balance, work-related rumination

Introduction

According to a Korn Ferry survey (2018), the main reason that led people to look for a new job at the beginning of 2018 was feeling bored and unchallenged at work, leaving behind matters such as company politics, salary or even cultural fit. Similarly, a Gallup survey (2016) revealed that only about a third of millennials, Gen Xers, and baby boomers are actively engaged at their job. In this sense, the majority of the workforce is disconnected from work. Moreover, this problem is expected to become even more prevalent in the future, as automation and advancements in technology reduce the need for human capabilities and, thus, open a door to more 'tedium' at work (Fisher, 1993; Cummings, Gao, & Thornburg, 2016).

Nonetheless, boredom at work has been considerably overlooked by researchers (Loukidou, Loan-Clarke, & Daniels, 2009). Although it has received some attention since the beginning of the last century (van Hooff & van Hooft, 2014), it remains largely unexplored when compared to another pervasive and negative workplace phenomenon - work overload (Reijseger et al., 2013). This discrepancy may be due to the fact that boredom as an emotional state is often 'inconspicuous', 'silent', and less notorious than, for instance, anger (Pekrun, Goetz, Daniels, Stupnisky & Perry, 2010, p. 531), thus concealing its harmful effects. According to Vodanovich and Mikulas (1993, p.3), boredom at work is defined as "a state of relatively low arousal and dissatisfaction, which is attributed to an inadequately stimulating situation". As we can see, the definition classifies boredom as a deactivating state ('low arousal'), which can explain why this emotion is more neglected than others characterized by high arousal.

At first sight, the concept can indeed be regarded as opposite to work overload - which results from a process of exaggerated stimulation - and consequently separated from 'worrying' problems such as stress and fatigue. However, job boredom has been positively associated with higher levels of depressive complaints and distress (van Hooff & van Hooft, 2014; van Hooff & van Hooft, 2016). Furthermore, the expression "bored to death" seems to have a foundation

in real life - in a study conducted by Britton and Shipley (2010), this unpleasant state was linked to a higher likelihood to die younger due to cardiovascular disease. At the organizational level, the consequences have also been analyzed: boredom can lead to negative outcomes such as increased counterproductive work behavior (van Hooff & van Hooft, 2014), turnover intentions, and less job satisfaction and organizational commitment (Reijseger et al., 2013).

Considering the above, it is of paramount importance to develop a deeper understanding of the work-related boredom process. In this study, we examine whether workplace boredom, in parallel with work overload, is associated with job burnout and work-life balance. Furthermore, we propose that this process takes place through work-related rumination. Both bored and overworked employees will be more likely to engage in negative thinking about their work at home and, thus, continue to be exposed to job stressors that impede a proper recovery process, which should protect workers from feeling overstrained (Meijman & Mulder, 1998).

In sum, our research provides two main contributions to literature. Firstly, following the Self-Determination Theory (SDT; Deci & Ryan, 2000) and taking into account how detrimental job boredom can be for employees' health and engagement (Britton & Shipley, 2010; Reijseger et al., 2013), we expand the discussion on the outcomes of this phenomenon by investigating its impact on burnout and work-life balance, which have been more commonly associated with excessive workload (Bakker, ten Brummelhuis, Prins, & van der Heijden, 2011; de Beer, Pienaar, & Rothmann Jr, 2016; Demerouti, Nachreiner, Bakker, & Schaufeli, 2001). For this purpose, we adopted a specific approach that compares workplace boredom and work overload by unveiling potentially common outcomes between the two contrasting phenomena. Only one study yet addressed both boredom and role overload, but it focused on their antecedents, framing them as stress reactions in the context of a small orchestra (Parasuraman & Purohit, 2000).

Secondly, following the Effort-Recovery Model (Meijman & Mulder, 1998) and the Conservation of Resources Theory (Hobfoll, 1989), we suggest that employees who suffer from boredom at work, similarly to those who suffer from overload, will face a poor recovery process at home, since they will be absorbed by negative thoughts about feeling bored at work instead of experiencing the level of psychological detachment required to well-being (Sonnentag & Bayer, 2005). Our knowledge of the mechanisms involved in the boredom process is still scarce. Some studies have stressed the role of bored behavior, negative work attitudes, and intrinsic motivation (van Hooff & van Hooft, 2014; 2016), but more research is needed in order to have a more comprehensive view of how boredom operates in the workplace. Hence, we contribute to the literature by incorporating work-related rumination as a potential mediator linking workplace boredom and both burnout and work-life balance.

Workplace boredom and work overload – relationship with burnout

According to Fisher (1993), based on the Job Characteristics Model (Hackman & Oldham, 1980), low levels of skill variety, task identity, task significance, autonomy, and feedback are responsible for creating boredom. Recently, van Hooff and van Hooft (2017) showed that out of the five characteristics, skill variety is the one with the strongest relation with this deactivating state. However, as explained by Harju, Hakanen, and Schaufeli (2014), job boredom is not an exclusive problem of monotonous or low-skilled jobs; it can reach multiple white-collar professions. In fact, the authors found that employees in blue-collar industries such as storage, transportation, and manufacturing are more likely to face boredom as they usually consist of ‘monotonous’ tasks (Harju et al., 2014). However, findings revealed that workers in the arts, entertainment, recreation, scientific and technical, information and communication technology industries also presented high levels of job boredom, which could indicate that workplace boredom is also a result of lack of meaning or challenge in one’s work (Harju et al., 2014). For instance, people working in health, social work, and education, sectors

associated with purpose and meaning, were the least bored. Also, Reijseger et al. (2013), following the Job Demands-Resources (JD-R) Model (Schaufeli & Bakker, 2004), found that work-related boredom arises from low levels of job demands (workload, mental and emotional demands) and low levels of job resources (autonomy, social support from colleagues and from supervisors).

Unlike workplace boredom, work overload is an example of a high job demand (Reijseger et al., 2013; Schaufeli, Bakker, & van Rhenen, 2009). Work overload is a phenomenon that takes place “when employees feel that there are too many responsibilities or activities expected of them considering the time available, their abilities, and other constraints” (Kimura, Bande, & Fernández-Ferrín, 2018, p. 2). As further discussed by Altaf and Awan (2011), to cope with these extreme demands, the overworked employee may need to exceed the normal working schedule, staying long hours, or even reducing the number of breaks or holidays.

In this way, when it comes to their classification as job demands, work-related boredom and work overload are on opposite sides of the spectrum. Nevertheless, we argue that workplace boredom can lead to similar consequences as those of excessive amount of work, namely by exhausting employees and making them feel disconnected from work.

Job burnout has been a widely debated social topic since it emerged in the 1970s, both among researchers and society as a whole (Schaufeli, Leiter, & Maslach, 2009). Curiosity about this stress-related problem comes from its undeniable prevalence across the world. In fact, a recent Gallup study revealed that about two-thirds of full-time workers experience burnout at work (Wigert & Agrawal, 2018). According to Demerouti et al. (2001), burnout includes two separate dimensions: emotional exhaustion and disengagement. The first is conceptualized as “a consequence of intensive physical, affective and cognitive strain, for example as a long-term consequence of prolonged exposure to certain demands” (p. 500). In turn, disengagement

relates to “distancing oneself from one’s work, and experiencing negative attitudes towards the work object, work content or one’s work in general” (p. 501).

Based on Russell’s Circumplex Model of Affect (1980), in which various types of affect concepts are organized according to two orthogonal dimensions (pleasure-displeasure; activation-deactivation), Schaufeli and Salanova (2014) argued that both bored and burned-out workers should be placed in the same left lower quadrant, which is characterized by low activation and unpleasantness. In the end, boredom and burnout, even though driven by contrasting levels of job demands (Demerouti et al., 2001; Reijseger et al., 2013), seem to evoke in employees the same type of negative consequences and feelings of dissatisfaction.

Self-Determination Theory (Deci & Ryan, 2000) can offer an explanation as to why boredom can be so damaging to individuals (van Hooff & van Hooft, 2016). According to this perspective, people have an innate psychological need for competence, meaning they ultimately seek to be involved in activities that are sufficiently challenging and novel to potentiate growth and mastery (Deci & Ryan, 2000; van Hooff & van Hooft, 2016). Therefore, when experiencing boredom at work, employees are being held back from achieving this ideal (van Hooff & van Hooft, 2016). In the end, not progressing towards this goal can elicit in employees greater feelings of negative affect as they are not realizing their full ‘human potential’ (Deci & Ryan, 2000, p.263). Furthermore, burnout is not only caused by workload or time pressure (which are not antecedents of boredom), but also by another type of demands – emotional demands (Bakker, Demerouti, & Euwema, 2005; Schaufeli et al., 2009), that correspond to “issues at work that affect the employee personally and are emotionally draining” (Bakker et al., 2011, p.172). In this way, and aligned with the SDT reasoning, we pose that work-related boredom is one of those emotional demands that contribute to emotional exhaustion.

Correspondingly, we also predict that boredom should have a positive effect on the disengagement component of burnout. SDT states that when individuals fail to fulfill their basic

needs of competence and self-development, they start to experience less intrinsic motivation and more control regulation, disengaging from the activity at hand (Deci & Ryan, 2000). In turn, boredom at work implies that employees feel unstimulated, experiencing difficulties in focusing on the task at hand and perceiving their work as lacking intrinsic value (Fisher, 1993; Pekrun et al., 2010; Vodanovich & Mikulas, 1993). In this sense, we expect that this deactivating and unpleasant state experienced by bored employees contributes to increased negative attitudes towards work and an increased willingness to avoid it. Therefore, we postulate the following:

Hypothesis 1: Workplace boredom is positively associated with emotional exhaustion (1a) and disengagement (1b).

On the other hand, work overload is one of the most studied antecedents of burnout, particularly because of its positive effect on the exhaustion component (de Beer et al., 2016; Lee & Ashforth, 1996; Schaufeli & Bakker, 2004; Shantz, Arevshatian, Alfes, & Bailey, 2016). As discussed by Leiter and Maslach (2003), work overload corresponds to job demands which go beyond employees' capacity; and, to cope with this kind of pressure, workers need to exert additional effort and energy. If this situation is not merely punctual, but long-lasting, employees will be unable to properly recover from work efforts, which can contribute to emotional exhaustion (Leiter & Maslach, 2003). Moreover, and in light of the JD-R model, even though job demands are primarily linked to the process of emotional exhaustion, while job resources are mainly connected to disengagement, demands can also contribute to disengagement (and resources to emotional exhaustion), although to a lesser extent (Bakker, Demerouti, & Sanz-Vergel, 2014). Besides being exhausted, overworked employees may as well develop negative attitudes toward their work and, thus, feel disengaged from their job. Therefore, we formulate the following:

Hypothesis 2: Work overload is positively associated with emotional exhaustion (2a) and disengagement (2b).

Workplace boredom and work overload – relationship with work-life balance

Work experiences influence more than one's professional life, invading other life domains such as the family context (Bolger, DeLongis, Kessler, & Wethington, 1989). This process, which is often labeled 'spillover', corresponds to "a within-person across-domains transmission of demands and consequent strain from one area of life to another" (Bakker, Demerouti, & Burke, 2009, p.23). Previous studies have been primarily interested in the negative spillover effects (Bakker, Westman, & Van Hetty, 2009), in which, for example, an individual faces a stressful situation at work and, for that motive, experiences a negative mood at home (Bolger et al., 1989). Due to these strong interactions, constructs such as work-life balance have been at the heart of many contemporary societal discussions (Haar, Russo, Suñe, & Ollier-malaterre, 2014). Following Brough et al. (2014), work-life balance is "an individual's subjective appraisal of the accord between his/her work and non-work activities and life more generally" (p.2728). This concept has been associated with several positive outcomes for employees and organizations, including reduced psychological strain and turnover intentions (Brough et al., 2014), and increased job satisfaction and life satisfaction even when looking at different cultures (Haar et al., 2014).

Therefore, according to the Spillover Theory (Bolger et al., 1989), we argue that boredom at work is a type of demand capable of causing strain, not only at the job but also in non-work life. However, to date, there is still little understanding on how feeling bored at work can impact other life domains such as home, family or leisure. One recent study attempted to shed some light on this question by showing that work-related boredom contributes to a depressed mood in the evening (van Hooff & van Hooft, 2016). Since boredom at work is a type of negative activity-related emotion, all the more, capable of leading to a depressed mood

at home, individuals who experience boredom at work may be worst equipped to fully enjoy other life roles, as they are still suffering the effects from that unpleasant state.

In this way, it is important to advance our knowledge about this interplay between work-related boredom and personal life, since we already know that work characteristics play an influential role in non-work life. Concerning work-family interference, for instance, Greenhaus and Beutell (1985) proposed that work can affect one's participation in the family domain due to time pressures, role-produced strain (e.g., stress, anxiety, and fatigue), and even due to incompatibility in terms of behavior (e.g., if work requires the employee to adopt a 'male, managerial stereotype' characterized by aggressiveness or objectivity, and the family role does not).

In line with the Spillover approach, we propose that boredom at work can be one of those experiences that interferes with one's personal life, in particular, with work-life balance. Based on the above, we hypothesize that:

Hypothesis 3: Workplace boredom is negatively associated with work-life balance.

Unlike job boredom, work overload has been established as a significant antecedent of work-home interference (Bakker et al., 2011), conflict (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011), and, while less frequently, of balance (Virick, Lilly, & Casper, 2007). As discussed by Matthews, Winkel, & Wayne (2014), an employee may try to deal with a great workload by working nights or weekends, which will inevitably reduce his or her availability to other roles, such the family. Thereby, we expect that work overload will have a negative impact on work-life balance. Consequently, we state the following:

Hypothesis 4: Work overload is negatively associated with work-life balance.

The mediating role of work-related rumination

Boredom has been linked to negative outcomes that persist and are stable over time (e.g., turnover intentions and organizational commitment; Reijseger et al., 2013). This creates

the need to better understand the underlying mechanisms in the relationship between job boredom and its outcomes. We argue that work-related rumination is a key link between workplace boredom and outcomes such as burnout and work-life balance, as ruminative thoughts about work are a relevant hindrance to a successful recovery process (Cropley & Zijlstra, 2011; Firoozabadi, Uitdewilligen, & Zijlstra, 2018a, 2018b). According to Sonnentag and Fritz (2007), the recovery process can be explained in light of the Effort-Recovery Model (Meijman & Mulder, 1998) and the Conservation of Resources Theory (Hobfoll, 1989). The Effort- Recovery Model states that expending effort during work time leads to ‘load reactions’ such as fatigue. Typically, once the employee is free from work demands, a recovery process occurs as the respective ‘psychobiological systems’ stabilize to a normal level (Meijman & Mulder, 1998). Complementarily, recovery is achieved through the replenishment of resources (e.g. energy) (Hobfoll, 1989). However, in the prolonged absence of an adequate unwinding, caused, for instance, by persistent thinking about work, employees can suffer from impaired well-being (Cropley & Zijlstra, 2011; Firoozabadi et al., 2018a, 2018b).

Work-related rumination has been defined as “a thought or thoughts directed to issues relating to work, that is/are repetitive in nature” (Cropley & Zijlstra, 2011, p.6). Cropley and Zijlstra (2011) further proposed a three-factor conceptualization of work-related rumination, including affective rumination, problem-solving pondering, and detachment. Affective rumination refers to a previous definition of repetitive rumination, characterized by the constant resurgence of work-related thoughts of a negative nature (Pravettoni, Cropley, Leotta, & Bagnara, 2007). In turn, problem-solving pondering, which lacks the emotional component of affective rumination, corresponds to a type of thinking that is characterized by persistent cognitions about a specific work problem in order to find potential solutions or ways of improvement (Cropley & Zijlstra, 2011). At last, detachment measures workers’ ability to disconnect from work events and be mentally engaged in other areas (Cropley & Zijlstra, 2011).

In the end, the consequences of rumination can be severe and include decreased well-being and health problems (Firoozabadi et al., 2018a, 2018b), unhealthy food choices (Cropley, Michalianou, Pravettoni, & Millward, 2012), higher exhaustion (Kinnunen et al., 2017; Luo & Bao, 2013; Perko, Kinnunen, & Feldt, 2017; Vandevala et al., 2017) and disengagement (Vandevala et al., 2017).

We propose that, in light of the Effort-Recovery Model and the Conservation of Resources Theory, work-related rumination mediates the relationship between boredom, burnout and work-life balance, given the fact that boredom could prompt negative cognitions and thereby hamper a successful recovery from work demands. In sum, and aligned with the Circumplex Model of Affect (Russell, 1980), the experience of boredom creates feelings of dissatisfaction, unpleasantness, and frustration in one's life (Fisher, 1993; Vodanovich & Mikulas, 1993) since employees perceive to be far from accomplishing their goals in life (Deci & Ryan, 2000; van Hooff & van Hooft, 2016). These negative feelings associated with boredom may persist after work and make employees engage in ruminative thinking. As bored workers spend their leisure time absorbed by ruminative cognitions, they will not experience an adequate recovery, which can lead to increased burnout. On one hand, employees will face higher levels of emotional exhaustion as they are exposed to prolonged affective strain both at work and at home; on the other, as a self-defense mechanism, individuals may even further disengage from their work tasks (Harju, Hakanen, & Schaufeli, 2016). Similarly, these employees will also have a hampered work-life balance, as they are continuously focused on work. Therefore, we hypothesize the following:

Hypothesis 5: Work-related rumination mediates the positive relationship between workplace boredom and emotional exhaustion (5a), and disengagement (5b).

Hypothesis 6: Work-related rumination mediates the negative relationship between workplace boredom and work-life balance.

Other job demands, such as work overload or time pressure, are known to make switching off from work more difficult (Kimura et al., 2018; Kinnunen et al., 2017; Sonnentag & Bayer, 2005; Syrek & Antoni, 2014; Vahle-Hinz, Bamberg, Dettmers, Friedrich, & Keller, 2014; Weigelt, Syrek, Schmitt, & Urbach, 2018). In the specific case of work overload, employees may try to cope with the situation by continuing to work at home or, even if that is not the case, they may still spend their time-off worrying about tasks left undone or anticipating a great number of tasks for the following work day (Sonnentag & Bayer, 2005).

As a result, overworked employees will face a poor recovery process due to work-related rumination. In turn, this will lead to problems such as hampered well-being, burnout (Firoozabadi et al, 2018a, 2018b; Kinnunen et al., 2017), and even reduced work-life balance. Several studies have already shown that work-related rumination gives rise to job burnout, especially to its core component of emotional exhaustion (Firoozabadi et al., 2018a; Kinnunen et al., 2017; Luo & Bao, 2013; Perko et al., 2017; Vandevala et al., 2017). In relation to work-life balance, we know that the inability to disconnect from work (e.g., using communication technologies to stay connected to work; Park, Fritz, & Jex, 2011) is related to work-to-life conflict, stated both by the employee and his or her significant other (Boswell & Olson-Buchanan, 2007). Another study, using a sample of school teachers, indicated that those suffering from high strain at work engaged in more ruminative thinking when with friends or family (Cropley & Millward Purvis, 2003). Thus, we argue that work overload can lead to increased work-related cognitions at home, which, in turn, can contribute to burnout and negatively affect one's ability to balance professional life with other roles. Considering the above, we state that:

Hypothesis 7: Work-related rumination mediates the positive relationship between work overload and emotional exhaustion (7a), and disengagement (7b).

Hypothesis 8: Work-related rumination mediates the negative relationship between work overload and work-life balance.

Figure 1 illustrates the theoretical model proposed in this study.

Method

Sample and Procedure

We conducted three questionnaires, collected in different time periods (t_1 , t_2 , and t_3) and separated by a one-week interval. In t_1 , we gathered a total of 224 answers, while in t_2 , 185 participants answered. Lastly, in t_3 , we collected 161 answers. In total, 152 participants completed all the three questionnaires (68% response rate). There were no differences between the group of participants who answered the three questionnaires and the ones who quit the process after the first one for boredom at work ($F_{(1,223)} = .109$, $p > .05$) or work overload ($F_{(1,223)} = .796$, $p > .05$). Concerning demographics, there were also no differences for age ($F_{(1,223)} = .000$, $p > .05$), gender ($F_{(1,223)} = .954$, $p > .05$), level of education ($F_{(1,223)} = .461$, $p > .05$), form of employment (full-time vs. part-time) ($F_{(1,223)} = .014$, $p > .05$) or organizational tenure ($F_{(1,223)} = .030$, $p > .05$). However, there were differences in terms of work status (salaried vs. independent work) ($F_{(1,223)} = 4.359$, $p < .05$). In summary, we can say that both samples are similar in most aspects.

To link the three surveys together and keep the answers confidential, we asked respondents to create a code composed of four numbers and two letters. Participants were asked to fill the survey using the most convenient option (via electronic submission or paper format).

Regarding the final sample's characterization, our respondents were employed in education (26.3%), services (9.2%), industry (8.6%), finance and accounting (7.9%), technology (7.2%), consulting (6.6%), banking and insurance (5.9%), tourism and hospitality (5.3%), health care (4.6%), wholesale (3.9%), telecommunications (2.0%), and others accounted for 12.5%. They occupied diverse jobs such as teacher, accountant, physiotherapist,

journalist, or data analyst. The majority was employed by someone else (94.7%) and worked on a full-time basis (90.1%). The mean age was 33 years old ($SD = 12.99$), with 59.9% being female. In terms of the participants' level of education, 40.1 % had a graduate degree or higher, 45.4% had a bachelor's degree, while the rest had upper secondary education (11.2%), lower secondary education (2.6%) or even less (0.7%). At last, considering time in the organization, 48% had been working at their organization for less than two years, 27.6% for two to five years, and 24.4% for six years or more.

Measures

The first questionnaire included questions related to boredom at work, work overload, and demographics. The second survey incorporated items concerning work-related rumination and the third one covered the topics of burnout and work-life balance. For all measures, a 5-point Likert scale was used, either ranging from 1 "Strongly Disagree" to 5 "Strongly Agree" or 1 "Never" to 5 "Always".

Work-related boredom (t_1): To measure work-related boredom, we used the 6-item Dutch Boredom Scale developed by Reijseger et al. (2013). Employees were asked to answer items such as "at work, time goes by very slowly". The Cronbach's alpha for this measure was .76.

Work overload (t_1): We measured work overload with the eight-item scale used by Cousins et al., (2004). A sample item is "I am pressured to work long hours". Cronbach's alpha for this scale was .87.

Work-related rumination (t_2): With the purpose to measure work-related rumination, we used the 15-item scale developed by Cropley et al. (2012). This measure includes three subscales corresponding to different types of ruminative thinking: affective rumination (e.g., 'do you become tense when you think about work-related issues during your free time?'), problem-solving pondering (e.g., 'after work I tend to think of how I can improve my work-

related performance), and detachment (e.g., ‘do you feel unable to switch off from work?’). Two items were reverse coded. To maintain consistency across the measures, all interrogative sentences were converted into affirmative phrases (e.g., ‘do you feel unable to switch off from work?’ to ‘I feel unable to switch off from work’). For affective rumination, Cronbach’s alpha was .84; for problem-solving pondering, it was .66; and for detachment, it was .73, after dropping one item.

Burnout (t₃): In order to assess burnout levels among participants, we used the Oldenburg Burnout Inventory from Demerouti et al. (2001), which is composed of two dimensions – emotional exhaustion (8 items) and disengagement (8 items). The first one comprises items such as “there are days when I feel tired before I arrive at work”, whereas the latter includes items such as “it happens more and more often that I talk about my work in a negative way”. In total, eight items were reverse coded. Regarding emotional exhaustion, Cronbach’s alpha was .75, while for disengagement, it was .80.

Work-life balance (t₃): To measure work-life balance, we used the 4-item scale created by Brough et al. (2014), one of which was reverse coded. An example item from this scale is “I currently have a good balance between the time I spend at work and the time I have available for non-work activities”. Cronbach’s alpha was .86.

Analytical procedure

The percentile bootstrap confidence interval is the most recommended method with regard to mediation analysis (Hayes, 2013). Bootstrapping, through a resampling process in which it generates “an empirically derived representation of the sampling distribution of the indirect effect”, produces tests with higher statistical power (Hayes, 2013, p.98). Therefore, we chose bootstrapping analysis to test our hypotheses, and used the SPSS macro developed by Hayes (2013), PROCESS (model 4).

Results

Descriptive statistics, correlation and reliabilities (Cronbach's alphas) of the studied variables are presented in Table 1.

We tested all of the hypotheses using our final sample (N=152). To investigate hypotheses 1, 2, 3 and 4, we conducted linear regression analysis; to examine hypotheses 5, 6, 7, and 8, we performed a bootstrapping analysis.

Concerning hypotheses 1a and 1b, as expected, results revealed a significant direct relationship between work-related boredom and both burnout dimensions, emotional exhaustion ($B = .22, p < .01$) and disengagement ($B = .78, p < .01$) two weeks later. However, inconsistently with hypothesis 3, work-related boredom was not related to work-life balance ($B = -.15, p > .05$) two weeks later. Regarding hypotheses 2a and 2b, work overload also had a direct effect on both burnout dimensions, emotional exhaustion ($B = .44, p < .01$) and disengagement ($B = .28, p < .01$) two weeks later, supporting our expectations. In line with hypothesis 4, we found a negative relationship between work overload and work-life balance ($B = -.65, p < .01$).

Hypotheses 5, 6, 7, and 8 concerned the mediation role of work-related rumination in the relationship between work-related boredom and work overload with burnout and work-life balance. We present our findings in Tables 2 and 3. Concerning hypothesis 5, we found that work-related boredom was associated with all the different types of work-related rumination. Results showed that boredom at work was positively related to affective rumination ($B = .17, CI [.001, .35]$) and detachment ($B = .22, CI [.04, .41]$), and negatively related to problem-solving pondering ($B = -.28, CI [-.43, -.13]$) one week later. Additionally, affective rumination had a positive effect on emotional exhaustion ($B = .29, CI [.15, .43]$), while detachment had a negative effect on this burnout component ($B = -.19, CI [-.33, -.04]$) one week later. For problem-solving pondering, there was no significant relation with emotional exhaustion ($B = -.004, CI [-.17, .16]$). Moreover, we found a positive indirect effect between work-related

boredom and emotional exhaustion via affective rumination ($B = .05$, CI [.001, .11]), and a negative one via detachment ($B = -.04$, CI [-.10, .001]). Thus, hypothesis 5a was partially confirmed.

Hypothesis 5b referred to the mediating role of work-related rumination in the relationship between work-related boredom and disengagement. As discussed above, boredom was positively related to affective rumination and detachment, and negatively related to problem-solving pondering. Findings further revealed a significant direct relationship between affective rumination and disengagement one week later ($B = .30$, CI [.14, .47]), but not for problem-solving pondering ($B = -.14$, CI [-.32, .05]) or detachment ($B = -.03$, CI [-.20, .13]). Furthermore, the indirect relationship between workplace boredom and disengagement via affective rumination was significant ($B = .05$, CI [.0003, .12]). Accordingly, hypothesis 5b was also partially supported. Hypothesis 6, in turn, suggested that work-related rumination mediates the negative relationship between job boredom and work-life balance. However, only detachment was significantly associated with work-life balance one week later ($B = .39$, CI [.15, .62]). Moreover, there was a positive indirect effect between workplace boredom and work-life balance via detachment ($B = .09$, CI [.005, .19]), which was inconsistent with the negative effect postulated in hypothesis 6.

Following our prediction in hypothesis 7, work overload had a significant relationship with all types of work-related rumination one week later. We found that work overload was positively related to problem-solving pondering ($B = .13$, CI [.09, .25]) and affective rumination ($B = .40$, CI [.26, .54]), and negatively related to detachment ($B = -.35$, CI [-.50, -.20]). As previously discussed, affective rumination had a significant and positive association with emotional exhaustion; detachment, in turn, was negatively related to emotional exhaustion; and problem-solving pondering showed no significant association with emotional exhaustion one week later. Furthermore, the indirect effects between work overload and emotional exhaustion

through affective rumination ($B = .12$, $CI [.05, .20]$) and lack of detachment ($B = .07$, $CI [.01, .13]$) were significant. These findings partially support hypothesis 7a. Results also showed that affective rumination had a positive impact on the disengagement component one week later ($B = .30$, $CI [.14, .47]$), but not problem-solving pondering ($B = -.14$, $CI [-.32, .05]$) or detachment ($B = -.03$, $CI [-.20, .13]$). There was also a significant indirect effect between work overload and disengagement via affective rumination ($B = .12$, $CI [.04, .22]$), thus partially confirming hypothesis 7b. Hypothesis 8 suggested that work-related rumination mediates the relationship between work overload with work-life balance. In accordance, we found that detachment had a positive relationship with work-life balance in t_3 ($B = .39$, $CI [.15, .62]$). Furthermore, the analysis yielded a significant and negative indirect effect between work overload and work-life balance via detachment ($B = -.14$, $CI [-.25, -.04]$). Therefore, hypothesis 8 was partially supported.

In our model, workplace boredom maintained a direct effect on emotional exhaustion ($B = .21$, $CI [.05, .36]$), and disengagement ($B = .70$, $CI [.52, .87]$). In addition, work overload had a direct effect on emotional exhaustion ($B = .26$, $CI [.13, .39]$), disengagement ($B = .17$, $CI [.02, .32]$), and work-life balance ($B = -.43$, $CI [-.64, -.22]$). This suggests that rumination partially mediates the relationship between boredom and work overload with burnout and work-life balance.

Discussion

Despite the harmful consequences of boredom at work and its pervasiveness for individuals and organizations, it has remained one of the least studied dimensions of employee unwell-being (Loukidou et al., 2009; Reijseger et al., 2013; van Hooff & van Hooft, 2017). Therefore, our aim was: (1) to understand how this emotional state operates in the workplace by comparing it to an already much-acknowledged problem in organizations – work overload; and (2) to uncover the underlying process (via work-related rumination) by which job boredom

leads to negative outcomes such as burnout and work-life balance. Our results revealed that both work boredom and work overload are associated with higher levels of emotional exhaustion and disengagement. Moreover, affective rumination partially mediated this relationship for both bored and overworked employees. The mediating role of detachment, on the other hand, operated in opposite directions. While workplace boredom had a negative effect on emotional exhaustion through increased levels of detachment, work overload had a positive association with emotional exhaustion via a lack of detachment. Finally, our study showed that boredom at work had no direct effect on work-life balance, yielding only a positive indirect effect via detachment. Work overload, on the contrary, was found to have both a direct negative effect on work-life balance and an indirect negative effect through lack of detachment.

Theoretical implications

Our results contribute to the literature on workplace boredom in at least two different ways. First, we were able to bring together the concepts of job boredom and work overload and make a compared analysis of how both constructs operate in the organizational context. In accordance with our hypotheses, workplace boredom and work overload seem to share a common outcome – burnout. Bored employees, similarly to overworked employees, reported higher levels of emotional exhaustion and disengagement. Although these findings may be expected for overload, which has long been established as an antecedent of burnout, they may be more surprising when it comes to workplace boredom. Self-Determination Theory (Deci & Ryan, 2000), however, helps to shed some light on this relationship. The fact that employees feel bored at work signals that they are not moving towards their goals in life, which, in turn, prompts negative feelings and creates a desire to disengage from the boredom-inducing activity (van Hooff & van Hooff, 2016). In this way, boredom at the workplace can be seen as an affective type of strain that simultaneously drains employees emotionally and makes them disengage from work, the two indicators of burnout (Schaufeli et al., 2009). Moreover, it is

interesting to note that while boredom at work was more strongly associated with the disengagement component of burnout, work overload had a stronger relationship with emotional exhaustion. Following the JD-R framework, work overload may play a more relevant role in the psychological process that leads to job strain by depleting employee's energy (Bakker & Demerouti, 2007), while workplace boredom may affect more strongly the motivational process by contributing to the employee's perception of a lack of intrinsic value in the activity (Fisher, 1993; Pekrun et al., 2010; Vodanovich & Mikulas, 1993).

Against our expectations, boredom at work did not have a significant negative influence on work-life balance. It can be said that the negative affect elicited by boredom alone may not be sufficient to affect employees' perceptions of work-life balance, since bored employees, in fact, experience a lack of both quantitative and qualitative job demands (Reijseger et al., 2013) that do not create the need to 'steal' resources (e.g., time) from other life domains. Work overload, on the contrary, was found to have a negative impact on work-life balance. According to the Spillover Theory (Bolger et al., 1989), overworked employees may need to constantly transfer resources, such as time, from their personal life (e.g., family, friends) to the work domain in order to deal with high levels of workload (Matthews et al., 2014). By doing so, individuals will be likely to perceive that there is an unbalance between their different life roles.

Second, we contribute to previous research on job boredom by exploring the underlying mechanisms explaining the connection between workplace boredom and its negative outcomes. In fact, one of the processes by which bored employees and overworked employees suffer from increased levels of burnout was identical – affective rumination partially mediated the positive relationship between job boredom and work overload with both burnout components. These findings, which are aligned with the Effort-Recovery Model (Meijman & Mulder, 1998) and the Conservation of Resources Theory (Hobfoll, 1989), indicate that boredom and work overload not only share similarities in terms of the consequences they lead to, but also in terms

of the processes that contribute to those outcomes. Boredom, like overload, seems to trigger repetitive, negative cognitions about work that prevent individuals from properly recovering during off-job time.

It is important to note, however, that workplace boredom was also capable of reducing emotional exhaustion through increased levels of detachment. In this way, one could argue that boredom may produce secondary beneficial effects as detachment is associated with better health, well-being, and even task performance (Sonnentag & Bayer, 2005; Wendsche & Lohmann-Haislah, 2017). Nevertheless, detachment is more concerned with how easily individuals leave work issues behind (Cropley & Zijlstra, 2011). Consequently, bored employees may be able to switch off from work demands, as they are uninteresting or even scarce, but still think about their job in a profoundly negative manner. Given the strong association between boredom and higher levels of emotional exhaustion, both directly and indirectly, its beneficial effects through detachment can be seen as unintended secondary effects. For overworked employees, on the other hand, work-related rumination is harmful through two different paths, as excessive workload appeared to be related to both increased levels of affective rumination and a lack of detachment, which, in turn, promoted emotional exhaustion.

Finally, and inconsistently with our hypothesis, results showed that work-related boredom also had a positive impact on work-life balance, fully mediated by detachment. Once more, work-related boredom appears to have a favorable effect by facilitating workers' ability to detach from professional matters and thus better balance different roles. The contrary effect was found in relation to overload. Nevertheless, and although job boredom may seem to enhance an employee's perceptions of an harmonious accord between his or her work and life domains, it is not clear, for instance, how it affects the quality of time spent in those domains (Greenhaus, Collins, & Shaw, 2003; Kuykendall et al., 2017).

Practical implications

This study presents clear practical implications. For decades, organizations have been concerned with the negative effects of *overstimulation* at work (e.g., work-life conflict, burnout). Our research, however, points to the importance of also paying attention to the opposite problem - the *understimulation* of employees -, as both phenomena are capable of restricting workers' well-being in similar ways. In this sense, employers should be aware of boredom as a powerful work-related emotion and develop effective strategies to limit its occurrence.

For instance, organizations could adopt procedures (e.g., regular climate surveys) that allow them to diagnose and monitor multiple dimensions of employee well-being, including not only the employee's level of workload but also their satisfaction with the degree of challenge in their daily tasks. In fact, managers may take advantage of job crafting to tackle both issues, as developing job resources and looking for novelty and innovation in one's work has been shown to reduce hindering job demands and work-related boredom (Harju et al., 2016; Tims, Bakker, & Derks, 2013). Nevertheless, in the case of bored employees, managers should take into consideration that, although these workers benefit from crafting activities, they are usually less motivated to incur in such behaviors, being 'trapped' in a negative spiral (Harju et al., 2016). Therefore, leaders need to take an active role in breaking this cycle, by inspiring and supporting workers along the process (Harju et al., 2016). For bored employees, whose needs for competence are not fulfilled, new training and learning opportunities could be particularly beneficial (Bindl, Gibson, Unsworth, & Stride, 2018).

Furthermore, our study highlights the importance of work-related rumination as a linking mechanism between job boredom, work overload, and harmful outcomes. Hence, organizations should also put efforts into strategies that address employees' well-being outside of the work domain. On a broader level, organizations should try to improve overall work

characteristics, by reducing job demands (e.g., emotional demands) and increasing job resources (e.g., social support), in order to promote detachment after work hours (Wendsche & Lohmann-Haislah, 2017). One helpful approach could be to provide regular training sessions on mindfulness and recovery as previous research has shown that mindfulness experiences during work time were positively related to detachment after work hours (Hülshager et al., 2014). In addition, leisure activities have been associated with improved psychological detachment and relaxation (Brummelhuis & Bakker, 2012). Therefore, giving employees benefits related to off-job activities (e.g., free movie, concert or sports tickets) in periods of more tedium or overload could be helpful in blocking work-related thinking.

Limitations, strengths and future research

This study presents some limitations that should be acknowledged when interpreting the results. First, our final sample was composed of only 152 participants. As such, we used an analytical strategy (bootstrapping analysis) that is particularly robust in assessing indirect effects in small samples (Hayes, 2013), which may alleviate this concern. Nonetheless, a larger sample would be beneficial in producing more powerful findings.

Second, this study used self-report measures, which may have caused an overestimation of the relationship between the variables (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). In order to reduce this common method variance, we measured our variables in different moments in time. By assessing our variables over the course of three weeks, we have established preliminary arguments for a causal relationship between work-related boredom and burnout. Nevertheless, future research should examine the long-term effects of the boredom and work-related rumination process by adopting a wider time lag, replicating this study over the course of several months.

Third, it should be noted that the reported mean level and standard deviation of workplace boredom were considerably low, which is a common limitation among studies

related to workplace boredom (Harju et al., 2014; van Hooff & van Hooft, 2014, 2016). This type of results is usually attributed to another form of common method bias, social desirability (Podsakoff et al., 2003), as employees may be reluctant to admit experiencing negative states such as job boredom. Furthermore, boredom seems to be a “low base rate phenomenon” (Aryee, Sun, Xiong, Chen, & Debrah, 2008), meaning that, although being infrequent, it still produces impactful results, namely on burnout. Nevertheless, future studies should retest our hypotheses on different sectors, since levels of workplace boredom have been shown to vary across different occupational groups (Harju et al., 2014).

Finally, given that work-related rumination only partially mediated the relationship between work boredom and burnout, future research should try to unveil other potential mechanisms in this process. We suggest, for instance, an examination of the role of core self-evaluations. Following the SDT approach (Deci & Ryan, 2000), when an employee experiences boredom in their work tasks, his or her human potential and life goals are not being fulfilled. In this way, this sense of reduced personal accomplishment could contribute to a poorer self-evaluation in terms of one’s ‘worth’ (Judge, 2009, p.58), which has been linked to burnout (Peng et al., 2014)

Conclusion

In sum, the present study highlights the importance of looking at job boredom as a real organizational problem, which should not be forgotten among other, eventually more noticeable types of employee unwell-being. Besides showing that workplace boredom leads to similar consequences to those of work overload, namely burnout, it has also shown that this process occurs in a similar fashion, via affective rumination. We hope that our study motivates researchers to pay attention to work-related boredom, since, although subtle, it is a dangerous threat to individuals and organizations.

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Appendices

Tables

Table 1. Descriptive statistics, correlation, and reliabilities (Cronbach's alphas), ^{a,b}

	Mean ^a	SD	1	2	3	4	5	6	7	8
1. Work-related boredom	2.35	.57	(.76)							
2. Work overload	2.62	.71	-.02	(.87)						
3. Problem solving pondering	3.13	.56	-.29**	.17*	(.66)					
4. Affective rumination	2.57	.68	.14	.42**	.11	(.84)				
5. Detachment	3.48	.71	.19*	-.36**	-.40**	-.44**	(.73)			
6. Emotional exhaustion	2.82	.65	.18*	.48**	.11	.54**	-.41**	(.75)		
7. Disengagement	2.61	.78	.57**	.25**	-.18*	.41**	-.07	.58**	(.80)	
8. Work-life balance	3.44	.99	-.08	-.47**	-.18*	-.40**	.43**	-.65**	-.35**	(.86)

^a 5-point scales.

^b Cronbach's alpha is reported on the diagonal

* $p < .05$; ** $p < .01$

Table 2. Results of the Bootstrapping analysis – Mediators

Predictors	Mediators								
	Problem-solving Pondering			Affective rumination			Detachment		
	B	t	R ²	B	t	R ²	B	t	R ²
Main effects									
Work-related boredom	-.28	-3.66**		.17	1.98*		.22	2.41*	
Work overload	.13	2.12*		.40	5.66**		-.35	-4.69**	
			.11			.19			.16

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

Table 3. Results of the Bootstrapping analysis - Outcomes

Predictors	Outcomes								
	Emotional exhaustion			Disengagement			Work-life balance		
	B	t	R ²	B	t	R ²	B	t	R ²
Main effects									
Work-related boredom	.21	2.66**		.70	7.90**		-.23	-1.80	
Work overload	.26	4.01**		.17	2.26*		-.43	-4.09**	
Mediators									
Problem-solving pondering	-.004	-.05		-.14	-1.43		-.06	-.48	
Affective rumination	.29	3.98**		.30	3.61**		-.18	-1.53	
Detachment	-.19	-2.56*		-.03	-.41		.39	3.28**	
			.42			.46			.33

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

Figures

Figure 1. Theoretical model

