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Dealing with daily boredom at work: does self-control explain who engages in distractive behaviour or job crafting as a coping mechanism?

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ABSTRACT
This study aimed to advance insight into how employees cope with work-related boredom by developing and testing a control-process model of coping with boredom. We examined (1) the role of trait self-control in explaining whether employees cope with daily work-related boredom by engaging in distractive behaviour or job crafting, and (2) how these two coping behaviours link to changes in work-related boredom and subsequent depressed mood and job satisfaction. Data were collected among 94 participants with a general questionnaire and a 5-day diary study (with measures during the lunchbreak, n = 341, and at the end of the workday, n = 314). Multilevel path-analysis showed that trait self-control moderated the relationships of daily work-related boredom with coping, such that employees high on self-control engaged less in distractive behaviour and more in job crafting than those low on self-control. Distractive behaviour related to increased levels of subsequent work-related boredom, and – through these elevated levels – to higher depressed mood and lower job satisfaction. Job crafting was not significantly related to subsequent work-related boredom and its outcomes. Our study illustrates the importance of self-control in the boredom coping process, and underscores the ineffectiveness of distractive behaviour as a coping strategy.

Boredom is omnipresent in everyday life. For example, an experience sampling study among almost 4000 participants showed that 63% of participants reported to experience boredom at least once across the 10-day sampling period (Chin et al., 2017). Also during the COVID-19 pandemic boredom has been a salient experience, as indicated by a substantial increase in Google searches regarding this term during the worldwide lockdowns in spring of 2020 (Brodeur et al., 2020). Although boredom has been defined in many ways, a common denominator of these various definitions is that they consider boredom to be a negative emotional state. For example, Fisher (1993) described...
boredom as “an unpleasant, transient affective state in which the individual feels a pervasive lack of interest in and difficulty concentrating on the current activity” (p. 396). Van Tilburg and Igou (2017) showed that boredom is different from other negative emotions in that it is typically associated with a lack of challenge and meaning. Boredom can further be characterised as an activity-related emotion, implying that it disappears when the boredom-evoking activity is abandoned (Pekrun et al., 2010).

Boredom is relatively common at work. In a list of boredom-inducing activities “working” ranked third (after “studying” and “doing nothing in particular;” Chin et al., 2017). An important cause of work-related boredom is the monotony of the job tasks (Loukidou et al., 2009; Van Hooff & Van Hooft, 2017). Also other work characteristics, such as lack of autonomy and low task identity positively relate to the experience of boredom at work (Reijseger et al., 2013; Van Hooff & Van Hooft, 2017). Consequences of work-related boredom are generally negative, both for the individual worker and for the organisation as a whole. For example, it has been associated with depressed feelings, distress, reduced job satisfaction, counterproductive work behaviour, and turnover intentions (e.g. Bruursema et al., 2011; Melamed et al., 1995; Reijseger et al., 2013; Van Hooff & Van Hooft, 2014, 2016). Given these negative consequences, it is important to know how employees cope with work-related boredom, and which types of coping are effective in reducing the experience of this emotional state and its negative consequences.

In an effort to measure the extent to which people cope with boredom in general, Hamilton et al. (1984) developed the Boredom Coping Scale. Using a modified version of this scale that focused on coping with work-related boredom, Game (2007) found that high boredom copers reported better well-being and higher job satisfaction compared to low boredom copers. Interview data from the same study showed inter-individual differences in the strategies that employees use to cope with boredom. Whereas some employees indicated to exhibit behaviours that involved avoiding the task and/or seeking additional stimulation from non-task-related sources, others engaged in coping strategies aimed at altering the nature of their tasks. This distinction is consistent with the general notion that people display “passive” or “active” behavioural strategies to deal with adverse situations (Snyder & Pulvers, 2001). Passive behavioural coping entails behaviour that avoids confronting the problem or aims to indirectly reduce emotional tension, whereas active behavioural coping refers to behaviour that aims to directly deal with the problem and its effects (Billings & Moos, 1981).

Previous research on work-related boredom paid some attention to two specific categories of passive versus active behavioural coping, namely “distractive behaviour” and “job crafting.” Distractive behaviour (i.e. specific behaviours of employees at work that divert attention from work and are not directly functional in obtaining work goals; Van der Heijden et al., 2012; Van Hooff & Van Hooft, 2014), can be considered passive coping, as it is not aimed at actively changing the boredom-evoking situation. Job crafting (i.e. “changes that employees make to balance their job demands and job resources with their personal abilities and needs;” Tims et al., 2012, p. 174) can be labelled as active coping, because it may actually change circumstances at work that cause boredom to develop. In the few studies that examined the associations between work-related boredom and these specific coping behaviours, boredom has been shown to relate positively to distractive behaviour (e.g. Van der Heijden et al., 2012; Van Hooff & Van Hooft, 2014), whereas for the relationship between boredom and job crafting
both positive and negative relations have been observed (Harju et al., 2016, 2018; Sánchez-Cardona et al., 2020).

Despite recent academic attention for these coping behaviours, at least two relevant questions have remained unanswered so far. First, we do not have insight in inter-individual differences in the ways that employees actively or passively cope with boredom, and it is, therefore, still unclear which employees engage in which type of coping behaviour to deal with boredom at work. Secondly, it is still unknown whether either of these coping strategies is actually effective in reducing work-related boredom and its consequences. Given these unresolved issues, the aim of the present study is twofold. In the first place, we aim to provide insight in inter-individual differences in coping with work-related boredom. We do so by focusing on trait self-control – which refers to individual differences in the “capacity to override or change one’s inner responses, as well as to interrupt undesired behavioural tendencies and to refrain from acting on them” (Tangney et al., 2004, p. 274) – and we propose that it moderates the association between work-related boredom and coping. Furthermore, we aim to provide insight in the effectiveness of distractive behaviour (as a type of passive coping) and job crafting (as a type of active coping) in reducing subsequent levels of work-related boredom. Addressing these issues has both a theoretical and practical contribution. Theoretically, we build on control theory (Carver & Scheier, 1990) to develop a control-process model of coping with boredom. Practically, our findings provide input for developing targeted interventions to help employees in dealing with boredom at work.

To test our proposed control-process model of coping with boredom (see Figure 1), we designed a daily diary study. We focused on within-individual fluctuations of work-related boredom, because previous research showed that a large proportion of the variance in work-related boredom is at the within-person level (e.g. 61% in Van

![Figure 1](Image)
Hooft & Van Hooft, 2017). Furthermore, boredom is an activity-related emotion that fades away when one is no longer involved in the boredom-evoking situation. A daily diary design is, therefore, appropriate, as it allows us to examine boredom close to the time that it actually experienced (i.e. while working). Specifically, we conducted a study in which employees first indicated their general level of trait self-control in a baseline survey. Subsequently, they took part in a 5-day experience sampling study with two daily measurement points: In the morning, they reported their levels of work-related boredom, distractive behaviour, job crafting, and depressed mood and job satisfaction, and in the afternoon they again indicated their levels of work-related boredom as well as depressed mood and job satisfaction.

A control-process model of coping with boredom

The feeling of work-related boredom entails experiencing a lack of challenge and meaning (Van Tilburg & Igou, 2017), suggesting that boredom keeps employees from progressing to the central human goal of growth, development, and mastering challenges (cf. Self-Determination Theory; Deci & Ryan, 2000). As such, boredom implies a discrepancy between a current condition and a desired condition. Control theory (Carver & Scheier, 1990) poses that people are motivated to decrease such discrepancies. We, therefore, propose that employees who experience boredom at work will engage in coping behaviour to reduce the experienced discrepancy between their current state (i.e. experiencing lack of challenge and meaning) and their desired state (i.e. opportunities for growth and development). Such coping behaviour can be either passive (e.g. distractive behaviour) or active (e.g. job crafting).

Because actively changing an undesirable situation requires self-control capacities (De Ridder et al., 2012), we propose that self-control is important in coping with boredom. Self-control enables people to override tendencies to display undesired behaviour (such as distractive behaviour, which is not functional in obtaining one’s work goals), and facilitates engagement in (effortful) desired behaviour (such as job crafting, which is aimed at actively improving the work situation). We, therefore, argue that the extent to which boredom relates to distractive behaviour as a passive coping strategy, and job crafting as an active coping strategy depends on employees’ trait levels of self-control.

We further propose that active and passive coping strategies have differential effects on affective outcomes. Control theory (Carver & Scheier, 1990) suggests that when discrepancy reduction is lower than desired, people will experience negative affect, and when discrepancy reduction is higher than desired they will experience positive affect. Because boredom is indicative of lack of progress towards the central human goal of growth and development, it will result in higher depressed mood and lower job satisfaction. Further, because distractive behaviour as a passive coping strategy does not actually change the boredom-evoking situation, it will increase subsequent work-related boredom resulting in higher depressed mood and lower job satisfaction. In contrast, because job crafting as an active coping strategy purports to alter the boredom-evoking situation, it will decrease subsequent work-related boredom resulting in lower depressed mood and higher job satisfaction. Below we specify the theoretical rationales for passive
versus active coping processes and the consequences for depressed mood and job satisfaction.

***Passive coping: distractive behaviour***

**Boredom, distractive behaviour, and the moderating role of self-control.** As mentioned above, the experience of boredom signals a discrepancy between employees’ current state and their desired state. According to control theory (Carver & Scheier, 1990), people strive to solve such discrepancies, and we argue that one way to do so is by engaging in passive coping behaviours in the form of distractive behaviour. Given that boredom is an activity-related emotion, such behaviour may involve escaping the boredom-evoking situation by seeking alternative stimulation, for example by engaging in non-work-related activities (such as surfing the internet, engaging in non-work-related smartphone use). Bored employees may also change the way they deal with their boring work-tasks, for example, by working slowly. Previous research indeed found a positive relationship between work-related boredom and distractive behaviour (Van der Heijden et al., 2012; Van Hooff & Van Hooft, 2014).

We propose, however, that the strength of the association between work-related boredom and distractive behaviour varies as a function of employees’ levels of trait self-control. Distractive behaviour can be considered undesired behaviour, because it interferes with employees’ task-related performance. Distractive behaviour is also a rather automatic type of behaviour, which implies that it requires conscious effort from the part of the employee to override the tendency to engage in it. The desire to engage in distracting behaviour to immediately reduce the negative emotion of work-related boredom, conflicts with the longer term goal of finishing one’s work task and being a good employee, and hence results in so-called desire-goal conflict (Kotabe & Hofmann, 2015). Research has shown that people with high levels of trait self-control are better able to deal with such type of conflicts, by making themselves engage in behaviour that is best in the long run, rather than giving in to immediate desires (Hofmann et al., 2014). Hence, it can be assumed that compared to employees with low trait self-control, employees with high trait self-control will be less inclined to give in to the desire to engage in distractive behaviour when they feel bored at work. Based on affective events theory, which posits that emotions – such as boredom – are associated with certain immediate affect-based behavioural tendencies (Weiss & Cropanzano, 1996), we assume that employees will likely deal with boredom at the moment that they experience it. Therefore, we considered it important to focus on the association between boredom and distractive behaviour within the same time period of time and we pose:

**Hypothesis 1:** Trait self-control moderates the positive association between work-related boredom experienced during the morning at work and distractive behaviour during the morning at work, in such a way that this relationship is weaker for employees with high trait self-control than for those with low trait self-control.

**Consequences of distractive behaviour.** Although distractive behaviour may provide a temporal relief from the feeling of boredom at work, engaging in this type of behaviour will not cause actual changes in the employee’s work situation, and is, therefore, unlikely to decrease the level of boredom experienced by an employee at the end of the day. On
the contrary, distractive behaviour lacks goal-directedness, as it does not help employees in attaining their work goals. Hence, distractive behaviour can be considered “meaningless” behaviour (Van Hooff & Van Hooft, 2014). Because lack of meaning has been shown to evoke boredom (Fisher, 2018; Van Tilburg & Igou, 2012), distractive behaviour may increase subsequent feelings of boredom at work. We, therefore, pose:

Hypothesis 2: Distractive behaviour in the morning will be positively related to work-related boredom in the afternoon.

Control theory (Carver & Scheier, 1990) poses that approaching goals in a pace slower than expected will result in negative affect, and approaching goals in a pace faster than expected in positive affect. Experiencing work-related boredom signifies that progress toward the fundamental human goal of self-development is thwarted. Consistent with this reasoning, previous research has shown that work-related boredom is associated with affective outcomes, such as increased depressed mood and reduced job satisfaction (e.g. Reijseger et al., 2013; Van Hooff & Van Hooft, 2014, 2016). We pose that distractive behaviour, through its presumed positive association with subsequent work-related boredom, will indirectly relate to such outcomes as well.

Regarding depressed mood, we argue that because distractive behaviour is expected to increase work-related boredom, it implies lack of control regarding progress towards the goal of self-development and growth, which in turn is associated with the experience of depressed mood. Related ideas have been coined in the literature on depression, where lack of control has been considered an explanatory factor in the development of this affective state (e.g. Griffin et al., 2002). In addition, we propose negative effects of distractive behaviour through work-related boredom on employees’ job satisfaction. Namely, the perception that the discrepancy between employees’ current and desired state is not reducing, will negatively affect workers’ positive affect such as job satisfaction. This negative relationship between boredom and job satisfaction can also be understood from the Job Characteristics Model (Hackman & Oldham, 1975), which poses a positive relationship between the experienced meaningfulness of the work and the employees’ satisfaction with their work. As work-related boredom entails that work is not considered meaningful, it can be assumed that there is a negative association between work-related boredom and job satisfaction. Indeed, the presumed negative association between work-related boredom and job satisfaction has been found in previous research (e.g. Kass et al., 2001). Based on the line of reasoning outlined above, we propose:

Hypothesis 3: Distractive behaviour in the morning will indirectly – namely through its positive association with work-related boredom in the afternoon – be related to subsequent (a) higher depressed mood and (b) lower job satisfaction in the afternoon.

Active coping: job crafting

Boredom, job crafting, and the moderating role of self-control. Besides engaging in distractive behaviour as a passive coping strategy to reduce the discrepancy between their current and desired state, employees can take a more active approach by trying to change their boredom evoking work situation. As work characteristics are the main causes of work-related boredom, changing these aspects of work may be a fruitful way to reduce boredom. We, therefore, focus on job crafting as an active way in which employees can cope with boredom. Job crafting refers to a process in which
employees themselves initiate changes in their work tasks and/or their interactions with other people at work to improve their person-job fit and work motivation (Tims et al., 2012). We specifically focus on job crafting behaviour that entails increasing those job demands that stimulate employees in developing their knowledge and skills or in attaining more difficult goals. This type of job crafting is labelled “increasing challenging demands,” and although research on its association with work-related boredom is scarce, some cross-sectional studies found it to be negatively related to this emotional state (Harju et al., 2018; Sánchez-Cardona et al., 2020; Van Hooft & Van Hooft, 2014). However, based on the design of these studies it is not possible to conclude whether work-related boredom causes lower levels of job crafting or whether the order is actually reversed. The only longitudinal study (to our knowledge) found that increasing challenging job demands was associated with lower levels of work-related boredom after three years, but did not find support for the reversed causal association (Harju et al., 2016).

Based on control theory (Carver & Scheier, 1990), we propose that experiencing boredom at work will induce job crafting in the form of increasing challenging job demands. That is, because lack of challenge at work (e.g. in the form of low task variety) is an important instigator of work-related boredom, employees will likely engage in behaviour that will make their work more challenging, in order to eventually decrease their negative experience of boredom. However, we pose that trait self-control will moderate the strength of the association between work-related boredom and job crafting. People with high levels of self-control have the capacity to engage in behaviour that is best in the long run (Hofmann et al., 2014), thereby overcoming potential immediate inner resistance, such as caused by engaging in aversive behaviour. Engaging in job crafting may be effortful and hence aversive (Kurzban, 2016) at first, but may eventually cause positive changes in employees’ work situation. This implies that the extent to which employees engage in job crafting likely depends on their level of trait self-control (Van Hooft & Kreemers, 2022). Based on these arguments, we pose that, compared to employees with low levels of trait self-control, employees with higher levels of trait self-control will be more prone to engage in job crafting when they feel bored at work. Therefore, and based on the assumption that coping behaviour closely follows the experience of boredom in time, we pose:

Hypothesis 4: Self-control moderates the positive association between work-related boredom in the morning and job crafting in the morning, in such a way that this relationship is stronger for employees with high levels of self-control than for those with low levels of self-control.

Consequences of job crafting. Because job crafting behaviour aimed at increasing challenging work demands will make work more challenging, interesting and satisfactory, engaging in this behaviour reduces the discrepancy between the current and desired condition, thus resulting in lower levels of subsequent work-related boredom. We, therefore, pose:

Hypothesis 5: Job crafting in the morning will be negatively related to work-related boredom in the afternoon.

Due to its potential to decrease work-related boredom, it can be expected that job crafting is also indirectly related to beneficial affective and attitudinal outcomes. Based on the negative association between job crafting and work-related boredom, and based
on the presumed relationships between work-related boredom and higher depressed mood and lower job satisfaction that were outlined above, we pose:

Hypothesis 6: Job crafting in the morning will indirectly – namely through its negative association with work-related boredom – be related to subsequent (a) lower depressed mood and (b) higher job satisfaction in the afternoon.

Method

Participants and procedure

Participation in the study entailed the completion of a general questionnaire (assessing demographic information and trait self-control) and two daily questionnaires that were to be completed during the lunchbreak (i.e. t1; assessing work-related boredom, distractive behaviour, job crafting, depressed mood, and job satisfaction) and at the end of the workday (i.e. t2; assessing work-related boredom, depressed mood, and job satisfaction) on each day that the participant worked during the period of one workweek (Monday-Friday).

To be eligible for participation in this study, participants had to (a) work for at least four out of five weekdays between 7 AM and 8 PM, (b) have a daily lunch break of at least 30 minutes, and (c) work during at least three hours before and three hours after their lunch break. Research assistants used their own (real life and digital) social networks to contact potential participants for the study in person or by sending a message. Potential participants were informed that the study would focus on how employees experience their work from day to day, and how this experience is associated with well-being and work-related functioning. Participation was voluntary and confidentiality was guaranteed. All participants were offered a brief report regarding the main outcomes of the study as compensation for their efforts. Because the study met a list of standard criteria set by the Radboud university’s ethics committee (e.g. adult participants, no intrusive measures, no deception) the requirement for further ethical approval was waived by the ethics committee.

After agreeing to take part, participants received an e-mail with information about the study procedure and a link to a web-based informed consent form and general questionnaire. The next week, they started the completion of the daily questionnaires. Each day, about two hours before the requested time of completion, participants received an email containing a link to a web-based questionnaire. At the start of each questionnaire, participants had to indicate if that day was a workday or not. If it was a workday, they were asked to respond to the questions; if it was a non-work day, they returned the questionnaire without further completing it. Although participants were explicitly requested to complete the questionnaires at the intended points in time, the lunch break and the end-of-workday questionnaires remained available for completion until respectively 5:00 PM and 11:59 PM daily.

The daily questionnaires were (partly) completed by 94 participants. Of those, 85 completed the general questionnaire. These participants (52.9% female; $M_{age} = 35.64$, $SD_{age} = 13.24$) worked on average 36.61 contractual hours weekly ($SD = 5.00$) and were generally highly educated (80% obtained at least a bachelor’s degree). They worked in a variety of sectors, such as healthcare (22.4%), government (10.6%), and financial and business
services (9.4%), and in different functions, such as management (21.2%), consultancy (10.6%), and research and education (7.1%). In total, participants completed 341 lunch break questionnaires (M time of completion = 1:12 PM, SD = 1 h 30 min), and 314 end-of-workday questionnaires (M time of completion = 5:56 PM, SD = 2 h 7 min).

**Measures**

*Trait self-control* was measured in the general questionnaire with the trait self-control scale of De Boer and colleagues (2011; e.g. “Even if I don’t feel like it, I’m able to complete the tasks that needed to be done”). All items were rated on a 5-point Likert scale (1 = completely disagree, 5 = completely agree; \(\alpha = .85\)).

*Work-related boredom* was measured at both t1 and t2 with Van Hooff and Van Hooft’s (2016) 4-item scale. This scale was adapted from Lee’s (1986) boredom questionnaire to make it suitable for daily measurement. An example item for the lunchbreak questionnaire is “This morning, I thought my job was boring.” The same items were used in the end-of-workday questionnaires, except that there “this morning” was replaced by “this afternoon.” Items were answered on a 5-point Likert scale (1 = completely disagree, 5 = completely agree; \(\alpha\) between .91 and .94 for t1 and between .90 and .95 for t2; mean \(\alpha\) across the study period = .93 for both t1 and t2).

*Distractive behaviour* was assessed each day at t1 by Van Hooff and Van Hooft’s (2014) 6-item bored behaviour scale. To make the items suitable for day-to-day measurement, the wording was slightly adapted. An example item is “This morning, I was involved in other, non-work-related activities.” Items were answered on a 5-point Likert scale (1 = completely disagree, 5 = completely agree; \(\alpha\) between .80 and .93; mean \(\alpha\) across the study period = .85).

*Job crafting* was measured at t1 with the three-item “day-level seeking challenges”-scale developed by Petrou et al. (2012). We slightly changed the wording of the items to make them refer to the morning at work. An example item is: “This morning at work, I asked for more responsibilities.” Items were answered on a 5-point Likert scale (1 = completely disagree, 5 = completely agree; \(\alpha\) between .80 and .96, mean \(\alpha\) across the study period = .86).

*Job satisfaction* was measured at both t1 and t2 with one item, namely “All in all, how satisfied were you with your job this morning/this afternoon?” (1 = completely not satisfied, 10 = completely satisfied). Previous research supports the validity of a one-item measure to assess job satisfaction (Wanous et al., 1997).

*Depressed mood* was measured at both t1 and t2 with three items of the Profile Of Mood States (POMS; McNair et al., 1971/1982/1992; e.g. “Right now, I feel down”), using a 5-point Likert scale (1 = not at all, 5 = extremely; \(\alpha\) between .53 and .90 for t1 and between .68 and .96 for t2; mean \(\alpha\) across the study period .80 for t1 and .87 for t2).

**Data analysis**

We tested our hypotheses using multilevel path analysis in Mplus7 (Muthén & Muthén, 1998). This allowed us to simultaneously address the nested structure of our data (i.e. days within persons), as well as to directly model our proposed moderation and indirect effects. Because our main focus is on the fixed part of the model, we used ML estimation
(as opposed to robust ML estimation, which performs better in estimating the standard errors of the level-2 random parts, but overcorrects the level-1 standard errors; Maas & Hox, 2004). As our hypotheses refer to within-person associations between daily work-related boredom and the (consequences) of coping with this emotion, we centered work-related boredom t1 among each person’s individual mean, thus removing between-person variance in this variable (cf. Binnewies et al., 2010; Van Hooft & Van Hooft, 2016).

In our estimated model, work-related boredom t1 was modelled to be related to distractive behaviour t1 and job crafting t1. The slopes of these two paths were set to be random (to account for inter-individual differences in the strength of these associations), and to be moderated by trait self-control, which was grand-mean centered (to test Hypothesis 1 and 4). Additional within-person paths were estimated between distractive behaviour t1 and job crafting t1 and work-related boredom t2 (to test Hypothesis 2 and 5). In order to be sure to examine whether these two coping behaviours were associated with actual changes in work-related boredom, we also modelled the within-person relationship between work-related boredom t1 and work-related boredom t2. Again at the within-person level, work-related boredom t2 was further modelled to be related to job satisfaction t2 and depressed mood t2 (to test Hypothesis 3 and 6). To be sure to examine changes in these outcome measures, for each outcome measure, a within-person path was estimated between the t1 measure and the t2 measure.

Although we were primarily interested in the within-person associations between our daily variables, our daily measured study variables also contained variance on the person-level, except for work-related boredom t1 (as this variable was person-mean centered). Mplus decomposes the variance of a day-level variable into a within- and between-person part, and creates latent variables for the between-person variance. This allowed us to additionally estimate associations between our variables at the person-level (cf. Binnewies et al., 2010). Due to this procedure, our day-level estimates represented the daily associations between variables, controlling for relationships existing between these variables on the person-level.

We did not have a priori hypotheses regarding the direct associations of our t1 measures of work-related boredom, distractive behaviour, and job crafting with our t2 measures of job satisfaction and depressed mood. We, therefore, examined these additional relationships exploratorily by adding these paths (on the within and the between level) to our model in a second step. In this model, we also included the associations between trait self-control and the t2 measured of job satisfaction and depressed mood on the between level.

**Results**

Table 1 presents means, standard deviations, percentage within person variance, and correlations of the study variables. The relatively high percentage of within person variance for the study variables support our choice to use a daily diary design to test our hypotheses. To examine whether work-related boredom can be empirically distinguished from the two coping behaviours, we conducted a series of confirmatory multilevel factor analyses at t1 (WLSMV estimation). In these analyses, we compared the fit of a 1-factor model (i.e. both on the within- and on the between-person level, items from work-
Table 1. Means, standard deviations, percentage within person variance, and correlations between study variables.

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>% within person variance</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
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<tbody>
<tr>
<td>1. Trait self-control</td>
<td>3.15</td>
<td>0.47</td>
<td>n/a</td>
<td>−.08</td>
<td>−.39**</td>
<td>−.06</td>
<td>.21</td>
<td>−.20</td>
<td>−.04</td>
<td>.30*</td>
<td>−.25*</td>
<td></td>
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<tr>
<td>2. Work-related boredom t1</td>
<td>1.71</td>
<td>0.75</td>
<td>64.8</td>
<td>−</td>
<td>.80**</td>
<td>.46**</td>
<td>−.51**</td>
<td>.48**</td>
<td>.90**</td>
<td>−.50**</td>
<td>.32*</td>
<td></td>
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<tr>
<td>3. Distractive behaviour t1</td>
<td>1.86</td>
<td>0.68</td>
<td>69.5</td>
<td>−</td>
<td>.55**</td>
<td>.57**</td>
<td>−.54**</td>
<td>.42**</td>
<td>.87**</td>
<td>−.56**</td>
<td>.33*</td>
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<tr>
<td>4. Job crafting t1</td>
<td>1.83</td>
<td>0.79</td>
<td>57.7</td>
<td>.03</td>
<td>.01</td>
<td>−</td>
<td>−.29</td>
<td>.52**</td>
<td>.61**</td>
<td>−.20</td>
<td>.40**</td>
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<tr>
<td>5. Job satisfaction t1</td>
<td>7.35</td>
<td>1.41</td>
<td>68.6</td>
<td>−</td>
<td>.49**</td>
<td>.56**</td>
<td>.06</td>
<td>−.50**</td>
<td>−.60**</td>
<td>.98**</td>
<td>−.54**</td>
<td></td>
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<tr>
<td>6. Depressed mood t1</td>
<td>1.21</td>
<td>0.50</td>
<td>68.8</td>
<td>−</td>
<td>.20**</td>
<td>.21**</td>
<td>−.10</td>
<td>−.55**</td>
<td>.47**</td>
<td>−.45**</td>
<td>.97**</td>
<td></td>
</tr>
<tr>
<td>7. Work-related boredom t2</td>
<td>1.78</td>
<td>0.82</td>
<td>60.9</td>
<td>−</td>
<td>.45**</td>
<td>.37**</td>
<td>−.05</td>
<td>−.42**</td>
<td>.20**</td>
<td>−.56**</td>
<td>.34*</td>
<td></td>
</tr>
<tr>
<td>8. Job satisfaction t2</td>
<td>7.35</td>
<td>1.48</td>
<td>53.4</td>
<td>−</td>
<td>.22**</td>
<td>.23**</td>
<td>.13</td>
<td>.48**</td>
<td>−.32**</td>
<td>−.50**</td>
<td>−.50**</td>
<td></td>
</tr>
<tr>
<td>9. Depressed mood t2</td>
<td>1.22</td>
<td>0.50</td>
<td>54.5</td>
<td>−</td>
<td>−.03</td>
<td>−.09</td>
<td>−.04</td>
<td>−.17*</td>
<td>.32**</td>
<td>.21**</td>
<td>−.51**</td>
<td></td>
</tr>
</tbody>
</table>

Note. Within-person correlations below diagonal (N between 277 and 286). Between-person correlations above diagonal (N between 81 and 91).

* p < .05, **p < .01.
related boredom, distractive behaviour, and job crafting loading on one factor), three different 2-factor models (i.e. both on the within- and on the between-person level, we modelled factors representing work-related boredom and a combination of job crafting and distracting behaviour; job crafting and a combination of work-related boredom and distractive behaviour; distractive behaviour and a combination of work-related boredom and job crafting), and a 3-factor model (i.e. both on the within- and on the between-person level, we modelled separate factors for work-related boredom, distractive behaviour, and job crafting). Results of these analyses show that a 3-factor solution fitted the data better (RMSEA = .06, CFI = .96, SRMR\(_{\text{within}}\) = .06, SRMR\(_{\text{between}}\) = .08) than each of the 2-factor solutions (RMSEA’s between .10 and .15, CFI’s between .74 and .88, SRMR\(_{\text{within}}\) between .12 and .18, SRMR\(_{\text{between}}\) between .09 and .13) and the 1-factor solution (RMSEA = .18, CFI = .63, SRMR\(_{\text{within}}\) = .20, SRMR\(_{\text{between}}\) = .13). Thus, these findings support the theoretical assumption that work-related boredom, distractive behaviour, and job crafting can be considered distinct constructs.

**Hypotheses testing**

The results of the model that was estimated to test our hypotheses is presented in **Figure 2**. The slopes of the associations between work-related boredom \(t_1\) and distractive behaviour \(t_1\) and job crafting \(t_1\) were modelled to be random. The mean values of the slopes as presented in **Figure 2** show that, on average, there is a significant positive within-person relationship between work-related boredom \(t_1\) and distractive behaviour \(t_1\) \((B = 0.49, p < .01)\). However, work-related boredom \(t_1\) was not significantly related to job crafting \(t_1\) \((B = 0.08, p = .32)\). Results also show that self-control moderates the within-person associations between work-related boredom \(t_1\) and each of the two coping behaviours.

![Figure 2](image-url)  
**Figure 2.** Results of multilevel path analysis (SE’s of estimates between parentheses; * \(p < .05\), **\(p < .01\)).
An analysis of the simple slopes (see Figures 3 and 4) revealed that – in support of Hypothesis 1 – the within-person association between work-related boredom t1 and distractive behaviour t1 is weaker for participants with high trait self-control (1SD above the mean; $B = 0.36$, $p < .01$) than for those with low levels of self-control (1SD below the mean; $B = 0.61$, $p < .01$). Further, in support of Hypothesis 4, the simple slope analysis for the within-person association between work-related boredom t1 and job crafting t1 showed this association to be positive for those with high levels of self-control (1SD above the mean; $B = 0.23$, $p < .05$), but not significant for those with low levels of self-control (1SD below the mean; $B = -0.08$, $p = .39$).

With respect to the within-person associations between distractive behaviour t1 and subsequent work-related boredom, depressed mood, and job satisfaction at t2, the model shows that – controlled for work-related boredom t1 – distractive behaviour t1 is positively related to work-related boredom t2 ($B = 0.21$, $p < .05$), which supports Hypothesis 2. Based on this association and based on the significant associations
between work-related boredom t2 and depressed mood t2 (controlled for depressed mood t1; \( B = 0.08, p < .05 \)) and job satisfaction t2 (controlled for job satisfaction t1; \( B = -0.62, p < .01 \)), distractive behaviour t1 may be indirectly (through work-related boredom t2) related to these outcomes. To test the significance of these indirect effects, we used the Montecarlo method (100,000 repetitions) to obtain 95% confidence levels of the estimates of the indirect effects (Selig & Preacher, 2008). Results revealed a significant within-person positive indirect effect between distractive behaviour t1 via work-related boredom t2 to depressed mood t2 (estimate = 0.02, 95% CI between 0.0002 and 0.0433), and a significant within-person negative indirect effect between distractive behaviour t1 via work-related boredom t2 to job satisfaction t2 (estimate = -0.13, 95% CI between -0.2562 and -0.0208), which supports Hypothesis 3.

Job crafting t1 was not significantly related to work-related boredom t2 at the within-person level (\( B = -0.10, p = 13 \)), and therefore, Hypothesis 5 was not supported. Given this non-significant relationship job crafting t1 could not be indirectly related to depressed mood t2 and job satisfaction t2, which means that Hypothesis 6 is not supported.

**Exploratory analyses**

Adding the associations between t1 of work-related boredom, distractive behaviour, and job crafting with t2 measures of job satisfaction and depressed mood on the within and between level, as well as the between-level associations between trait self-control and the t2 measures of job satisfaction and depressed mood resulted in an improved fit compared to the first model (\( \Delta -2*\text{log likelihood} = 27.12, df = 12, p < .05 \)), but did not change the estimates of the paths that were included in the original model. However, of the added paths, only the relationship between distractive behaviour t1 and depressed mood t2 was significant (\( B = -0.14, p < .05 \)), indicating that – controlled for the indirect positive association between these variables through work-related boredom t2 – distractive behaviour at t1 was associated with lower levels of depressed mood at t2.

**Discussion**

The present study aimed to increase insight into daily coping with work-related boredom by developing and testing a control-process model of coping with boredom based on control theory (Carver & Scheier, 1990). Our findings advance theoretical insight on work-related boredom in two ways. First, we found that trait self-control moderated the association between work-related boredom and both passive and active coping behaviours that employees engage in to deal with boredom at work. We found that the relationship between work-related boredom and distractive behaviour was positive, but more so for employees low rather than high on trait self-control. Furthermore, work-related boredom related positively to job crafting for employees high on trait self-control, whereas no significant relationship was found for those low on trait self-control. These findings support our assumptions based on control theory that employees engage in coping behaviour to reduce the discrepancy between their current state (i.e. state of boredom characterised by lack of challenge and meaning) and the desired state (i.e. the central human goal of development and growth). Our findings also
extend previous theorising on self-control (De Boer et al., 2011; De Ridder et al., 2012) to work-related boredom, showing that self-control is needed not only to override the rather automatic tendency to engage in undesirable distractive behaviour when feeling bored, but also to cope with work-related boredom in a more effortful and active way through job crafting.

Secondly, our study uncovers the mechanisms by which coping with work-related boredom relates to affective and attitudinal outcomes. Specifically, our results show that engaging in distractive behaviour associates with higher rather than lower levels of subsequent work-related boredom, likely because distractive behaviour does not actually change the boredom-evoking situation. Supporting control theory (Carver & Scheier, 1990), which poses that inability to reduce the discrepancy between a current and desired state will cause negative affect, we further found that work-related boredom is associated with increased levels of depressed mood and decreased levels of job satisfaction. Because these findings indicate that distractive behaviour has both direct (i.e. increased levels of subsequent boredom) and indirect (i.e. increased levels of depressed mood and decreased levels of job satisfaction) negative consequences, distractive behaviour can be characterised as an ineffective coping mechanism.

We also posed that job crafting would result in lower levels of subsequent boredom, because, when engaging in job crafting, employees actively change their boredom evoking work situation to bring in more in line with their personal needs and preferences. This assumption was not supported by our data. Due to the absence of this relationship, there were also no indirect (through decreased work-related boredom) associations between job crafting and depressed mood and job satisfaction. At least two methodological aspects of the current study may explain this absence of significant findings. First, we measured the extent to which employees engaged in job crafting behaviour in the morning and work-related boredom in the afternoon of the same day. It might be that this time interval was too short for job crafting behaviours to result in actual changes in the work situation and decreased levels of boredom. Another explanation may be found in the wording of the scale that was used to measure job crafting (Petrou et al., 2012). These items all contain “ask” as a main verb (e.g. “This morning at work, I asked for more responsibilities”). However, it remains unknown what the results of the employees’ requests were. It could be that employees asked for additional tasks or responsibilities but that these were not granted. In that case, their job crafting attempts would not have resulted in actual changes in their work tasks and – as a consequence – could not have affected their levels of work-related boredom.

Limitations and suggestions for future research

We believe several limitations and suggestions for future research need attention. First, this study used a relatively small sample that is not representative of the Dutch workforce. For example, in our sample about 80% of participants was highly educated, which is almost twice as high as the percentage of highly educated persons between 25 and 64 in the Netherlands (41%; Ridder et al., 2020). Also, relatively low levels of work-related boredom were reported in this study, which may cause restriction of range. However, the level of boredom in our study is comparable with the levels reported in
other research (e.g. a study among a heterogeneous sample of about 11,500 Finnish employees; Harju, Hakanen, & Schaufeli, 2014), and previous research has shown that even mild levels of boredom may have negative consequences (e.g. Bruursema et al., 2011; Melamed et al., 1995; Reijseger et al., 2013; Van Hooff & Van Hooft, 2014). Furthermore, the restriction of range in boredom will likely have resulted in an under – rather than an overestimation of the true associations between boredom and coping and/or the affective outcomes included in this study. Nevertheless, it would be valuable if future studies would test the generalisability of our findings both in larger and more representative samples and in samples with higher mean levels and more variation in boredom.

Second, due to the correlational nature of our study, causality of the associations that were studied can only be inferred on theoretical, rather than empirical grounds. However, given that boredom is an often transient emotional experience, and because emotions are associated with certain immediate affect-based behavioural tendencies (e.g. affective events theory; Weiss & Cropanzano, 1996) that are aimed to reduce negative feelings and enhance positive feelings (Spector & Fox, 2002), it is hard if not impossible to temporally separate boredom and its resulting behaviour in a field setting. For the associations between coping behaviours and subsequent work-related boredom and its consequences, we investigated changes in our outcome measures by controlling for the t1 values, which increases confidence in the directionality of these associations. However, we cannot exclude the possibility that the associations found in our study were due to other unknown and unmeasured factors. Therefore, future research may manipulate levels of boredom experimentally (e.g. Van Hooft & Van Hooft, 2018; Van Tilburg & Igou, 2011) to examine how this emotional state relates to subsequent coping behaviour and its consequences.

Third, in our control-process model of coping with boredom we propose that experiencing work-related boredom is indicative of (lack of) goal progress toward the central human goal of growth, development, and mastering challenges (cf. Self-Determination Theory; Deci & Ryan, 2000), and as such indicates a discrepancy between a current condition and a desired condition. We did not actually measure the experienced discrepancy or (lack of) goal progress in our study, though. Future research is needed to test these underlying assumptions posed in our control-process model. Furthermore, in this study we focused on trait self-control. However, there may be other inter-individual differences that are relevant moderators of the associations between work-related boredom, coping behaviours, and consequences (e.g. trait boredom; extraversion; growth need strength). Also, the capacity for self-control may fluctuate on a momentary basis (e.g. Inzlicht et al., 2014). Therefore, future research may examine both other inter-personal difference constructs and intra-personal differences in state self-control in relation to the way employees deal with work-related boredom and it’s consequences.

Fourth, although – based on theoretical grounds – we assume that the associations found in our study are driven by work-related boredom, we do not yet know what the unique effect of boredom is in these associations compared to other negative emotions. Future research could, therefore, provide more insight in the specific role of boredom by examining its effects simultaneously with those of other negative affective states (such as fatigue).
Fifth, little is known about the time-lags within which the associations between work-related boredom, coping, and potential consequences in terms of, for example, (reduced) subsequent levels of boredom take place. To obtain insight in this respect, on the one hand, it may be valuable for future research to employ a more intensive experience sampling design in which employees report with a high frequency and within short time-lags about their levels of boredom and coping behaviours. On the other hand, future research may use longer time-lags in order to allow job crafting behaviour to translate into actual changes in the work situation. Weekly instead of daily measures may be appropriate to this purpose. For example, a study by Tims et al. (2016) showed that job crafting behaviour engaged in during one week was related to increased person-job fit a week later.

Sixth, although we deliberately chose to focus on the job crafting dimension “increasing challenging demands,” other aspects of job crafting (i.e. increasing structural or social resources) might also be effective in dealing with work-related boredom (e.g. Harju et al., 2016; Van Hooff & Van Hooft, 2014). Future research could, therefore, examine if and how these job crafting behaviours are caused by the experience of work-related boredom and relate to (lower) subsequent levels of this emotional experience at work. Additionally, future research should distinguish between job crafting attempts (as measured in the current daily job crafting scale; Petrou et al., 2012) and the extent to which these attempts result in actual changes in work characteristics. Whereas it may be expected that successful job crafting attempts have beneficial effects in terms of work-related boredom and its outcomes, it may be that the opposite is true for failed attempts. Furthermore, although we presumed that (lack of) actual changes in work characteristics would underlie the associations of work-related boredom with distractive behaviour and job crafting, these were not measured in the current study. To strengthen the theoretical plausibility of these relationships it is recommended that future research also includes the known work-related predictors of boredom, such as skill variety and autonomy.

Finally, previous research as well as the current study have clearly shown that work-related boredom has negative consequences. There are also indications, albeit scarce, that boredom at work may have positive outcomes. For example, Carroll et al. (2010) showed that boredom motivated leaders to search for variety, novelty, and challenge. Future research could further disentangle not only which favourable outcomes follow from boredom at work but also how and under which circumstances these develop (e.g. see Park et al., 2019).

**Practical implications**

Our study’s results do not only have theoretical implications, but also offer practical guidelines for the development of interventions in organisations. Based on the negative consequences of work-related boredom that were found in this study, the recommended first choice would be to prevent boredom at work. A way to achieve this would be to make work more interesting by ensuring, for example, a sufficient level of variety, task identity, and autonomy (cf. Hackman & Oldham, 1975; Van Hooff & Van Hooft, 2016). Employers play a pivotal role in this respect, but their efforts could be supplemented by job crafting behaviour on the part of the employee. In case efforts at the
prevention of boredom do not yield sufficient results, a secondary option would be to reduce the extent to which employees engage in distractive behaviour. A way to achieve this could be to stimulate employees to make the best of their boring situation, for example by rewarding themselves with a micro-break (that can be used, for example, for a short chat with a colleague, or for drinking a coffee) after they have finished a pre-defined quantity of a boring task.

**Conclusion**

Despite its limitations, the current study advanced insight not only in how employees cope with work-related boredom and the effectiveness of these coping efforts, but also in who copes with boredom in which way. We showed that passive coping in the form of distractive behaviour is an ineffective way to deal with boredom at work. Even though we did not find the expected opposite effect for job crafting as an active coping mechanism, there are sufficient theoretical grounds to assume that this form of proactive behaviour could reduce work-related boredom and its associated consequences in the longer term. Furthermore, this study revealed the importance of taking inter-individual differences such as trait self-control into account when studying (the consequences of) boredom – and possibly also other emotions – at work. We hope that future studies will use these findings as a starting point to further increase the understanding of (processes associated with) the experience of boredom at work.

**Disclosure statement**

No potential conflict of interest was reported by the author(s).

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