

# 16

## BOREDOM AT WORK

### A systematic review of the causes and consequences of work-related boredom

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#### **Boredom at the workplace**

It is quite common in the workplace that employees experience feelings of boredom. Prevalence estimates vary, but indicate that between 25% and 87% of the employees feel bored at work at least sometimes (cf. Cummings et al., 2016; Fisher, 1993; Loukidou et al., 2009; Mael & Jex, 2015; Mann, 2007; Van der Heijden et al., 2012; Watt & Hargis, 2010). From all activities in which people usually engage, working relates to the highest boredom prevalence after studying and doing nothing (Chin et al., 2017). When boredom at work is chronic and severe, it is sometimes labeled ‘boreout,’ with estimates suggesting that about 15% of office workers are on the way to a ‘boreout’ (Rothlin & Werder, 2008). Work-related boredom, however, is an experience about which people are reluctant to talk (Fisher, 2018). Possible reasons for this include that they fear that colleagues or supervisors may see it as a sign of laziness, lack of self-discipline, or lack of competence. People may also experience self-doubt and shame regarding their feelings of boredom at work, and fear that it will not be taken seriously by their supervisor or that it leads to the conclusion that their employment is no longer needed. Because work-related boredom is not easily talked about and its consequences underestimated, it remains a rather inconspicuous emotion that organizations consider to be trivial or unimportant. As an example, when contacting organizations for our research on boredom (e.g., Van Hooff & Van Hooff, 2017), a common response would be that they are not interested as boredom does not occur in their organization. Advertising our studies as research on motivation and engagement, however, did spark the interest of organizations. Nevertheless, it is highly important that supervisors are open and non-judgmental regarding work-related boredom, such that employees feel safe to discuss their feelings. This way, solutions can be sought and severe negative consequences for health, performance, and safety can be prevented.

Early studies examined work-related boredom in the context of monotonous and repetitive jobs. In search of increasing efficiency, factories in the 19th and 20th centuries introduced division of labor, splitting up tasks into small components. Resulting jobs were monotonous, repetitive, and lacked identification with the product, which induced work-related boredom (Davies, 1926; Münsterberg, 1913). In a comparison of 23 jobs, Caplan et al. (1975) found that boredom was highest in simple and skill-underutilizing jobs, such as machine-paced assembly line jobs. Other early studies on work-related boredom focused on vigilance jobs, which require continuous attention but little action and stimulation, such as signal detection, surveillance, and long-haul driving jobs (e.g., Bartlett, 1943; Drory, 1982). Prolonged exposure to such tasks

likely causes boredom (Fisher, 1993; Smith, 1981). In the last couple of decades, more and more research focused on boredom in white-collar jobs, suggesting that work-related boredom may also occur in higher-level jobs (e.g., Bruursema et al., 2011; Carroll et al., 2010; Costas & Kärreman, 2016; Harju & Hakanen, 2016; Reijseger et al., 2013; Van der Heijden et al., 2012; Van Hooft & Van Hooft, 2014). Harju et al. (2014) compared work-related boredom across industries and found that boredom was experienced most often in stereotypical blue-collar sectors such as manufacturing and transportation and storage, and the least often in stereotypical white-collar sectors such as finance and insurance, health and social work, and education. However, boredom also occurred relatively often in non-stereotypical blue-collar sectors such as arts, entertainment, and recreation, suggesting that more fine-grained job characteristics are important in explaining boredom rather than the blue-collar versus white-collar distinction. Furthermore, Harju et al. (2014) found that managers reported less boredom than employees. Similarly, in their qualitative study among managers, Carroll et al. (2010) found that managers mostly considered boredom as primarily an issue relating to their employees, although some indications were found that also leaders themselves may occasionally experience boredom.

Various reviews have been published on work-related boredom over the years (e.g., Cummings et al., 2016; Fisher, 1993; 2018; Loukidou et al., 2009; Mael & Jex, 2015; O'Hanlon, 1981; Smith, 1981; Thackray, 1981; Vodanovich, 2003; Vodanovich & Watt, 2016). In the present chapter, we therefore mostly focus on recent studies (i.e., in the last two decades) on work-related boredom. We will first define and position work-related boredom as a distinct construct within the broader employee well-being literature. Second, we present a theoretical account and systematic review of the consequences that work-related boredom may have for both the individual employee and the organization. Third, we present a systematic review of the causes of work-related boredom, distinguishing between personal factors, job-related factors, and the social environment. Finally, we conclude with suggestions for future research and implications for practice.

### **Concept and measurement**

In work-related research, boredom has been conceptualized and examined in various ways. An important dimension to describe the conceptualizations of boredom is the time frame or temporal stability (Fisher, 2018; Mael & Jex, 2015; see Chapter 3). Previous theorizing and research on boredom at work has typically used one of the following three conceptualizations.

First, as a temporally stable trait-level conceptualization of boredom, studies have focused on the general tendency or disposition to experience boredom (*trait boredom*). Typical measures include the Boredom Proneness Scale, the Boredom Susceptibility Scale, and the Multidimensional Trait Boredom Scale (see Gerritsen et al., 2014; Vodanovich, 2003; Vodanovich & Watt, 2016). Such measures of trait boredom assess the likelihood to experience boredom in general across situations, but do not by definition indicate actual levels of experienced boredom in a specific job- or work-related situation.

Second, many studies conceptualized boredom as a job-related attitude (*job boredom*), pointing towards boredom as a situational state linked to the specific job, which has some temporal stability (i.e., people experience their job as boring). An often used measure is Lee's (1986) Job Boredom Scale, which assesses the extent to which people generally perceive their job as repetitive, monotonous, and boring. In addition to items tapping into the cognitive and affective aspects of the experience of boredom, it also includes items that refer to job characteristics (e.g., monotony, repetitiveness) or other affective states (e.g., feeling tired). Reijseger et al. (2013) therefore developed the Dutch Boredom Scale, which focuses exclusively on the experience and manifestation of job boredom itself, measuring common feelings, thoughts, and behaviors

that signify boredom at work. Van Hooft and Van Hooft (2014) further distinguished between the affective, cognitive experiential aspects of boredom on the one hand, and the immediate behavioral consequences of boredom on the other hand. Based on the items of Lee (1986), they developed a Work-Related Boredom Scale focusing solely on feelings and cognitions when experiencing boredom (e.g., “I think my work is boring”), and a Bored Behavior Scale focusing on specific affect-based distractive and withdrawal behaviors of employees at work which are not directly functional in obtaining one’s work goals (e.g., working slowly, taking long breaks, spending time on non-work-related activities).

Third, boredom can be conceptualized as a transient emotional experience linked to the current task and/or situation (Fisher, 2018; O’Hanlon, 1981; Van Hooft & Van Hooft, 2016; 2017). Such conceptualizations are based on the proposition that boredom is an activity-related emotional state which fades out when one is longer engaged in the boredom-inducing activity. Depending on the duration of the boredom-inducing activity, the duration of boredom may vary from minutes to days or even weeks. This implies that boredom is temporally unstable, fluctuating within individuals across time and situations (*momentary boredom*). Rather than relying on a one-time measure of job boredom capturing between-individual differences in boredom, momentary boredom is usually measured repeatedly and close to the actual experience. Supporting the conceptualization of boredom as a transient experience, diary studies in work settings (Baratta & Spence, 2018; Van Hooft & Van Hooft, 2017; 2023) reported that 47–65% of the variance in work-related boredom resides at the within-individual level. Because these studies focus on work settings only, the percentages of within-individual variance are somewhat lower than the 83% reported by Chin et al. (2017) in their cross-domain study on boredom.

Because work-related boredom is commonly defined as an emotional or affective state (e.g., Fisher, 1993; 2018; Kass et al., 2001; Loukidou et al., 2009; Van der Heijden et al., 2012; Van Hooft & Van Hooft, 2014), another important dimension to describe the conceptualization of boredom is its affective type. Affect can be qualified according to its hedonic tone (i.e., positive/pleasant vs. negative/unpleasant) and its arousal or activation level (i.e., activating vs. deactivating; Feldman Barrett & Russell, 1998; Russell, 1980). In circumplex models of affect combining both these dimensions, feeling bored is usually typified as unpleasant and deactivating affect (e.g., Feldman Barrett & Russell, 1998; Russell, 1980; Yik et al., 2011). Regarding the *hedonic tone*, most research on work-related boredom also consistently described boredom as a negative, unpleasant, or dissatisfying state (e.g., Baratta & Spence, 2018; Bruursema et al., 2011; Fisher, 1993, 2018; Harju et al., 2014; Kass et al., 2001; Loukidou et al., 2009; Reijseger et al., 2013; Van der Heijden et al., 2012; Van Hooft & Van Hooft, 2014).

However, regarding the *activation level*, there are differences in the conceptualization of boredom. Some scholars have described work-related boredom as a deactivating, low arousal state that is linked to passivity, drowsiness, fatigue, emptiness, and lethargy (e.g., Bruursema et al., 2011; Cummings et al., 2016; Daniels, 2000; Harju et al., 2014; Loukidou et al., 2009; Van Hooft & Van Hooft, 2014). Others have mentioned the occurrence of high arousal when feeling bored, linked to restlessness, agitation, irritation, anxiousness, and frustration (Fisher, 2018; Mael & Jex, 2015; Van Hooft & Van Hooft, 2018). Various explanations have been offered for these seemingly opposing views, although not specifically examined in work contexts. For example, in describing boredom Eastwood et al. (2012) suggest that low and high arousal may occur in different stages of the boredom experience, with high arousal indicating a struggle to maintain attention. Similarly, Baratta and Spence (2018) pose that high arousal more likely is a consequence of boredom, indicating the (failed) attempts to escape the boring situation. Van Hooft and Van Hooft (2018) proposed that the arousal level may be linked to the task setting that induces boredom, such that high autonomy links to low arousal and low

autonomy to high arousal. Some support for this hypothesis was found in a correlational and experimental study among students. Also in sample of students, Goetz et al. (2014) found that different types of boredom can be distinguished depending on the level of arousal and hedonic tone, such as apathetic boredom, which indicates highly negative and low arousal boredom, and reactant boredom, which indicates highly negative and high arousal boredom. Altogether, it may be concluded that the potential occurrence of both low and high arousal is a unique element of boredom (Fahlman et al., 2013; Fisher, 2018). Nevertheless, future research is needed to examine the validity of these different explanations in work settings and in connection with the temporal dimension (i.e., for job boredom versus momentary boredom).

Finally, work-related boredom is typically characterized by a lack of interest, attentional difficulties, feeling unchallenged, and experiencing meaninglessness, implying that the job or work tasks have a negative intrinsic value (Fisher, 1993). This particular configuration of experiences distinguishes boredom from other negative emotions such as sadness, anger, and frustration (Van Tilburg & Igou, 2012). Boredom can also be distinguished from fatigue, based on the level of stimulation provided by the job or work tasks, with fatigue resulting from investing many cognitive resources and boredom from cognitive understimulation (Cummings et al., 2016; Dora et al., 2021). Furthermore, boredom is distinct from low intrinsic motivation because it indicates that an activity has negative rather than low intrinsic value (Pekrun et al., 2010). In the work-related literature, boredom has been described as different from other employee well-being constructs such as depression, burnout, and work engagement (Mael & Jex, 2015; Schaufeli & Salanova, 2014). While depression indicates despondency, resignation, and lacking interest in anything, boredom is linked to a specific situation and implies a desire to engage in more meaningful, stimulating, and interesting activities. Burnout is a psychological response to overstimulation at work, evolving in reaction to chronic work stress. Work-related boredom, in contrast, is posed to typically result from understimulation at work. Work engagement is a positive, fulfilling, work-related state characterized by energy and involvement, evolving in reaction to high levels of job resources. Work-related boredom is not simply the opposite of work engagement, since boredom typically is a reaction to low job demands. In other words, while burnout stems from overstimulation and boredom from understimulation, work engagement indicates optimal stimulation at work (Reijseger et al., 2013). Although boredom was moderately positively correlated with burnout and negatively with work engagement, based on factor analyses, Reijseger et al. (2013) concluded that the three constructs can be empirically distinguished. Similarly, based on their qualitative study among white-collar employees, Harju and Hakanen (2016) also concluded that boredom is different from burnout and low work engagement. In addition, they found that boredom may not only develop as a consequence of understimulation, but also in response to overactivation (e.g., high workload, high work pace, unrealistic goals) or erratic activation (e.g., low autonomy, collaboration problems, many work interruptions). Work-related boredom thus should be conceptualized as evolving in response to a dysfunctional activation of individual capabilities, such that workers are not able to do what they want to do (for a similar conceptualization of boredom in general, see Chapter 2).

## **Consequences of boredom at work**

### *Negative outcomes*

Prior reviews of the literature on boredom at work state that boredom has negative consequences for both the individual worker and the organization (e.g., Cummings et al., 2016; Fisher, 1993; Loukidou et al., 2009; Mael & Jex, 2015; O'Hanlon, 1981). These negative consequences

include well-being, attitudinal, behavioral, and performance outcomes. Various motivational and affect theories (e.g., Control Theory, Carver & Scheier, 1990; Self-Determination Theory, Deci & Ryan, 2000; Conservation of Resources Theory, Hobfoll, 1989; emotion-centered model of voluntary work behavior, Spector & Fox, 2002) have been used to develop theoretical rationales and models explaining how boredom at work leads to such negative outcomes (Fisher, 2018; Harju et al., 2016; Van Hooff & Van Hooff, 2014; 2016; 2023). These models pose that boredom is a negative, unpleasant emotion that signals to employees a discrepancy between their current situation and their goals, indicating that they do not make progress to central human work/life goals of growth, development, and mastering challenges. People typically want to reduce their negative emotions, suggesting that boredom evokes action tendencies to make the task/situation less boring or escape the situation. At the workplace, such action tendencies may include engaged coping behaviors (i.e., trying to reappraise or alter the task/situation into something more meaningful and stimulating) and disengaged coping behaviors (e.g., seeking temporary distractions, engagement in counterproductive behavior, or withdrawal). When the coping leads to inadequate or no progress towards one's goals, it may first result in distress-related responses (e.g., frustration, irritation, anxiety), but when employees sense that their goals will not be attained at all, feelings of depression and sadness may develop (Van Hooff & Van Hooff, 2014; 2016). This likely occurs because engaged coping behaviors such as actively altering the task/situation require self-regulatory effort, which is difficult when in a state of boredom because people lack the energetic resources (Harju et al., 2016; Van Hooff & Van Hooff, 2023). In contrast, disengaged coping requires less effort, but these typically do not solve the cause of boredom, thus leading to further resource depletion in a negative loss spiral (Harju et al., 2016).

To examine the empirical support for the suggestion that boredom has negative consequences for both the employee and the organization, we conducted a literature search for studies on boredom at work. We searched Web of Science for studies with *bore\** and *work* or *job* in the title in March 2022, resulting in 118 articles. We screened the articles and only included studies that used samples of individual workers/employees (i.e., student samples were excluded) and were published in English-language peer-reviewed scientific journals, resulting in 12 included articles. We further conducted a backward search on recent reviews of the literature (i.e., Cummings et al., 2016; Fisher, 2018; Loukidou et al., 2009; Mael & Jex, 2015) and a forward search in April 2022 on studies that developed or adapted a work-related boredom measure (i.e., Baratta & Spence, 2018; Reijseger et al., 2013; Van der Heijden et al., 2012; Van Hooff & Van Hooff, 2014), which resulted in 21 additional articles. We coded sample size, sample type, sample region, study design, boredom measure, outcome type, outcome measure, univariate relationship (e.g., correlation), and significance level. We distinguished between studies using a trait boredom measure (e.g., Boredom Proneness Scale, Boredom Susceptibility Scale, Multidimensional Trait Boredom Scale) versus an attitudinal or momentary work-related boredom scale, such as Lee's (1986) Job Boredom Scale, Reijseger et al.'s (2013) Dutch Boredom Scale, Van Hooff and Van Hooff's (2014) Work-Related Boredom Scale, Pindek et al.'s (2018) Boredom as Strain Scale, or Baratta and Spence's (2018) State Boredom Inventory. We classified outcomes into eight categories: mental ill health, health-related behaviors and outcomes, job attitudes, work engagement and motivation, job performance, counterproductive work behavior, distraction, and withdrawal. Table 16.1 displays the results, clustered by outcome category. A point of attention is that the vast majority of findings are based on cross-sectional relationships between boredom and the outcome. Therefore, interpreting these outcomes as consequences of boredom can only be done on theoretical rather than empirical grounds. Future research is needed to more thoroughly establish the causality of the relationships between work-related boredom and the outcomes listed.

Table 16.1 Systematic review of findings of consequences of trait boredom and job/momentary boredom in samples of individual workers/employees

| Overall outcome category               | Sample outcome measures                                                                               | References                                                                                      | Number of samples | Number of relationships | Study design    |                       | Findings                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------|-------------------------|-----------------|-----------------------|--------------------------------------------------------------------------------------------------|
|                                        |                                                                                                       |                                                                                                 |                   |                         | Cross-sectional | Prospective/<br>Diary |                                                                                                  |
| <b>Relation of trait boredom with:</b> |                                                                                                       |                                                                                                 |                   |                         |                 |                       |                                                                                                  |
| Mental ill health                      | Anxiety; depression/depressive complaints; distress/job stress; negative affect; positive affect (rc) | Baratta & Spence (2018); Jegaden et al. (2019); Van Hooft & Van Hooft (2014); Wan et al. (2014) | 7                 | 21                      | 17              | 4                     | 4 non-significant ( $r = .08-.15$ )<br>17 significantly positive ( $r = .20-.85$ )               |
| Health-related behaviors and outcomes  | –                                                                                                     | No studies                                                                                      | –                 | –                       | –               | –                     | –                                                                                                |
| Job attitudes                          | Job satisfaction                                                                                      | Kass et al. (2001)                                                                              | 1                 | 1                       | 1               | 0                     | 1 significantly negative ( $r$ not reported)                                                     |
| Work engagement and motivation         | Work engagement: absorption, dedication, vigor                                                        | Baratta & Spence (2018)                                                                         | 4                 | 12                      | 9               | 3                     | 12 significantly negative ( $r = -.23$ to $-.65$ )                                               |
| Job performance                        | Cognitive failures (rc); Supervisor-rated job performance                                             | Wallace et al. (2003); Watt and Hargis (2010)                                                   | 2                 | 21                      | 21              | 0                     | 11 non-significant ( $r = -.19$ to $.16$ )<br>10 significantly negative ( $r = -.25$ to $-.41$ ) |
| Counterproductive work behavior        | Counterproductive work behavior                                                                       | Bruursema et al. (2011); Van Hooft and Van Hooft (2014)                                         | 2                 | 3                       | 2               | 1                     | 2 non-significant ( $r = .05-.09$ )<br>1 significantly positive ( $r = .38$ )                    |
| Distraction                            | Bored behavior; horseplay; non-work-related activity                                                  | Bruursema et al. (2011); Van Hooft and Van Hooft (2014); Wan et al. (2014)                      | 3                 | 4                       | 3               | 1                     | 1 non-significant ( $r = .02$ )<br>3 significantly positive ( $r = .17-.33$ )                    |

(Continued)

Table 16.1 (Continued)

| Overall outcome category                                | Sample outcome measures                                                                                                                                            | References                                                                                                                                                                                                                                                                                                                                                  | Number of samples | Number of relationships | Study design    |                       | Findings                                                                                |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------|-----------------|-----------------------|-----------------------------------------------------------------------------------------|
|                                                         |                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                             |                   |                         | Cross-sectional | Prospective/<br>Diary |                                                                                         |
| Withdrawal                                              | Absenteeism; propensity to fall asleep                                                                                                                             | Kass et al. (2001);<br>Wallace et al. (2003)                                                                                                                                                                                                                                                                                                                | 2                 | 6                       | 6               | 0                     | 4 non-significant<br>( $r = .05-.17$ )<br>2 significantly positive<br>( $r = .26-.29$ ) |
| <i>Relation of job/<br/>momentary<br/>boredom with:</i> |                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                             |                   |                         |                 |                       |                                                                                         |
| Mental ill health                                       | Anxiety; burnout total; burnout dimensions; career/life satisfaction (rc); depression; distress; lack of energy; negative affect; positive affect (rc); rumination | Abubakar (2020); Baratta and Spence (2018); Game (2007); Harju et al. (2014); Melamed et al. (1995); Parasuraman and Purohit (2000); Reijseger et al. (2013); Rosario-Hernández et al. (2020); Scharp et al. (2023); Schaufeli et al. (2020); Sousa and Neves (2021); Van Hooff and Van Hooff (2014); Van Hooff and Van Hooff (2016); Wiesner et al. (2005) | 17                | 43                      | 33              | 10                    | 1 non-significant<br>( $r = .15$ )<br>42 significantly positive<br>( $r = .17-.67$ )    |

|                                       |                                                                                                                                |                                                                                                                                                                                                                                                         |    |    |    |   |                                                                                        |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|---|----------------------------------------------------------------------------------------|
| Health-related behaviors and outcomes | General health; sleep health; substance use (rc)                                                                               | Harju et al. (2014); Rosario-Hernández et al. (2020); Wiesner et al. (2005)                                                                                                                                                                             | 3  | 5  | 5  | 0 | 1 non-significant ( $r = -.06$ )<br>4 significantly negative ( $r = -.08$ to $-.27$ )  |
| Job attitudes                         | Job satisfaction; organizational commitment; organizational cynicism (rc)                                                      | Abubakar (2020); Frone (1998); Game (2007); Gkorezis and Vatou (2018); Kass et al. (2001); Lee (1986); Melamed et al. (1995); Parasuraman and Purohit (2000); Reijseger et al. (2013); Spector et al. (2006); Stock (2015, 2016); Van Wyk et al. (2016) | 13 | 15 | 15 | 0 | 15 significantly negative ( $r = -.28$ to $-.61$ )                                     |
| Work engagement and motivation        | Intrinsic motivation; unfavorable prework attitude (rc); work engagement: absorption, dedication, vigor; work engagement total | Baratta and Spence (2018); Gkorezis and Kastritsi (2017); Harju et al. (2016); Metin et al. (2016); Reijseger et al. (2013); Scharp et al. (2023); Schaufeli et al. (2019, 2020); Van Hooff and Van Hooff (2017); Van Wyk et al. (2016)                 | 17 | 36 | 27 | 9 | 1 non-significant ( $r = -.15$ )<br>35 significantly negative ( $r = -.22$ to $-.74$ ) |
| Job performance                       | Customer-oriented behavior; innovative behavior; organizational citizenship behavior; safety compliance; work injuries (rc)    | Frone (1998); Game (2007); Kim et al. (2021); Stock (2015, 2016)                                                                                                                                                                                        | 5  | 5  | 5  | 0 | 1 non-significant ( $r = -.03$ )<br>4 significantly negative ( $r = -.12$ to $-.27$ )  |

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(Continued)

Table 16.1 (Continued)

| Overall outcome category        | Sample outcome measures                                                                                       | References                                                                                                                                                                             | Number of samples | Number of relationships | Study design    |                       | Findings                                                                          |
|---------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------|-----------------|-----------------------|-----------------------------------------------------------------------------------|
|                                 |                                                                                                               |                                                                                                                                                                                        |                   |                         | Cross-sectional | Prospective/<br>Diary |                                                                                   |
| Counterproductive work behavior | Abuse; counterproductive work behavior; property damage; workplace deviance                                   | Andel et al. (2022); Bruursema et al. (2011); Drory et al. (1982); Kim et al. (2021); Metin et al. (2016); Pindek et al. (2018); Spector et al. (2006); Van Hooft and Van Hooft (2014) | 9                 | 10                      | 9               | 1                     | 2 non-significant ( $r = .06-.13$ )<br>8 significantly positive ( $r = .27-.53$ ) |
| Distraction                     | Bored behavior; cyberloafing; engaging in distraction; horseplay; procrastination; smartphone use             | Andel et al. (2022); Bruursema et al. (2011); Dora et al. (2021); Metin et al. (2016); Pindek et al. (2018); Van der Heijden et al. (2012); Van Hooft and Van Hooft (2014)             | 8                 | 8                       | 6               | 2                     | 1 non-significant ( $r = .10$ )<br>7 significantly positive ( $r = .48-.77$ )     |
| Withdrawal                      | Absenteeism; counterproductive work behavior (CWB) withdrawal; early retirement intention; turnover intention | Drory et al. (1982); Harju et al. (2014); Kass et al. (2001); Melamed et al. (1995); Metin et al. (2016); Reijseger et al. (2013); Spector et al. (2006)                               | 8                 | 9                       | 9               | 0                     | 9 significantly positive ( $r = .08-.49$ )                                        |

Note: rc = reverse coded

### *Boredom at work*

#### *Mental ill health*

The most widely studied outcomes of boredom at work relate to indicators of (poor) mental health and affect. Trait boredom shows a fairly consistent positive relationship with indicators of mental ill health, such as negative affect, anxiety, and depression (with  $k = 17$ ;  $r$  values between .08 and .85, with three correlations being non-significant). In contrast, trait boredom is negatively related to positive affect (but only examined by Baratta & Spence, 2018). Also, the studies on job boredom and momentary boredom at work consistently show that work-related boredom is positively related to indicators of mental ill health. The most studied indicators are depression ( $k = 9$ ;  $r$  values between .25 and .65), burnout ( $k = 7$ ;  $r$  values between .18 and .57), distress ( $k = 6$ ;  $r$  values between .17 and .26), anxiety ( $k = 5$ ;  $r$  values between .47 and .67), and negative rumination ( $k = 3$ ;  $r$  values between .14 and .27). Furthermore, in different samples, Baratta and Spence (2018) found that state boredom related positively to negative affect ( $k = 5$ ;  $r$  values between .36 and .65) and negatively to positive affect ( $k = 5$ ;  $r$  values between  $-.40$  and  $-.62$ ). Some support for the directionality of the relationship between work-related boredom and mental health is found in multi-wave studies. For example, in their three-wave study with measures one week apart, Sousa and Neves (2021) found that job boredom at Time 1 predicted burnout at Time 3 as mediated by rumination at Time 2.

#### *Health-related behaviors and outcomes*

Three studies examined the relationship of job boredom with health-related behaviors and outcomes other than mental health. Wiesner et al. (2005) found small positive relationships with the quantity and frequency of alcohol use ( $r = .08$ ) and drug use ( $r = .14$ ) in a sample of young working adults. In a large sample of employees, Harju et al. (2014) found that job boredom negatively related to self-reported health. Rosario-Hernández et al. (2020) reported a negative relationship of job boredom with sleep quality and duration ( $r = -.27$ ). These studies suggest that work-related boredom may have some impact on worker's general health, although future research is needed to examine the causality and generalizability of these findings in other contexts and with a broader range of (objective) indicators of physical health and health behaviors.

#### *Job attitudes*

The most studied job attitude in relation to boredom at work is job satisfaction. One study examined the relationship between trait boredom and job satisfaction, which suggested a negative link (Kass et al., 2001). Ten studies reported relationships between measures of job boredom and job satisfaction, suggesting a moderate to strong negative relationship ( $k = 11$ ;  $r$  values between  $-.28$  and  $-.61$ ). Other job attitudes that are reported in the literature are affective organizational commitment ( $k = 3$ ;  $r$  values between  $-.28$  and  $-.50$ ) and organizational cynicism ( $k = 1$ ;  $r = .41$ ), suggesting that boredom links to negative attitudes towards one's organization. All findings on job attitudes are based on cross-sectional findings, so the directionality and causality of these relationships needs further scrutiny.

#### *Work engagement and motivation*

Work engagement and its three underlying factors (i.e., dedication, vigor, absorption; Schaufeli et al., 2006) and indicators of intrinsic work motivation are widely studied as outcomes (or correlates) of boredom at work. In four different samples, Baratta and Spence (2018) examined the

link between trait boredom and work engagement, finding consistent negative relationships ( $r$  values between  $-.23$  and  $-.65$ ). Also regarding job boredom, studies in different countries consistently reported negative relationships with (the dimensions of) work engagement, ranging between  $-.15$  (which was the only non-significant correlation) and  $-.74$  ( $k = 32$ ). Furthermore, two studies examined the link of job or momentary boredom with intrinsic work motivation (Gkorezis & Kastritsi, 2017; Van Hooff & Van Hooff, 2017), both finding negative relationships ranging between  $-.44$  and  $-.60$ . Some support for the directionality of the relationship between work-related boredom and work engagement/motivation is found in multi-wave studies. Specifically, in a two-wave, three-year panel study, Harju et al. (2016) reported a negative relationship ( $r = -.37$ ) between job boredom at Time 1 and work engagement at Time 2. Van Hooff and Van Hooff (2017) conducted a five-day diary study with measures at the start and end of the workday. They found that work-related boredom on a given day positively relates to a negative prework attitude the next day, which negatively relates to intrinsic motivation at that day (and indirectly positively to work-related boredom). In other words, work-related boredom was found to negatively spill over to work motivation the next day.

### *Job performance*

The link between boredom and job performance has received relatively limited research attention in recent work. Regarding trait boredom, Wallace et al. (2003) concluded that boredom proneness positively predicts cognitive failures in a sample of military personnel (although not all correlations at the dimensional level were significant). Watt and Hargis (2010) found that boredom proneness negatively links to supervisory job performance ratings among healthcare technicians ( $r = -.35$ ). Regarding job boredom, we located five studies that included some indicator of job performance. Specifically, Frone (1998) found a small positive correlation with work injuries ( $r = .12$ ) in a sample of employed students. Game (2007) found that chemical plant employees higher on job boredom (i.e., lower on job boredom coping) were less safety compliant than those lower on job boredom. In samples of customer service employees, Stock (2015) found no significant link with innovative work behavior, while Stock (2016) reported a negative relationship with customer-oriented behavior ( $r = -.26$ ). Finally, Kim et al. (2021) reported a negative relationship with organizational citizenship behavior ( $r = -.27$ ). Thus, although research is scarce, the available findings suggest some indication that boredom negatively links to at least some aspects of job performance.

### *Counterproductive work behavior*

Two studies included measures of trait boredom and counterproductive work behavior (CWB). In their cross-sectional study, Bruursema et al. (2011) found a positive relationship of the external dimension of boredom proneness (i.e., tendency to view the external environment as understimulating) and CWB ( $r = .38$ ), while the internal dimension of boredom proneness (i.e., tendency to not be able to occupy oneself or to create an exciting environment) was not significantly related to CWB ( $r = .09$ ). Using a two-wave design, Van Hooff and Van Hooff (2014) reported a non-significant relationship between boredom susceptibility and CWB one month later ( $r = .05$ ). Regarding job boredom, Spector et al. (2006) found that a one-item job boredom measure positively related to CWB directed against the organization ( $r = .33$ ) but not to CWB directed against people ( $r = .06$ ). Using more elaborate job boredom scales, of the other eight samples, seven consistently found significant positive cross-sectional relationships with CWB, with  $r$  values ranging between  $.27$  and  $.53$ . The only study using a

multi-wave design (with 1.5 weeks between the job boredom and CWB measure; Andel et al., 2022) found a non-significant relationship ( $r = .13$ ). Therefore, future research is needed to further examine if and how boredom at work predicts (what elements) of counterproductive work behavior.

### *Distraction*

Several studies examined to what extent boredom at work links to seeking distraction by engaging in non-functional behaviors while at work. Regarding trait boredom, Bruursema et al. (2011) reported a positive link between external boredom proneness and horseplay (i.e., engaging in non-work-related potentially fun or interesting activities;  $r = .22$ ), but the relationship for internal boredom proneness was not significant ( $r = .02$ ). Van Hooft and Van Hooft (2014) found that boredom susceptibility related positively to engaging in bored behavior (e.g., taking long breaks, doing non-work activities;  $r = .17$ ), and Wan et al. (2014) reported a positive link between boredom proneness and engaging in personal activities while at work ( $r = .33$ ). Of the seven studies (using eight samples; one multi-wave study and one diary study) on job or momentary boredom that included a measure of distraction (i.e., bored behavior, cyberloafing, engaging in distraction, horseplay, procrastination, smart-phone use), six consistently found strong positive correlations, varying between .48 and .73. Only Bruursema et al. (2011) reported a non-significant relationship of job boredom with horseplay ( $r = .10$ ). Thus, most available studies show that boredom instigates workers to seek distraction from their boring work tasks by engaging in other non-work-related activities.

### *Withdrawal*

Finally, various studies examined the link between boredom at work and withdrawal-related outcomes such as absenteeism, falling asleep, working fewer hours, and turnover intentions. Kass et al. (2001) found no significant link between trait boredom and absenteeism in their study among manufacturing workers, while Wallace et al. (2003) found that the affective and time subscales of the BPS (but not the other subscales) significantly related to the propensity to fall asleep at work in their sample of military staff. Regarding job boredom, three studies (i.e., Drory et al., 1982; Kass et al., 2001; Melamed et al., 1995) reported positive links with absenteeism. In three samples, significant positive correlations were reported between job boredom and the withdrawal subscale of the CWB-C (Spector et al., 2006), ranging from .22–.49 (Metin et al., 2016; Spector et al., 2006). Finally, Harju et al. (2014) and Reijseger et al. (2013) found positive links between job boredom and intentions to leave the job. Thus, clear indications have been found that boredom at work induces people to escape from the boredom-inducing situation.

### *Positive outcomes*

While work-related boredom clearly has a host of negative consequences, it has been suggested that it may also lead to positive outcomes (e.g., Fisher, 2018). In the wider boredom literature, some evidence is available that boredom—under certain circumstances—may indeed have some positive outcomes. For example, in a qualitative analysis of boredom, Harris (2000) found that students perceived several advantages of boredom, such as the opportunity for thought and reflection (49%), and for relaxation (29%). These positive outcomes

of boredom may likely only occur in situations of occasional boredom in an otherwise challenging task setting. Furthermore, Barbalet (1999) suggested that boredom functions as a signal that stimulates people to seek meaningfulness, and therefore may motivate people to engage in proactive activities related to variety, novelty, curiosity, and invention. In two experiments among adults, Mann and Cadman (2014) found some evidence that boredom may indeed lead to producing more creative ideas. Similarly, Park et al. (2019) found that an experimental inducement of boredom among students may lead to increased creativity, but only among those with high openness to experiences, high learning goal orientation, high need for cognition, or high internal locus of control. Another way to seek for meaningfulness is the engagement in prosocial behavior. Van Tilburg and Igou (2017) found in two experiments among students that boredom causes people to search for meaningfulness by intending to donate to charity.

In our search for empirical studies on work-related boredom, we found very few studies that addressed potential positive outcomes of boredom at work. In their qualitative study among leaders, Carroll et al. (2010) reported that boredom motivated leaders to search for variety, novelty, and challenge. In his conceptual paper, Skowronski (2012) posed that boredom may lead to organizational citizenship behaviors for employees high on self-determined work motivation (i.e., autonomous motivation). In a five-day diary study among employees, Van Hooff and Van Hooff (2023) found that work-related boredom may lead to engagement in job crafting (i.e., seeking challenges) but only among those high on the trait of self-control. Altogether, these propositions and findings suggests that escaping a boring work situation requires conscious effort, autonomous motivation, and self-regulation. Future research is needed to further examine the potential positive outcomes of boredom at work, as well as the conditions (e.g., personal characteristics, task/organizational factors, contextual factors) that may facilitate or boost positive outcomes of work-related boredom.

### **Causes of boredom at work**

Prior reviews of the literature on boredom at work state that causes of boredom relate to personal factors, job-related factors, and the social environment (e.g., Cummings et al., 2016; Fisher, 1993; Loukidou et al., 2009; Mael & Jex, 2015). To examine the empirical support for the potential causes of boredom at work, we coded from the studies that emerged in our literature search (i.e., 18 studies from the Web of Science search and 16 additional articles from the backward and forward searches) for antecedent type, antecedent measure, univariate relationship (e.g., correlation) with boredom, and significance level. For the antecedents coding, we only included those studies that reported on antecedents of attitudinal or momentary work-related boredom operationalizations (e.g., as measured by Lee's [1986] Job Boredom Scale, Reijseger et al.'s [2013] Dutch Boredom Scale, Van Hooff & Van Hooff's [2014] Work-Related Boredom Scale, Pindek et al.'s [2018] Boredom as Strain Scale, and Baratta & Spence's [2018] State Boredom Inventory). We classified antecedents into the following eight overall categories (with subcategories): demographics (age, gender, and educational level), personality (trait boredom, "Big 5" factors [conscientiousness, agreeableness, neuroticism, openness, and extraversion/extroversion], and other traits), malleable personal factors (work attitudes, personal skills, and job crafting), quantitative job descriptors (tenure, number of work hours, and job level), job demands (challenging and hindering demands), job resources, person-job fit, and social environment (leader, colleagues). Table 16.2 displays the results, clustered by antecedent category. Again, a point of attention is that the vast majority of findings are based on cross-sectional relationships between the antecedent and boredom.

Table 16.2 Systematic review of findings of antecedents of job/momentary boredom in samples of individual workers/employees

| Overall antecedent category | Sample antecedent measures                                     | References                                                                                                                                                                                                                                                                                                                                                          | Number of samples | Number of relationships | Study design    |                                         | Findings                                                                                                                 |
|-----------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------|-----------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|                             |                                                                |                                                                                                                                                                                                                                                                                                                                                                     |                   |                         | Cross-sectional | Prospective/<br>diary                   |                                                                                                                          |
| Demographics                |                                                                | Abubakar (2020); Drory et al. (1982); Frone (1998); Game (2007); Gkorezis and Kastritsi (2017); Gkorezis and Vatou (2018); Harju et al. (2014, 2016); Hill (1975); Kim et al. (2021); Parasuraman and Purohit (2000); Pindek et al. (2018); Sánchez-Cardona et al. (2020); Stock (2015, 2016); Toscanelli et al. (2022); Van Hooff and Van Hooft (2014, 2016, 2017) |                   |                         |                 |                                         |                                                                                                                          |
| Age                         |                                                                |                                                                                                                                                                                                                                                                                                                                                                     | 19                | 20                      | 17              | 3                                       | 4 non-significant ( $r = -.11-.09$ )<br>16 significantly negative ( $r = -.18-.41$ )                                     |
| Gender (high = female)      |                                                                |                                                                                                                                                                                                                                                                                                                                                                     | 12                | 12                      | 9               | 3                                       | 8 non-significant ( $r = -.13-.08$ )<br>3 significantly negative ( $r = -.12$ ; two report no $r$ )                      |
| Educational level           |                                                                |                                                                                                                                                                                                                                                                                                                                                                     | 6                 | 7                       | 6               | 1                                       | 1 significantly positive ( $r = .16$ )<br>6 non-significant ( $r = -.09-.08$ )<br>1 significantly positive ( $r = .30$ ) |
| Personality                 |                                                                | Baratta and Spence (2018); Bruursema et al. (2011); Frone (1998); Hill (1975); Kass et al. (2001); Kim et al. (2021); Oprea et al. (2019); Scharp et al. (2023); Stock (2016); Toscanelli et al. (2022); Van Hooff and Van Hooft (2014)                                                                                                                             |                   |                         |                 |                                         |                                                                                                                          |
| Trait boredom               | Boredom proneness; boredom susceptibility; trait boredom       |                                                                                                                                                                                                                                                                                                                                                                     | 8                 | 10                      | 5               | 5                                       | 1 non-significant ( $r = .10$ )<br>9 significantly positive ( $r = .20-.75$ )                                            |
| Neuroticism                 | Machiavellianism; neuroticism; psychopathy; self-efficacy (rc) |                                                                                                                                                                                                                                                                                                                                                                     | 5                 | 6                       | 5               | 1                                       | 6 significantly positive ( $r = .19-.34$ )                                                                               |
| Conscientiousness           | Conscientiousness; Laziness (rc)                               |                                                                                                                                                                                                                                                                                                                                                                     | 2                 | 2                       | 2               | 2                                       | 2 significantly negative ( $r = -.20-.43$ )                                                                              |
| Openness to experience      | Imagination                                                    |                                                                                                                                                                                                                                                                                                                                                                     | 1                 | 1                       | 1               | 1                                       | 1 significantly positive ( $r = .42$ )                                                                                   |
| Extraversion                | Extraversion                                                   |                                                                                                                                                                                                                                                                                                                                                                     | 1                 | 1                       | 0               | 1                                       | 1 non-significant ( $r = .06$ )                                                                                          |
| ADHD                        | ADHD                                                           |                                                                                                                                                                                                                                                                                                                                                                     | 3                 | 3                       | 0               | 3                                       | 3 significantly positive ( $r = .50$ to $.60$ )                                                                          |
| Rebelliousness              | Psychological reactance                                        |                                                                                                                                                                                                                                                                                                                                                                     | 1                 | 1                       | 1               | 0                                       | 1 non-significant ( $r = .07$ )                                                                                          |
| Rigidity                    | Behavioral rigidity                                            |                                                                                                                                                                                                                                                                                                                                                                     | 1                 | 1                       | 1               | 0                                       | 1 non-significant ( $r = .05$ )                                                                                          |
| Sense of coherence          | Sense of coherence                                             | 1                                                                                                                                                                                                                                                                                                                                                                   | 1                 | 1                       | 0               | 1 significantly negative ( $r = -.35$ ) |                                                                                                                          |

(Continued)

Table 16.2 (Continued)

| Overall antecedent category            | Sample antecedent measures                             | References                                                                                                                                                                                                                                                         | Number of samples | Number of relationships | Study design    |                   | Findings                                                                                                                                        |
|----------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------|-----------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        |                                                        |                                                                                                                                                                                                                                                                    |                   |                         | Cross-sectional | Prospective/diary |                                                                                                                                                 |
| <b>Malleable personal factors</b>      |                                                        | Andel et al. (2022); Harju et al. (2016, 2018);                                                                                                                                                                                                                    |                   |                         |                 |                   |                                                                                                                                                 |
| Work commitment                        | Career calling; work centrality; work importance       | Kim et al. (2021); Oprea et al. (2019); Parasuraman & Purohit (2000); Sánchez-Cardona et al. (2020);                                                                                                                                                               | 3                 | 3                       | 2               | 1                 | 3 significantly negative ( $r = -.15-.43$ )                                                                                                     |
| Personal skills                        | Proactive skills; time management skills               | Scharp et al. (2023);                                                                                                                                                                                                                                              | 1                 | 2                       | 2               | 0                 | 2 significantly negative ( $r = -.17-.46$ )                                                                                                     |
| Job crafting (JC) overall              | Job crafting total; playful work design; task crafting | Van der Heijden et al. (2012); Van Hooff and Van Hooff (2014, 2016)                                                                                                                                                                                                | 3                 | 4                       | 2               | 2                 | 2 non-significant ( $r = .02-.04$ )<br>2 significantly negative ( $r = -.14-.27$ )                                                              |
| JC: increasing challenging job demands |                                                        |                                                                                                                                                                                                                                                                    | 5                 | 5                       | 4               | 1                 | 1 non-significant ( $r = .00$ )<br>4 significantly negative ( $r = -.20-.35$ )                                                                  |
| JC: decreasing hindering job demands   |                                                        |                                                                                                                                                                                                                                                                    | 3                 | 3                       | 3               | 0                 | 1 non-significant ( $r = .03$ )<br>2 significantly positive ( $r = .27-.34$ )                                                                   |
| JC: increasing structural resources    |                                                        |                                                                                                                                                                                                                                                                    | 5                 | 5                       | 4               | 1                 | 5 significantly negative ( $r = -.19-.41$ )                                                                                                     |
| JC: increasing social resources        |                                                        |                                                                                                                                                                                                                                                                    | 4                 | 4                       | 3               | 1                 | 2 non-significant ( $r = -.06-.10$ )<br>2 significantly negative ( $r = -.15-.16$ )                                                             |
| <b>Quantitative job descriptors</b>    |                                                        | Abubakar (2020); Drory et al. (1982); Frone (1998); Game (2007); Gkorezis and Kastritsi (2017); Gkorezis and Vatoú (2018); Harju et al. (2014); Hill (1975); Kass et al. (2001); Kim et al. (2021); Stock (2015, 2016); Van Hooff and Van Hooff (2014, 2016, 2017) |                   |                         |                 |                   |                                                                                                                                                 |
| Tenure                                 | Job experience; Job tenure; Organizational tenure      |                                                                                                                                                                                                                                                                    | 12                | 15                      | 13              | 2                 | 7 non-significant ( $r = -.16-.02$ )<br>5 significantly negative ( $r = -.24-.11$ )<br>3 significantly positive ( $r = .23$ or no $r$ reported) |
| Number of work hours                   | Daily work hours; Weekly work hours                    |                                                                                                                                                                                                                                                                    | 4                 | 4                       | 3               | 1                 | 3 non-significant ( $r = -.10-.04$ )<br>1 significantly positive ( $r = .14$ )                                                                  |
| Job level                              | Supervisor vs. employee                                |                                                                                                                                                                                                                                                                    | 1                 | 1                       | 1               | 0                 | 1 significantly negative (no $r$ reported)                                                                                                      |
| Income                                 |                                                        |                                                                                                                                                                                                                                                                    | 1                 | 1                       | 1               | 0                 | 1 non-significant ( $r = -.10$ )                                                                                                                |
| Contract type                          | Permanent vs. fixed term                               |                                                                                                                                                                                                                                                                    | 1                 | 1                       | 1               | 0                 | 1 non-significant (no $r$ reported)                                                                                                             |
| Firm size                              | Number of employees                                    |                                                                                                                                                                                                                                                                    | 2                 | 2                       | 2               | 0                 | 2 non-significant ( $r = -.12-.04$ )                                                                                                            |

|                         |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                    |    |    |    |   |                                                                                                |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|---|------------------------------------------------------------------------------------------------|
| <b>Job demands</b>      |                                                                                                                                                                                                                     | Frone (1998); Melamed                                                                                                                                                                                                                                              |    |    |    |   |                                                                                                |
| Challenging job demands | Cognitive demands; emotional demands; mental demands; psychological job demands; task difficulty; workload; work underload (rc)                                                                                     | et al. (1995); Metin et al. (2016); Parasuraman and Purohit (2000); Pindek et al. (2018); Reijseger et al. (2013); Sousa and Neves (2021);                                                                                                                         | 11 | 16 | 16 | 0 | 3 non-significant ( $r = -.03$ – $-.02$ )<br>13 significantly negative ( $r = -.04$ – $-.54$ ) |
| Hindering job demands   | Disagreeable work environment; repetitive work; role ambiguity                                                                                                                                                      | Toscanelli et al. (2022); Van Wyk et al. (2016); Wiesner et al. (2005)                                                                                                                                                                                             | 3  | 3  | 3  | 0 | 3 significantly positive ( $r = .28$ – $.33$ )                                                 |
| <b>Job resources</b>    | Autonomy; decision authority; feedback at work; learning and development opportunities; meaningful work; need satisfaction at work; skill discretion; skill variety; task identity; task significance; task variety | Hill (1975); Metin et al. (2016); Parasuraman & Purohit (2000); Reijseger et al. (2013); Sánchez-Cardona et al. (2020); Scharp et al. (2023); Stock (2015, 2016); Toscanelli et al. (2022); Van Hooft and Van Hooft (2017); Whiteoak (2014); Wiesner et al. (2005) | 13 | 25 | 23 | 2 | 2 non-significant ( $r = .01$ – $.21$ )<br>23 significantly negative ( $r = -.21$ – $-.67$ )   |
| <b>Person–job fit</b>   | Matching job expectations; overqualification (rc)                                                                                                                                                                   | Andel et al. (2022); Gkorezis and Kastritsi (2017); Gkorezis and Vatou (2018); Kim et al. (2021); Sánchez-Cardona et al. (2020)                                                                                                                                    | 6  | 6  | 5  | 1 | 6 significantly negative ( $r = -.29$ – $-.57$ )                                               |

(Continued)

Table 16.2 (Continued)

| Overall antecedent category | Sample antecedent measures                                                                                                              | References                                                                                                        | Number of samples | Number of relationships | Study design    |                       | Findings                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------|-----------------|-----------------------|--------------------------------------------------------------------------------------|
|                             |                                                                                                                                         |                                                                                                                   |                   |                         | Cross-sectional | Prospective/<br>diary |                                                                                      |
| <b>Social environment</b>   |                                                                                                                                         | Frone (1998); Gkorezis and Vatou (2018);                                                                          |                   |                         |                 |                       |                                                                                      |
| Leader support              | Conflict with supervisor (rc); empowering leadership; servant leadership; supervisor monitoring; supervisor support                     | Harju et al. (2018); Parasuraman and Purohit (2000); Reijseger et al. (2013); Scharp et al. (2023); Stock (2015); | 6                 | 7                       | 6               | 1                     | 7 significantly negative ( $r = -.15$ – $-.51$ )                                     |
| Support others              | Conflict with coworkers (rc) Informational support by customers; organizational support; social support Colleagues; social tension (rc) | Toscanelli et al. (2022)                                                                                          | 5                 | 6                       | 6               | 0                     | 1 non-significant ( $r = -.08$ )<br>5 significantly negative ( $r = -.15$ – $-.47$ ) |

Note: rc = reverse coded

Therefore, interpreting these factors as antecedents of boredom at work can only be done on theoretical rather than empirical grounds. Future research is needed to more thoroughly establish the causality of the relationships between the listed antecedents and work-related boredom.

### *Personal factors*

Previous models and reviews on boredom at work pose that individuals differ in the extent to which they are likely to experience work-related boredom (e.g., Cummings et al., 2016; Fisher, 1993; Loukidou et al., 2009; Mael & Jex, 2015). Such individual differences may relate to relatively stable personal factors such as demographics and personality, and more malleable personal factors related to work attitudes, skills, and (proactive) behaviors at work. In the following subsections, we review empirical evidence for each of these factors (see Table 16.2).

#### *Demographics*

Various studies reported information on age, gender, and educational level in relationship with boredom at work. Of the 20 relationships regarding *age*, 16 demonstrate a significant negative association (with correlations ranging between  $-.18$  and  $-.41$ ). Thus, work-related boredom seems to occur more often among younger rather than older workers. Regarding *gender*, the 12 relationships show mostly non-significant associations. Of the four significant relations, three indicate that males experience slightly more boredom than females. Also, for *educational level*, relationships were mostly non-significant, suggesting no clear differences in work-related boredom depending on level of education.

#### *Personality*

Regarding personality factors and boredom at work, *trait boredom* was studied the most. Of the ten relationships, nine were significant with correlations ranging between  $.20$  and  $.75$ . These studies used the Boredom Proneness Scale (Farmer & Sundberg, 1986; Struk et al., 2017) or the Multidimensional Trait Boredom Scale (Gerritsen et al., 2014). The only study that did not report a non-significant relationship (Van Hooff & Van Hooft, 2014), used the boredom susceptibility subscale of Zuckerman et al.'s (1980) Sensation Seeking Scale. Altogether, these findings suggest that trait boredom and boredom proneness show a moderate to strong relation with work-related boredom.

Various other personality facets have been studied in relation to boredom at work. When clustering these facets into the “Big 5” personality factors (if possible), it becomes clear that *neuroticism* relates moderately positively to boredom ( $k = 6$ ;  $r$  values ranging between  $.19$  and  $.34$ ). Two studies reported links between *conscientiousness* and boredom, both showing significant negative relationships ( $r = -.20$  and  $r = -.43$ ). One study examined *openness to experience*, indicating a relatively strong positive relationship ( $r = .42$ ). However, the one study reporting on *extraversion* found no significant relation with boredom. In addition to “Big 5”-related personality factors, several studies reported links of other personality traits. In three samples, Baratta and Spence (2018) found strong positive relationships between *ADHD* (attention deficit hyperactivity disorder) and boredom at work ( $r$  values ranging between  $.50$  and  $.60$ ). Finally, Toscanelli et al. (2022) found a moderate negative relationship between *sense of coherence* and boredom at work ( $r = -.35$ ).

### *Malleable personal factors*

In addition to relatively stable personal characteristics such as demographics and personality, previous studies have examined the role of more malleable factors such as work attitudes, personal skills, and job crafting. Three studies included aspects indicative of *work commitment* (i.e., career calling, importance of work for self-image, work centrality), reporting negative relations with boredom at work ( $k = 3$ ;  $r$  values between  $-.15$  and  $-.43$ ). Van der Heijden et al. (2012) included two personal skills—*time-management skills* and *proactiveness skills*—and found that both relate significantly negatively to experiencing boredom at work ( $r$  values of  $-.46$  and  $-.17$ , respectively).

A more widely studied personal behavior in the context of work-related boredom is *job crafting*, which refers to behaviors initiated by employees that aim to change their work tasks and/or the people they interact with at work in order to improve their person–job fit and work motivation (Tims et al., 2012). Previous research typically distinguished between four different types of job crafting behaviors. First, *increasing challenging job demands* (i.e., taking on new projects and extra tasks) was included in five studies, of which four showed significant negative relationships with boredom (significant  $r$  values ranged between  $-.20$  and  $-.35$ ). Second, three studies included *decreasing hindering job demands* (i.e., trying to make the work less mentally and emotionally intense), of which two showed a significant positive relationship ( $r$  values of  $.27$  and  $.34$ ). Third, *increasing structural job resources* (i.e., trying to develop and learn at work) was included in five studies and consistently showed significant negative relations with boredom ( $r$  values ranging between  $-.19$  and  $-.41$ ). Fourth, *increasing social resources* (i.e., asking others for feedback, advice, or coaching) showed a more mixed pattern, with two studies showing small but significant negative relationships ( $r$  values of  $-.15$  and  $-.16$ ) and two studies showing non-significant relationships with boredom. Altogether, specific types of job crafting seem to relate to boredom at work, such that especially efforts to increase challenge and development opportunities links to reduced boredom. Given the mixed and sometimes even opposing findings for the job crafting dimensions, future research should avoid using overall job crafting scores when studying the relationship with boredom.

### *Job-related factors*

The findings on personal characteristics show that certain people are generally more inclined to experience boredom at work. However, definitions of boredom that typically describe boredom as an activity-related emotional state imply that actual experienced boredom also depends on situational factors linked to the specific job or work tasks that employees perform. Based on a review of the literature, Loukidou et al. (2009) concluded that repetitive and monotonous tasks are important determinants of boredom at work. Fisher (1993) noted that in addition to such a qualitative underload, boredom may be induced by quantitative underload (i.e., having little or nothing to do). Based on influential theories of employee motivation and well-being, a more comprehensive picture of potential job-related causes of boredom can be identified. For example, Hackman and Oldham's (1975) Job Characteristics Model (JCM) suggests that jobs and work tasks that are low on skill variety, task identity, task significance, autonomy, and feedback should be more likely to induce boredom (Fisher, 1993; Van Hooft & Van Hooft, 2017). Self-determination theory (Deci & Ryan, 2000) suggests that a lack of satisfaction (or frustration) of the core needs for autonomy, competence, and relatedness reduces well-being, thus suggesting that job tasks which are low (or negative) on need satisfaction may induce boredom at work. Applying the Job Demands-Resources Model (JD-R; Schaufeli & Bakker, 2004)

to work-related boredom would suggest that a combination of low job demands (i.e., lack of aspects in the job that cost effort and energy, such as low workload, low mental demands) and low job resources (i.e., lack of aspects in the job that are motivating and help cope with demands such as low autonomy, low variety, and low support) produce an unchallenging work environment that likely induces boredom (Reijseger et al., 2013). Distinguishing job demands into challenging and hindering job demands, however, may suggest a further specification. Specifically, it can be argued that whereas *low* challenging demands may induce boredom, *high* hindrance demands may lead to boredom. Finally, in his theory on flow, Csikszentmihalyi (1999) proposed that boredom occurs when individuals' skills are greater than the challenges posed by the activity, which suggests a fit perspective on the causes of boredom. In the following subsections, we review empirical evidence for each of these factors, as well as more quantitative job descriptors such as tenure, number of work hours, and job level (see Table 16.2).

### *Quantitative job descriptors*

The most frequently studied quantitatively describing job factor is *tenure*. Of the 15 relationships coded, eight were significant, however with varying signs (three positive, five negative). These findings may suggest that it is more the circumstances or underlying mechanisms that are important in understanding the role of tenure in relation to boredom (e.g., when people find a job boring they likely leave, suggesting a negative relationship of tenure; however, when leaving or advancement is not an option, then tenure may positively relate to boredom). The *number of work hours* seems to be mostly unrelated to work-related boredom, with three out of four relationships non-significant. One study reported the link between *job level* and boredom in a large sample of employees in various occupations (Harju et al., 2014), indicating that supervisors report less boredom than employees. Other factors such as *income*, *contract type*, and *firm size* were reported only once or twice, all with non-significant relationships to boredom at work.

### *Job demands*

Regarding challenging job demands, boredom research has focused on workload and psychological demands. We located eight samples that reported a relationship between an indicator of *workload* (i.e., workload, overload, underload) and boredom at work. Of these, six reported a significant correlation indicating that higher workload relates negatively to boredom ( $r$  values of the significant relationships between  $-.20$  and  $-.50$ ). In addition to workload, various studies examined the role of *psychological demands* (i.e., mental, cognitive, and/or emotional demands) in relation to boredom at work. The six samples found all report significant negative relationships varying between  $-.04$  (emotional demands; Reijseger et al., 2013) and  $-.54$  (cognitive demands; Wiesner et al., 2005). The effect sizes suggest that it is more the cognitive and mental demands of the job that link to boredom rather than the emotional demands. One study examined the link between *task difficulty* and boredom, showing a non-significant relation in a sample of orchestra musicians (Parasuraman & Purohit, 2000). A potential explanation is that both too easy and too difficult tasks may evoke boredom (Fisher, 1993, 2018), suggesting a curvilinear rather than a linear relation between task difficulty and boredom.

Very few studies have included hindering job demands in relation to boredom at work. One study showed a significant positive relationship between *repetitive work* and boredom ( $r = .32$ ; Melamed et al., 1995), one study found a significant positive relationship between *role ambiguity* and boredom ( $r = .28$ ; Frone, 1998), and one study reported that disagreeable *physical working conditions* in terms of poor hygiene factors link to boredom ( $r = .33$ ; Parasuraman &

Purohit, 2000). Altogether, the findings on job demands support the assumption that challenging job demands decrease boredom, whereas hindering job demands increase boredom.

### *Job resources*

*Autonomy* is the job resource that has been studied most often in relation to boredom at work. Ten of the 11 relationships are significant, indicating that autonomy relates negatively to boredom at work ( $r$  values varying between  $-.21$  and  $-.56$ ). One study distinguished between two facets of autonomy (i.e., skill discretion and decision authority; Toscanelli et al., 2022), and found that especially skill discretion is important for preventing boredom. Various other job characteristics or job resources have been examined by only one or two studies, showing consistent negative relationships with boredom. Specifically, *skill variety* ( $k = 2$ ;  $r$  values  $-.58$  and  $-.65$ ), *meaningful work* ( $k = 2$ ;  $r$  values  $-.44$  and  $-.67$ ) and *job challenge* ( $k = 1$ ;  $r = -.54$ ) showed strong negative relations with boredom at work. *Opportunities for learning and development* ( $k = 2$ ;  $r$  values  $-.28$  and  $-.36$ ), *feedback at work* ( $k = 2$ ;  $r$  values  $-.21$  and  $-.34$ ), *task significance* ( $k = 1$ ;  $r = -.34$ ), and *task identity* ( $k = 1$ ;  $r = -.26$ ) showed moderate negative relations with boredom at work. Van Hooff and Van Hooff (2017) showed that the associations between job resources and boredom are at least partially mediated by need satisfaction (i.e., the satisfaction of the needs for autonomy, competence, and relatedness) and intrinsic work motivation.

### *Person–job fit*

Finally, several studies examined person–job fit related variables as antecedents of boredom. Supporting Csikszentmihalyi's (1999) suggestion that boredom occurs when employee skills are greater than needed for the job, the five studies examining perceived *overqualification* consistently showed significant positive relationships with boredom at work of moderate to strong size ( $k = 5$ ;  $r$  values ranging between  $.29$  and  $.57$ ). One study looked *matching job expectations* (Gkorezis & Kastritsi, 2017), finding that better matching jobs associate with less work-related boredom ( $r = -.36$ ).

### *Social environment*

Previous reviews of boredom at work note that the social environment may play a double role, as the presence of others can either reduce or enhance boredom depending on the nature and quality of interactions (Fisher, 1993; Loukidou et al., 2009). In our review, we identified eight studies that included some measure indicative of the social environment at work. Five studies had a measure related to positive *leader support* (e.g., supervisor support, empowering leadership, servant leadership), consistently showing significant negative relationships with boredom ( $r$  values varying between  $-.15$  and  $-.51$ ). One study showed a negative link between *supervisor monitoring* and boredom ( $r = -.29$ ; Frone, 1998). The potential of close supervisor monitoring in preventing boredom may, however, depend on style of the monitoring (e.g., autonomy-supporting monitoring may be more stimulating than controlling monitoring). One study included *conflict with supervisor*, showing a positive link with boredom at work ( $r = .20$ ; Frone, 1998). These findings indeed suggest that leaders can both reduce or enhance the experience of boredom among their employees, depending on the nature of their interactions and relationships.

Finally, in addition to leader support, also *support* from coworkers, customers, and the organization is found to negatively associate with boredom at work ( $k = 4$ ;  $r$  values range between

-.15 and -.36). In contrast, *social tension and conflict with coworkers* may positively associate with boredom at work, although of the studies addressing this, only one showed a significant positive association ( $r = .47$ ; Parasuraman & Purohit, 2000).

### **Suggestions for future research and practice**

Based on the systematic review of the literature, we offer several suggestions for future research relating to the conceptualization and measurement of boredom at work, study designs, and causes and consequences. We further offer several implications for organizations and individuals how to prevent or cope with boredom at work.

#### ***Conceptualization and measurement***

In work-related research, boredom has been conceptualized and examined as a relatively stable trait (i.e., *trait boredom*, which indicates the general tendency to be bored), a job-related attitude-like construct (i.e., *job boredom*, which indicates the extent to which people generally perceive their job as boring), or a transient emotional experience linked to the current task and/or situation (i.e., *momentary boredom*). Future research should carefully distinguish between these conceptualizations of boredom, design studies accordingly to capture the temporal dynamics, and examine the causes, mechanisms, and consequences at each level. Furthermore, in the popular press (e.g., Rothlin & Werder, 2008) the term ‘boreout’ is often used, which seems to refer to a more chronic and profound state of intense boredom. Future research is needed to conceptualize such chronic boredom and examine whether it has added value (or simply means a high score on typical job boredom measures). Potentially it is useful to distinguish job boredom (which is context-specific) from life boredom as a chronic syndrome that covers all life aspects. Also, future research is needed to uncover when and how boredom develops from a momentary experience into more stable job attitude and eventually in a chronic syndrome that encompasses all life domains. Some first indications of such ‘loss spirals’ explaining the development of boredom suggest that boredom relates to passive rather than active coping (Van Hooff & Van Hooff, 2023), unfavorable work attitudes (Van Hooff & Van Hooff, 2017), and altered perceptions of job demands (Harju et al., 2022) which subsequently further enhance work-related boredom.

Commonly used measures of work-related boredom (e.g., Baratta et al., 2018; Lee, 1986; Reijseger et al., 2013) often include not only the experience of boredom per se, but also job characteristics that can be considered potential causes of boredom (e.g., monotony, repetitiveness, having little to do), other emotional experiences (e.g., fatigue, tiredness, restlessness, irritation), and thoughts or behaviors that can be interpreted as potential consequences of boredom (e.g., daydreaming, wanting to change jobs). Future research is needed to establish what is part of the core boredom experience and what should be considered as potential causes, consequences, or related but conceptually different emotions. A potential avenue for developing a conceptualization and corresponding measures of work-related boredom (both at the momentary, attitude, and chronic level) might be to build on general characterizations of emotions (e.g., Scherer, 2005). These would suggest that boredom can be characterized by: (a) subjective feelings (e.g., feeling bored); (b) cognitive components (e.g., attentional problems, difficulty concentrating, perceptions of time passing by slowly); (c) bodily symptoms (e.g., collapsed upper body); (d) facial and vocal expression; and (e) action tendencies (e.g., wanting stimulation or engagement in meaningful behavior).

Relatedly, future research is needed to examine the role of arousal and activation in relation to work-related boredom. As discussed, definitions and conceptualizations of boredom conflict

in whether boredom is a low and/or high arousal emotion, or whether the occurrence of both low and high arousal is a unique and defining element of boredom (Fahlman et al., 2013; Fisher, 2018). Non-work-related research on boredom showed that different types of boredom can be distinguished depending on arousal level (e.g., Goetz et al., 2014) and that boredom's arousal level depends on characteristics of the boredom-evoking situation (e.g., Van Hooff & Van Hooff, 2018). Combined, these findings may, for example, suggest that we should distinguish between low arousal boredom, which results from lack of challenge demands, and high arousal boredom, which results from lack of autonomy and abundance of hindrance demands. Alternatively, future research could carefully examine the onset and development of the boredom experience to investigate whether arousal level is linked to the causes of boredom, evolves or changes during the experience of boredom, or is more of a consequence of failed coping with boredom.

### *Causes and consequences of boredom at work*

Our systematic review indicated that the vast majority of research on potential causes and consequences of work-related boredom used cross-sectional designs. In drawing conclusions on cause and effect, we can therefore only rely on theoretical arguments rather than empirical evidence. Some studies used repeated-measures designs allowing for testing the directionality of proposed relationships. Regarding proposed causes, Andel et al. (2022) and Harju et al. (2016; 2018), for example, found that job crafting negatively predicts work-related boredom at a later point in time. Regarding proposed consequences, Sousa and Neves (2021) and Van Hooff and Van Hooff (2016) showed that work-related boredom negatively predicts mental health, and Harju et al. (2016) showed that work-related boredom negatively predicts work motivation and engagement. Nevertheless, future research is needed to more thoroughly establish not only the directionality but also the causality of the proposed relationships. While in non-work-related research, this can be done using lab experiments (e.g., Van Tilburg & Igou, 2012, 2017; Van Hooff & Van Hooff, 2018), in field settings among workers, the use of experimental designs is a challenge. Repeated-measures designs testing for the proposed and reversed directionality and modeling the explaining mechanisms might offer an alternative to improve our understanding of the causes and consequences of boredom at work. Careful attention should be given to the timing and spacing of the measures, given that the processes associated with boredom may occur quickly in time.

In addition to methodological suggestions, we offer several more content-related suggestions for future research. In our systematic review of consequences, we located very few studies that included some indicator of physical health and health behaviors (i.e., Harju et al., 2014; Rosario-Hernández et al., 2020; Wiesner et al., 2005). Because these studies indicate that work-related boredom might affect the general health of workers, future research is needed to more thoroughly examine the effects of work-related boredom on health behaviors and physical health outcomes, using a broader range of (objective) indicators of physical health and health behaviors, as well as uncovering the underlying mechanisms. Furthermore, our systematic review indicated some ambiguity on the relationship of work-related boredom with counterproductive work behavior (CWB). Future research is needed to further examine if and how boredom at work predicts of CWB (and what elements of it), its underlying mechanisms, and whether these relationships are moderated by characteristics of the person, job, or situation. Future research should also focus on task- and contextual-performance outcomes of work-related boredom, including moderators and mediators in these relationships.

Interestingly, the only study including an indicator of contextual performance (i.e., organizational citizenship behavior; Kim et al., 2021) reported a negative relationship with work-related boredom, whereas some non-work-related studies found that boredom may have positive effects on prosocial behaviors (e.g., Van Tilburg & Igou, 2017). Research on positive outcomes of work-related boredom (i.e., in working samples), however, is virtually non-existent. Future research should therefore focus on uncovering potential positive outcomes of boredom at work, as well as the conditions (e.g., personal characteristics, task/organizational factors, contextual factors) that may facilitate or boost such positive outcomes.

### *Practical implications*

Given the potential negative consequences of work-related boredom for both employee well-being and organization-relevant outcomes, organizations should aim in their *work design* for designing non-boring jobs. For example, jobs should have adequate demands in terms of workload, cognitive challenge, and working conditions. Organizations should further offer sufficient resources in terms of autonomy, variety in skill use, experience of meaningfulness (i.e., task identity, task significance), task feedback, and opportunities for learning and development. Organizations should further facilitate a supportive organizational environment by offering organizational support, supervisor support, and colleague support, such that employees experience a sense of relatedness with their team and organization. Specifically in times when there is little work to do, organizations should focus on training new skills and team building.

Furthermore, it is highly important that organizations create a *climate* in which work-related boredom can be discussed in an open and non-judgmental way. Supervisors should be trained to make sure that employees feel safe to discuss their work content and potential feelings of boredom. For example, organizations need to be open to facilitation of employee job crafting initiatives and provide job crafting training to their employees.

In addition to work design and organizational climate, our review suggests some recommendations for *personnel selection*. For example, when selecting employees, attention should be paid to person-job fit so as to prevent hiring of overqualified employees. Also, certain specific jobs may inherently involve boring episodes that cannot be altered. Besides offering a supportive environment for employees in such jobs, organizations might consider inclusion of trait boredom in the personnel selection for these specific jobs to ensure a better fit between the person and the job. While the selection on trait boredom may raise ethical concerns, selection on neuroticism and conscientiousness (both predictors of job boredom) may provide alternatives that are more common practice.

Individual employees themselves should monitor their experience of boredom, and not wait too long before taking action. Employees can invest in active, problem-focused coping strategies such as job crafting to improve the stimulation and meaning experienced at work. Taking job crafting initiatives, however, requires self-regulation, which may be difficult when in a state of boredom (see Chapter 9). One way to circumvent self-regulation is to form implementation intentions to facilitate the initiation of job crafting activities when feeling bored. Implementation intentions refer to preformed if/then plans that link the occurrence of a certain situation (i.e., when I experience boredom) to a goal-directed action (i.e., I will perform a specific job crafting initiative), which have been shown to facilitate action initiation for a wide variety of behaviors (Gollwitzer, 1999). When raising the issue of boredom and job crafting at work are not possible, or when the organizational climate feels unsafe, employees may consider leisure crafting. Engagement in leisure activities that satisfy the needs for autonomy, competence, and relatedness may alleviate the negative effects of work-related boredom on mental health.

Alternatively, when the job content cannot be changed, employees should consider changing jobs in a timely manner in order to prevent chronic boredom.

## Conclusion

Boredom at the workplace is a rather common experience that is linked to people's work activities (momentary boredom) or to the job in general (job boredom). Work-related boredom evolves in response to understimulation or dysfunctional activation of employee capabilities, and as such can be distinguished from other employee well-being constructs such as burnout, fatigue, intrinsic motivation, and work engagement. Our systematic review identified the causes of boredom at work, which relate to personal factors (i.e., age, personality, work commitment, job crafting), job-related factors (i.e., low challenge demands, high hindrance demands, low job resources, and poor person–job fit), and social factors (i.e., low social support, high social tension). In addition, our systematic review indicated that boredom at work relates to a host of negative consequences, such as mental ill health (e.g., anxiety, distress, depression, burnout), negative job attitudes (e.g., reduced job satisfaction, lower affective commitment), reduced work motivation and engagement, lower job performance, more counterproductive work behavior, distractive behavior, and withdrawal from work. These negative consequences can be understood from motivational and affect theories, which suggest that boredom as an unpleasant emotion signals a discrepancy between the current and desired state. When such discrepancies are not reduced, this may have negative effects for employee well-being and behavior. Given its negative consequences, organizations should design jobs such to prevent the development of boredom. When experiencing boredom at work, employees should be facilitated to craft their jobs to incorporate more challenging and meaningful activities.

## Note

- 1 Here,  $k$  represents the number of relationships (which can be higher than the number of independent samples or studies).

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