

PROCRASTINATION AND AUTHENTICITY AT WORK

The Conceptualization and Validation of
Two Contemporary Phenomena

Ü. Baran Metin

**Procrastination
and
Authenticity at Work
The Conceptualization and
Validation of Two Contemporary
Phenomena**

Ümit Baran Metin

Ü. Baran Metin

Procrastination and Authenticity at Work: The Conceptualization and
Validation of Two Contemporary Phenomena

214 pages

Copyright © 2022 by Ü. Baran Metin

All rights reserved.

PhD thesis, Utrecht University, Utrecht, The Netherlands (2022)

With references and summary in Dutch

ISBN: 978-94-6423-777-1

Printed by: ProefschriftMaken || www.proefschriftmaken.nl

Layout by: Ü. Baran Metin

Cover design by: A. Tülay Baybağ

Procrastination and Authenticity at Work

The Conceptualization and Validation of Two Contemporary Phenomena

Uitstelgedrag en authenticiteit op het werk: De conceptualisatie en validatie van twee hedendaagse verschijnselen op het werk

(met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor aan de
Universiteit Utrecht
op gezag van de
rector magnificus, prof.dr. H.R.B.M. Kummeling,
ingevolge het besluit van het college voor promoties
in het openbaar te verdedigen op

woensdag 11 mei 2022 des middag te 2.15 uur

door

Ümit Baran Metin

geboren op 27 augustus 1984
te Istanbul, Turkije

Promotoren

Prof. dr. A.W. Taris

Prof. dr. M.C.W. Peeters

Canım aileme.

Sizi her Őeyden ok seviyorum...

Contents

Chapter 1

General Introduction.....Page 7

Chapter 2

Measuring Procrastination at Work and Its Associated Workplace Aspects.....Page 29

Chapter 3

Validation of the Procrastination at Work Scale: A Seven-Language Study.....Page 75

Chapter 4

Correlates of Procrastination and Performance at Work:

The Role of Having “Good Fit”Page 103

Chapter 5

Authenticity at work - A Job Demands-Resources Perspective.....Page 133

Chapter 6

Conclusion and Discussion.....Page 167

Nederlandse samenvatting.....Page 199

Acknowledgment.....Page 209

Curriculum Vitae.....Page 213

Chapter 1



General Introduction

Author contributions: Ü. Baran Metin (Writing-original draft; Writing-review & editing); Toon W. Taris, Maria C. W. Peeters (Supervision; Writing-review & editing).

Work life is constantly changing. For example, in today's work settings, employees are more autonomous in determining their work methods and schedule, they work under less supervision, their deadlines are more flexible, and their work can often be executed by using more various online tools than in the past. Furthermore, employees are much more involved in cognition-based tasks, such as producing ideas or providing services (Peeters, de Jonge, & Taris, 2014). These conditions have been shown to enhance creativity, provide efficient scheduling of tasks by employees themselves, and enable collaboration between colleagues, even if they are not in the same office. However, these conditions also create a work environment that is suitable for *procrastination*. Procrastination at work is employee behavior that is very relevant in contemporary work settings. It is generally associated with limited productivity (Nguyen, Steel, & Ferrari, 2013). In fact, estimations suggest that within the work environment individuals engage in leisure activities for 1.5 to 3 hours a day, leading to approximately \$544 billion productivity loss annually in US companies (Paulsen, 2015). According to D'Abate and Eddy (2007), personal activities during work cost organizations around \$8,875 from employees' annual salary figures and according to Hemp (2004) it appears more costly than absenteeism, which is defined as not attending scheduled work. These findings emphasize the importance of understanding and limiting procrastination at work.

If today's jobs represent such a transformational work environment (e.g., doing what we like and want to do with higher levels of meaningfulness, pride, enthusiasm, and expertise), why do employees engage in procrastination at work? A plausible answer to this question can be a lack of fit with one's job. In some cases, individuals prefer financial stability rather than a job that aligns with their preferences or aspirations. This is of course not an ideal situation, neither for the employer nor for the employee. There is a growing trend that employees tend to prefer organizations that represent their preferences and

Chapter 1

aspirations, or where they can feel *authentic* (Van Den Bosch, 2016). Authenticity refers to the extent to which an individual stays close to his/her true self (Harter, 2002). Contemporary organizations pay growing attention to employees' feelings and well-being (Erickson & Gratton, 2007), believing that managing their expectations is an important driver of their productivity (Peeters et al., 2014). This growing trend leads occupational researchers to focus on the *experience* and *meaning* of working, as well as the opportunities for *personal enhancement* and *growth* that jobs offer. As a result, authenticity at work might be a positive state that limits procrastination and its associated costs to employees and the organizations they work for. It is the general purpose of this Ph.D. dissertation is to examine this reasoning. Specifically, our aim is to explore how authenticity and procrastination at work are related to each other and to other important occupational variables such as work conditions, work engagement, and performance. Although this aim may look straightforward, there are three reasons why studying these research goals is of added value. Firstly, the traditional conceptualization of authenticity and procrastination may not fully address the changing characteristics of the contemporary work environment. Today's work environment is characterized by a wide-spread digital transformation, agile work practices, and remote teams. In this regard, it is important to examine how these two concepts – authenticity and procrastination behavior – are embodied in today's changing work circumstances as compared to the earlier definitions of these concepts, and to explore if these conceptualizations still apply to current work practices. Secondly, researchers generally studied authenticity and procrastination in different contexts (such as in general or academic life), but empirical findings in the occupational literature are scarce (Klingsieck, 2013). The work environment has unique characteristics and how authenticity and procrastination manifest themselves in the work context may show differences compared to other walks of life. At work, individuals come together with

common goals; hence, their individual state and their behavioral output may have collective outcomes such as contextual or task performance. Finally, there is a need for accurate measurement of the stated variables in occupational psychology. For measuring authenticity at work, Van Den Bosch and Taris (2014a) developed the Individual Authenticity Measurement At Work (IAM Work). Although showing strong psychometric characteristics, this scale needs further validity evidence. Unfortunately, we cannot say the same for procrastination at work, since to our knowledge all of the studies that measured procrastination in work context used scales that were initially developed to measure procrastination at other contexts.

In short, this dissertation has three overarching research goals. The first one is to examine the conceptualization of procrastination and authenticity at work in contemporary work settings; the second one is to test and explore validity evidence for their respective measurements; and the third one is to explore their relationships with each other as well as with other occupational factors. From a theoretical point of view, understanding the influence of work conditions, well-being, and performance on procrastination and authenticity at work could be critical for strengthening the link between happiness and high productivity (Taris, 2018). Also, from a practical point of view, understanding which factors influence employee well-being and performance may in turn help managers to develop strategies for achieving a happy and productive work environment.

Theoretical background of procrastination at work

Procrastination was to some extent addressed and systematically examined in work settings as early as the beginning of the 20th century. In the fiercely performance-focused post-industrial revolution era, work-related idleness was labeled as *soldiering* by Frederick Taylor (1911). He described this behavior as: “*underworking, that is, deliberately working slowly so as to avoid full day’s work,*

Chapter 1

'soldiering' called in this county, ... constitutes the greatest evil with which the working-people of both England and America are now afflicted". On the one hand, some of the work principles that Taylor studied are still relevant in today's work culture. For example, work as we know it today, still heavily depends on rewarding employees using pre-specified incentives when they achieve their work goals (Taris, 2018). On the other hand, in other respects the work environment that Taylor analyzed differs from today's jobs. The work environment studied by Taylor depended heavily on manual production. In such a work context, the restriction of work output could be observed by the sheer decrease in production numbers. However, most jobs nowadays consist primarily of cognitive tasks, such as strategical decision-making, analytical thinking, supervision, communication. This aspect of contemporary jobs make it difficult to measure productivity or restriction of productivity only by quantifying work output. Therefore, it is also important to rethink the conceptualization and measures of workplace procrastination in line with the aspects of contemporary work conditions. Thus, Taylor's conceptualization of underworking can still manifest itself in modern jobs. Hence, instead of dismissing Taylor's approach as being outdated, we intend to adjust this concept to today's work context and understand it in relation to employee motivation and well-being.

Although its detrimental nature was recognized since the beginning of the 20th century (e.g., Taylor, 1911), occupational researchers *procrastinated* identifying and systematically measuring leisure activities at work until the beginning of 21st century (Van Eerde, 2015). Up until this day, to our knowledge only few studies have explicitly addressed *procrastination at work*. Some of these examine the characteristics of procrastinating employees. This group includes studies on how procrastinators attribute the responsibility for failure (Ferrari, 1992), how blue- and white-collar employees differ in terms of procrastination (Hammer & Ferrari 2002), how much less procrastinators earn

and how much more they are underemployed than others (Nguyen, et al., 2013), and how time perspective and time management skills impact procrastination behavior (Gupta, Hershey, & Gaur, 2012; Van Eerde, 2003). Other studies focused on how work and individual factors such as emotional intelligence and boredom (Wan, Downey, & Stough, 2014), locus of control and autonomy (Lonergan & Maher, 2000), and workload and fatigue (DeArmond, Matthews, & Bunk, 2014) relate to procrastination behavior. Nevertheless, both lines of studies used different conceptualizations and measures and this appears to be an important limitation in understanding and integrating the findings in the procrastination at work literature.

Conceptualizing procrastination at work

A thorough examination of the reasons for procrastination at work in contemporary work settings requires that two preconditions are met. First, it is essential that an operational definition of procrastination at work be provided. Second, to investigate this phenomenon accurately it is important to have a measurement tool that fits this definition and that can accurately examine the cognitive and behavioral aspects of procrastination within the contemporary work environment (Van Eerde, 2015). Up until today, studies addressing procrastination at work tended to use different terms and definitions in addressing procrastination (e.g. soldiering, Taylor, 1911; task (in)completion at work, Claessens, Van Eerde, Rutte, & Roe, 2010; empty labour, Paulsen, 2015; presenteeism, D'Abate & Eddy, 2007; or cyberslacking, Vitak, Crouse, & LaRose, 2011). Using different terms to identify this type of idle behavior of employees hinders the formation of an overarching understanding of this phenomenon. Hence, in the present dissertation we provide a general definition of procrastination at work by building on the conceptualizations used in previous studies.

Chapter 1

Earlier procrastination at work studies have tended to rely on scales that were developed to measure procrastination in non-work domains with non-employee samples, e.g. the General Procrastination Scale (Lay, 1986), the Adult Inventory of Procrastination (McCown & Johnson, 1989), and the Procrastination Assessment Scale-Student (Solomon & Rothblum, 1984). Whereas the results of such studies may to some degree be useful, it is difficult to say to what extent findings based on such measures can be generalized to the work context. Basically, it is unclear whether the assumption holds that findings obtained in one life domain using measures that are specific to that domain also apply to other life domains. This concern was explicitly highlighted by Klingsieck (2013). In her empirical study she found differences across separate life domains (e.g. in the frequency of procrastination), underlining the importance of studying procrastination as a context-specific phenomenon to be measured with context-specific scales. Therefore, the first aim of this dissertation is to address the conceptualization and measurement of procrastination at work. That is, this dissertation aims to provide an overarching conceptualization of workplace procrastination and to present an original scale with robust psychometric characteristics that shows acceptable validity across countries (the Procrastination At Work Scale - PAWS). We hypothesize that *Workplace procrastination can be measured reliably and validly with the PAWS* (Hypothesis 1).

The second aim of this thesis is to identify the work factors that are associated with workplace procrastination. Different work factors (e.g. social, physical, or psychological factors) may influence procrastination in their own ways. For instance, task aversion, distraction by colleagues, or lack of positive emotions at work may have distinct associations with procrastination. To study the influence of these factors, the Job Demands-Resources Model (JD-R Model; Bakker & Demerouti, 2007) can be used as a theoretical framework. The JD-R Model studies employee motivation and strain as a function of two categories

of job characteristics, i.e., job demands and job resources. According to the JD-R Model, the balance between the job demands and job resources can influence the positive or negative psychological state of employees. The JD-R Model proposes that a work environment with sufficient resources promotes employees' willingness to dedicate their energy and focus to their work. Job resources stimulate a positive, work-related state of mind (i.e. work engagement) through a *motivational process*. As a result of this affective-motivational state, employees become more likely to show behaviors that are in line with organizational goals (Schaufeli & Taris, 2014). In contrast, jobs that have chronic high job demands (for example a too high workload or high emotional demands) can lead to exhaustion and deplete employees' energy. This is called the *health impairment process* and it is often found to be associated with poor physical and mental health through burnout (Demerouti & Bakker, 2011).

A lack of both job demands and job resources is construed as an understimulating work environment which is associated with boredom (Reijseger et al., 2012). This combination was earlier proposed by Karasek (1979) in the Job Demands-Control Model. According to this model, so-called "passive jobs" that offer little demands and little decision latitude were related to low arousal. Such a low-arousal work environment may lead employees to experience low levels of energy, pleasure, and significance; hence, employees may engage in short-term non-work-related pleasurable activities for hedonistic purposes (e.g. playing games on their work computers or taking longer coffee breaks than necessary). Arguably, excessively engaging in such activities can distract employees from their tasks and can negatively impact their performance. Thus, we expect that *Procrastination at work is related to low job demands, low resources and decreased performance* (Hypothesis 2).

Theoretical background of authenticity at work

In humanistic psychology, authenticity in life emerges as an important predictor of individual well-being and functioning (Rogers, 1965). Authentic behaviors are defined in Self-Determination Theory as self-initiated actions. These actions are in line with intrinsic basic human needs, especially the needs for autonomy, relatedness, and competence. Self-initiated actions are fully self-endorsed, volitionally enacted, and personally meaningful (Ryan & Deci, 2000). Even though authenticity in life is considered an important determinant of individual well-being and functioning, little is known regarding its representation and drivers at work (Mènard & Brunet, 2011). Some of the earlier studies in this area have built links between being authentic and subjective well-being (e.g., Gardner, Avolio, Luthans, May & Walumbwa, 2005; Mènard & Brunet, 2011; Toor & Ofori, 2009). However, although these and other studies examined well-being as a function of authenticity at work, the work-related drivers of authenticity or authentic behavior were not addressed. Indeed, some of these studies considered authenticity as a general trait rather than as a state-like phenomenon. In this dissertation, we relied on a conceptualization of authenticity as a state, as the characteristics of the work environment have a changing nature. Thus, it would seem more appropriate to examine authenticity as a result of the congruence between the specific (and possibly changing) environment employees operate in, and themselves (Van Den Bosch, 2016).

In 2014, Van den Bosch and Taris addressed the measurement and conceptualization gap of earlier studies in this area. They conceptualized authenticity at work as a subjectively experienced affective phenomenon that could vary in time and across situations. Their Individual Authenticity Measure At Work (IAM Work) scale measures state authenticity at work, building on the person-centered view of Wood, Linley, Maltby, Baliousis, and Joseph (2008). To investigate the positive impact of authenticity in a broader work sample (i.e.,

by including non-managerial employees), Van den Bosch and Taris (2014a) took Wood et al.'s conceptualization and measurement to the occupational context. Their tripartite concept consists of (a) self-alienation (i.e., the accordance between actual physiological states/emotions/deep level cognitions and the conscious awareness of physiological states/ emotions/cognitions), (b) authentic living (the behavioral and emotional expression of the conscious awareness of the physiological states/emotions/cognitions), and (c) accepting external influence (the level of impact from the social environment to self-alienation and authentic living; *lack* of such influence is taken to signify high levels of authenticity).

Van den Bosch and Taris were among the first to measure state authenticity at work with a specific scale and to investigate its connection with well-being, performance, and intention to stay in the organization. The authors showed that the perceived level of authenticity, as measured by the IAM Work, was positively related to job satisfaction, work engagement, and in-role performance. In a series of follow-up studies, Van den Bosch and Taris also found negative relationships between authenticity and burnout and turnover intention (2014b), and that the indirect effect of authenticity on engagement (positively) and burnout (negatively) was boosted through the partial mediation of intrinsic motivation (Van den Bosch & Taris, 2016). Even though these findings are promising to illustrate the associations between authenticity and well-being at work, further empirical research is necessary to validate this connection.

How are authenticity and procrastination at work related?

In today's work context, employees strive to work for organizations that match their values, skills, and preferences and provide them with opportunities for self-growth (Van Den Bosch, 2016). Feeling authentic can play an important role in employees' experienced connectedness with their organization, perhaps

Chapter 1

even as much as other motivating incentives, such as having a good salary or fringe benefits. High levels of authenticity may indicate a good fit with the organization. For example, if an employee feels that the values and the practices of work fit with their own core values and preferences, his or her actions are more likely to agree with organizational goals. Expressing their true selves can be in line with what their organization expects from them. This can stimulate an enhanced person-environment fit, positive emotions and work-related behaviors. This suggests that authentic employees may procrastinate less and perform better than others as a result of their higher willingness to function well.

The third aim of this dissertation is to study how authenticity relates to high performance and lower procrastination. In the contemporary work environment, employees are more likely to choose an organization that can satisfy their values and encourage personal growth (Van Den Bosch, 2016). These work conditions may facilitate authenticity by providing an ideal environment for employees to feel their true self and to develop in accordance with it and employees can feel a stronger connectedness with their organization. As a result, a work environment in which employees experience their true identity is likely to reinforce a happy and work-related state of mind and to decrease involvement in non-work activities (procrastination) during working hours.

High levels of authenticity at work can be viewed as an indication of favorable person-environment fit (Kristof-Brown, Zimmerman, & Johnson, 2005), because authenticity is a state that results from the congruence between self and environment. However, when good fit is absent, employees may engage in job crafting behaviors. Job crafting refers to employees' proactive actions to alter the physical, cognitive and relational boundaries of their jobs with the intention to enhance their fit with their environment (Demerouti, Bakker, & Gevers, 2015). In fact, job crafting is found to be related to higher levels of

person-environment fit in longitudinal studies (e.g., Tims, Derks, & Bakker, 2016). Thus, when employees have a work environment that contributes to their fit with their work (either naturally through authenticity or proactively through job crafting), they can experience higher levels of energy, positive emotions, and vigilance, allowing them to optimize their functioning and engage in less procrastination (Demerouti & Bakker, 2014). Thus, we hypothesize that *a good person-environment fit as a potential outcome of high levels of job crafting and authenticity, is indirectly related to higher performance and lower procrastination through work engagement* (Hypothesis 3).

Finally, the fourth aim of this dissertation is to provide a clearer understanding of how job demands and job resources (as workplace characteristics) can influence authenticity and how authenticity relates to job satisfaction, work engagement and job performance (as occupational outcomes). Although there is some evidence that authenticity is positively related to work engagement and performance (e.g., Van den Bosch & Taris, 2014b), a comprehensive nomological understanding of authenticity at work with regards to its reasons and outcomes is largely absent. Specifically, the roles of job resources and job demands in relation to state authenticity are unknown. Since authenticity can be considered a good predictor of well-being (Rogers, 1965), knowing how work characteristics relate to authenticity is important to understand how this positive employee state can be increased. Essentially, we need further empirical evidence to strengthen the conceptual foundation of authenticity in order to draw well-founded conclusions. We expect that *high levels of job resources and low levels of job demands are related to high job satisfaction, work engagement and work performance; and authenticity at work mediates this relationship*. (Hypothesis 4).

Outline of this thesis

The remainder of the dissertation provides an extensive examination of the issues that are briefly introduced above. Specifically, in the following four chapters we present four empirical studies. These studies explore the relationship of procrastination and authenticity with a number of other work-related variables across independent samples. Every chapter delves into a different aspect of procrastination and authenticity (such as its conceptualization, measurement or workplace correlates). In the final chapter of this manuscript, we discuss the main findings of the earlier chapters and will draw some overarching conclusions, providing a clearer understanding of procrastination and authenticity.

In Chapter 2, we present the development of the PAWS in relation to other existing procrastination scales in the literature. In this chapter, we describe the steps we took while developing this scale and its psychometric characteristics (i.e., its reliability, validity, factorial structure and item loadings). Drawing on a sample size of 184 office employees, we study the convergent and divergent validity evidence of the PAWS by empirically exploring its distinctness from conceptually similar variables, such as general procrastination, counterproductive work behavior, and boredom. In this chapter we also test a heuristic model in which we explore how situational work characteristics (e.g., workload, autonomy, and opportunities for personal development) relate to procrastination at work through an understimulated state of mind (boredom) within the framework of the Job Demands Resources Model in two distinct samples of Dutch ($N = 200$) and Turkish ($N = 243$) white-collar employees.

In Chapter 3, we test the psychometric characteristics and the measurement invariance of the PAWS across seven countries, namely Croatia ($N = 153$), the Czech Republic ($N = 152$), Finland ($N = 150$), Slovenia ($N = 168$), Turkey ($N = 150$), Ukraine ($N = 126$), and the United Kingdom ($N = 129$). In this

study, we investigate the scalar, metric, and structural covariance invariance of the PAWS as our measurement invariance criteria. Moreover, we test the discriminant validity of the PAWS subdimensions in relation to work engagement and performance.

In Chapter 4 we study the two core concepts of this dissertation (procrastination and authenticity at work) jointly to investigate their relationship with each other, alongside their relationships with job crafting, work engagement, and performance, in the context of having “good fit” with work. Based on data from 380 Dutch office employees we explore a heuristic model in which job crafting and authenticity were considered as fit indicators. According to this model, job crafting and authenticity as indicators of good fit relate positively to performance and negatively to procrastination. Furthermore, work engagement is expected to mediate the relationship between the fit indicators on the one hand and performance and procrastination on the other hand.

In Chapter 5, we intended to enhance our understanding of authenticity at work by building on the studies reported in the preceding chapters. We propose and test a heuristic model in line with the JD-R Model using a sample of 680 Dutch bank employees. Specifically, we investigated the relationships between authenticity at work, job demands and resources on the one hand, and work engagement, job satisfaction, and subjective performance on the other hand.

Finally, Chapter 6 complements the overall findings of the studies presented in Chapters 2-5 by discussing their implications for workplaces in terms of maximizing the positive effects of authenticity at work and limiting the adverse impact of procrastination at work. In line with the results of the studies presented in this dissertation, this chapter proposes cognitive and structural interventions that may enhance employee well-being and functioning for desired occupational outcomes.

References

- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22, 309-328.
- Claessens, B. J., Van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review*, 36, 255-276.
- D'Abate, C. P., & Eddy, E. R. (2007). Engaging in personal business on the job: Extending the presenteeism construct. *Human Resource Development Quarterly*, 18, 361-383.
- DeArmond, S., Matthews, R. A., & Bunk, J. (2014). Workload and procrastination: The roles of psychological detachment and fatigue. *International Journal of Stress Management*, 21, 137-161.
- Demerouti, E., & Bakker, A. B. (2011). The job demands-resources model: Challenges for future research. *SA Journal of Industrial Psychology*, 37, 01-09.
- Demerouti, E., & Bakker, A. B. (2014). Job crafting. In M. C. W. Peeters, J. de Jonge, and T. W. Taris (Eds.), *An introduction to contemporary work psychology* (pp. 414-433). Chichester, UK: Wiley-Blackwell.
- Demerouti, E., Bakker, A. B., & Gevers, J. M. (2015). Job crafting and extra-role behavior: The role of work engagement and flourishing. *Journal of Vocational Behavior*, 91, 87-96.
- Erickson, T. J., & Gratton, L. (2007). What it means to work here. *Harvard Business Review*. Boston: Harvard Business Publishing.
- Ferrari, J. R. (1992). Procrastination in the workplace: Attributions for failure among individuals with similar behavioral tendencies. *Personality and Individual Differences*, 13, 315-319.
- Gardner, W. L., Avolio, B. J., Luthans, F., May, D. R., & Walumbwa, F. (2005). "Can you see the real me?" A self-based model of authentic leader and follower development. *The Leadership Quarterly*, 16, 343-372.

- Gupta, R., Hershey, D. A., & Gaur, J. (2012). Time perspective and procrastination in the workplace: An empirical investigation. *Current Psychology, 31*, 195–211.
- Hammer, C. A., & Ferrari, J. R. (2002). Differential incidence of procrastination between blue and white-collar workers. *Current Psychology, 21*, 333–338.
- Harter, S. (2002). Authenticity. In C. R. Snyder and S. J. Lopez (Eds), *Handbook of positive psychology* (pp. 382–394). Oxford, UK: Oxford University Press.
- Hemp, P. (2004). Presenteesim: At work-but out of it. *Harvard Business Review, 82*, 49–58.
- Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*, 285–308.
- Klingsieck, K. B. (2013). Procrastination in different life-domains: Is procrastination domain specific? *Current Psychology, 32*, 175–185.
- Lay, C. H. (1986). At last, my research article on procrastination. *Journal of Research in Personality, 20*, 474–495.
- Lonergan, J. M., & Maher, K. J. (2000). The relationship between job characteristics and workplace procrastination as moderated by locus of control. *Journal of Social Behavior and Personality, 15*, 213–224.
- McCown, W., & Johnson, J. (1989). Adult inventory of procrastination. In S. R. Ferrari, J. L. Johnson, and W. G. McCown (Eds.), *Procrastination and task avoidance: Theory, research, and treatment*. New York: Plenum.
- Ménard, J., & Brunet, L. (2011). Authenticity and well-being in the workplace: A mediation model. *Journal of Managerial Psychology, 26*, 331–346.
- Nguyen, B., Steel, P., & Ferrari, J. R. (2013). Procrastination's impact in the workplace and the workplace's impact on procrastination. *International Journal of Selection and Assessment, 21*,

388–399.

Paulsen, R. (2015). Non-work at work: Resistance or what? *Organization*, 22, 351–367.

Peeters, M. C. W., Taris, T. W., & De Jonge, J. (2014). People at work. In M. C. W. Peeters, J. de Jonge, and T. W. Taris (Eds.), *An introduction to contemporary work psychology* (pp. 3–30). Chichester, UK: Wiley-Blackwell.

Reijseger, G., Schaufeli, W. B., Peeters, M. C. W., Taris, T. W., van Beek, I., & Ouweneel, E. (2012). Watching the paint dry at work: Psychometric examination of the Dutch Boredom Scale. *Anxiety, Stress, and Coping*, 26, 508–525.

Rogers, C. R. (1965). The concept of the fully functioning person. *Pastoral Psychology*, 16, 21–33.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78.

Schaufeli W.B., Taris T.W. (2014) A critical review of the Job Demands-Resources model: Implications for improving work and health. In G. F. Bauer & O. Hämmig (Eds.), *Bridging occupational, organizational and public health: A transdisciplinary approach* (p. 43–68). Dordrecht, the Netherlands: Springer.

Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology*, 31, 503–509.

Taris, T. W. (2018). *The psychology of working life*. London: Routledge.

Taylor, F. W. (1911). *The principles of scientific management*. New York: Harper & Brothers.

Tims, M., Derks, D., & Bakker, A. B. (2016). Job crafting and its relationships with person–job fit and meaningfulness: A three-wave study. *Journal of*

Vocational Behavior, 92, 44-53.

- Toor, S.-U.-R., & Ofori, G. (2009). Authenticity and its influence on psychological well-being and contingent self-esteem of leaders in Singapore construction sector. *Construction Management and Economics*, 27, 299–313.
- Van den Bosch, R. (2016). *Authenticity at work* (Doctoral dissertation). Utrecht: Utrecht University.
- Van den Bosch, R., & Taris, T. W. (2014a). Authenticity at work: Development and validation of an individual authenticity measure at work. *Journal of Happiness Studies*, 15, 1-18.
- Van den Bosch, R., & Taris, T. W. (2014b). The authentic worker's well-being and performance: The relationship between authenticity at work, well-being, and work outcomes. *The Journal of Psychology*, 148, 659-681.
- van Eerde, W. (2003). Procrastination at work and time management training. *The Journal of Psychology*, 5, 421-434.
- van Eerde, W. (2015). Procrastination and well-being at work. In F. M. Sirois and T. A. Pychyl (Eds.), *Procrastination, health, and well-being* (pp. 233-253). San Diego: Elsevier Academic Press.
- Vitak, J., Crouse, J., & LaRose, R. (2011). Personal internet use at work: Understanding cyberslacking. *Computers in Human Behavior*, 27, 1751-1759.
- Wan, H. C., Downey, L. A., & Stough, C. (2014). Understanding non-work presenteeism: Relationships between emotional intelligence, boredom, procrastination and job stress. *Personality and Individual Differences*, 65, 86-90.
- Wood, A. M., Linley, P. A., Maltby, J., Baliouisis, M., & Joseph, S. (2008). The authentic personality: A theoretical and empirical conceptualization and the development of the Authenticity Scale. *Journal of Counseling Psychology*, 55, 385-399.

Chapter

2



Measuring procrastination at work and its associated workplace aspects

Author contributions: Ü. Baran Metin, Maria C. W. Peeters, and Toon W. Taris (Conceptualization; Methodology; Validation; Writing-review & editing); Ü. Baran Metin (Data collection; Formal analysis; Writing-original draft; Analysis). Maria C. W. Peeters and Toon W. Taris (Supervision).

Appeared as: Metin, U. B., Taris, T. W., & Peeters, M. C. (2016). Measuring procrastination at work and its associated workplace aspects. *Personality and Individual Differences, 101*, 254-263. <https://doi.org/10.1016/j.paid.2016.06.006>

Abstract

Procrastination at work can be defined as putting off work-related action by engaging in nonwork-related actions during work hours. This paper (a) introduces and validates a new instrument tapping procrastination behaviour at work, (b) investigates its construct validity (Study 1), and (c) presents empirical evidence on the workplace correlates of procrastination at work, including workplace characteristics, boredom and counterproductive work behaviour in two independent samples (Study 2). Drawing on data from 384 participants and using exploratory and confirmatory factor analysis, Study 1 revealed two subdimensions of the Procrastination at Work Scale (PAWS), namely soldiering and cyberslacking. Moreover, this study demonstrated that procrastination at work can empirically be distinguished from conceptually similar concepts such as counterproductive work behaviour, general procrastination and boredom. Study 2 further validated this instrument by examining its relations with other concepts. Structural equation analyses using data from participants from two culturally different countries (The Netherlands and Turkey, total N = 443) showed that low job demands and resources were associated with boredom and that boredom was associated with procrastination at work and counterproductive work behaviour. We conclude that the PAWS is a valid tool that can be used to assess non-work-related activity during work hours.

Keywords: Procrastination at work, JD-R Model, boredom, employee wellbeing

Procrastination can be defined as the delay that is due to the avoidance of the implementation of an intention (Van Eerde, 2000, p. 375). It is considered to be a common behaviour, as not less than 25% of the adult population considers themselves procrastinators (Ferrari, Diaz-Morales, O'Callaghan, Diaz, & Argumendo, 2007). Although it is a common behaviour, the degree to which people procrastinate could vary across domains, for instance across the academic, work, leisure, and family domains (Klingsieck, 2013a). Procrastination at work, referring to a self-regulatory failure of work tasks, is associated with high costs (Nguyen, Steel, & Ferrari, 2013). Studies report that employees spend on average 1,5 to 3 hours on personal activities during their working hours (Paulsen, 2015). D'Abate and Eddy (2007) estimated the yearly loss due to personal (home and leisure related) activities during working hours as \$8,875 per employee. According to other estimations, 30% to 65% of the time spent on internet surfing during the work day is unrelated to work (Sharma & Gupta, 2004), which leads to a 30-40% productivity loss that may add up to \$85 billion per year in the US only (Lim & Teo, 2006). Briefly, the high costs of off-task behaviour highlight the necessity of understanding this phenomenon.

A growing body of literature has addressed the conceptualization, antecedents and outcomes of general and academic procrastination. However, procrastination behaviour in the workplace has received considerably less attention. One important reason for the small number of empirical studies on workplace procrastination is the absence of an instrument that is specifically developed for covering contemporary workplace procrastination behaviour (Claessens, Van Eerde, Rutte, & Roe, 2007). The current paper addresses this gap by presenting two related studies on procrastination behaviour specifically in the work context. In Study 1, we develop and validate the Procrastination at Work Scale (PAWS). In Study 2, we focus on the nature of this concept by examining its relationships with job demands, job resources, workplace boredom, and counterproductive work behaviour in two culturally different

samples from the Netherlands and Turkey. Hence, the present studies contribute to the current literature on procrastination by providing a new scale to measure this relevant and understudied type of behaviour in contemporary work settings, and examining its cross-cultural stability and possible correlates by testing a model across two cultures.

Towards a comprehensive understanding of procrastination at work

The majority of the procrastination studies in the literature focuses on procrastination in the academic and general-life domains. For instance, Claessens and colleagues (2007) reviewed 32 studies on time management, of which less than half were conducted in the workplace. Similarly, in a meta-analysis, Van Eerde (2003a) found only six non-student samples out of 121 procrastination studies. However, this is not to say that idle behaviours at work have never been studied before. Organizational researchers did study irrational delay of work tasks but they used different labels, such as time management at work (Van Eerde, 2003b), task completion at work (Claessens, Van Eerde, Rutte, & Roe, 2010), empty labour (Paulsen, 2015), cyberslacking (Vitak, Crouse, & LaRose, 2011) and presenteeism (D'Abate & Eddy, 2007). These studies all present notable findings related to procrastination of work tasks. For instance, some studies found that procrastination is more common among high-status employees (Hammer & Ferrari, 2003; Vitak, Crouse, & LaRose, 2011). Others showed that engaging in personal activities during work was related to boredom and general procrastination (D'Abate & Eddy, 2007; Wan, Downey, & Stough, 2014). In addition, employees working in jobs that require repetitive activity and less creativity showed a high frequency of personal use of internet during work (Vitak, Crouse, & LaRose, 2011). Lonergan and Maher (2000) found that job enrichment was associated with lower decisional procrastination. Moreover, their results showed that procrastination was the least for those with internal locus of control and high autonomy. In short, previous studies clearly

highlight the relevance and significance of studying procrastination within work context.

Despite the valuable knowledge that earlier studies provided to the literature, an important shortcoming of these studies was that they applied general or academic procrastination scales to the work context. As Klingsieck (2013a) suggested, procrastination in specific domains, such as workplace, health, leisure, or family, can be better understood with a domain-specific scale that addresses certain aspects of these domains. Thus, workplace procrastination should be studied with a scale that captures explicitly all relevant aspects of work-related idleness. In order to develop a new measure, we must first construe a proper, overarching definition of procrastination at work that aligns with earlier definitions of procrastination in other life domains. Hence, instead of providing a completely new definition, we adapted existing definitions and applied them to the contemporary work context. We define procrastination at work as the *delay of work-related action by intentionally engaging (behaviourally or cognitively) in nonwork-related actions, with no intention of harming the employer, employee, workplace or client.*

In practice, the repertoire of behaviours associated with procrastination at work can be categorized as two fundamentally different types of behaviours. The first type refers to the restriction of output by employees. Taylor (1911) was the first to label such behaviours as soldiering. Recently Paulsen (2015) defined soldiering as avoidance from work tasks for more than one hour a day without aiming to harm others or shifting work onto colleagues. According to Paulsen, soldiering takes place when an employee has a low ethical or identity-grounded relationship with the job and when the work obligations are lower than what one could potentially perform. Examples of soldiering include daydreaming, engaging in more pleasurable activities than working, and taking long coffee breaks. Studies show that this type of work-avoiding behaviour is mostly associated with negative outcomes. For instance,

Chapter 2

Nguyen and colleagues (2013) found that trait procrastination was associated with receiving lower salaries, shorter durations of employment and a tendency to be unemployed or underemployed, rather than to have full-time employment. Steel (2007) argued that avoiding execution of work tasks would lower self-efficacy, leading to a vicious cycle of poor performance. Consequently, soldiering arises as an ineffectual behaviour, which might threaten employee well-being.

A second form of procrastination at work emerged with the wide utilization of (mobile) technology at work. This type of online procrastination is labelled as cyberslacking (Vitak et al., 2011). Cyberslacking is a recent and extremely prevalent concept (Garrett & Danziger, 2008a). Employees might give the impression of working on their computers, but might actually be shopping online, checking social network sites, gaming, or instant messaging. Studies report massive costs for companies due to cyberslacking (Garrett & Danziger, 2008b). The losses associated with cyberslacking include not only reduced performance, but also lower network security and slower network performance, costs associated with removing viruses and spyware, et cetera, causing expenses of around \$130,000 per company in the US. Danziger and Garrett (2008a) found that for higher-status employees, higher levels of cyberslacking were associated with higher levels of autonomy, income and education. In terms of productivity the findings are ambiguous. For instance, Meerkerk, Schoenmaker and Van de Mheen (2014) found no relationship between personal internet usage at work and contextual or task performance. However, there was a positive relationship between counterproductive work behaviour (CWB) and cyberslacking.

Summarizing, we propose that workplace procrastination can be observed through two dimensions, namely soldiering (offline off-task activity, such as taking long coffee breaks, gossiping or daydreaming) and cyberslacking (online off-task activity, such as reading blogs

for personal interest). Moreover, both forms of workplace procrastination tend to be associated with negative outcomes, especially – but not exclusively – for organizations. The Procrastination at Work Scale (PAWS) will therefore include both dimensions.

Construct validity of the PAWS

When developing a new measure, it is critical to examine its construct validity. In order to establish the convergent validity of the PAWS, this study examines the relationship between the PAWS and several other closely related concepts within its nomological network, namely general procrastination, boredom at work, and CWB. Work engagement is used to examine the divergent validity of the PAWS.

General procrastination is probably the closest analogue to workplace procrastination. Conceptually, it refers to a self-regulatory failure in volitional action and self-discipline, resulting in needlessly and irrationally delaying intended tasks in different walks of life (Haghbin, McCaffrey & Pychyl, 2012; Steel, 2007). General procrastination is often accompanied by psychological discomfort, stress, and poor health and negative emotions (Ferrari, 1992; Sirois, Melia-Gordon, & Pychyl, 2003). The strong negative link between conscientiousness and general procrastination suggests that chronic procrastinators could also fail to regulate the execution of their tasks at work adequately due to their low levels of conscientiousness (van Eerde, 2003a).

Counterproductive work behaviour (CWB) encompasses negative organizational behaviours, which were found to be related to decreased organizational justice perception, job satisfaction (Spector et al., 2006), work engagement (Koopmans et al., 2011) and increased burnout (Ansari, Malek, & Mazraeh, 2013). The growing body of research on CWB shows that workers engaging in this behaviour consciously violate organizational norms, thus threatening the well-being of the organization and its members by engaging in

Chapter 2

acts such as withdrawal (i.e. spending less time on working than is required by the organization), abuse (referring to physically or psychologically harmful behaviours directed towards co-workers), production deviance (engaging in purposeful inefficiency), sabotage (defacing or destroying of organizational property), and theft (stealing property of the organization or others in the organization) (Spector et al., 2006). We conceptualize workplace procrastination as a kind of counterproductive behaviour that does not contain a conscious harmful intention. Therefore, we propose that workplace procrastination and CWB are separate, yet related constructs.

A third concept which we expect to be related to procrastination at work is *boredom at work*. Boredom at work can be defined as a cognitive-motivational state of low arousal and dissatisfaction stemming from an understimulating work environment (Loukidou, Loan-Clarke, & Daniels, 2009; Reijseger et al., 2012). Jobs with repetitive tasks or jobs which require less complex skills might be perceived as being monotonous and boring. Procrastination was most strongly associated with the aversive task components of frustration, resentment, and, in particular, boredom (Ackerman & Gross, 2005; Blunt & Pychyl, 2000; Strongman & Burt, 2000). Ferrari (2000) also found that procrastinators report high boredom scores. Such relationships might also exist at workplaces. Van der Heijden, Schepers, and Nijssen (2011) found that workplace boredom was associated with distraction. Further, Wan and colleagues (2014) found a moderate correlation ($r = .33$) between job boredom and non-work related presenteeism (i.e. surfing on Facebook). These findings show that avoiding to fulfil work tasks could be a behavioural manifestation of state boredom.

To summarize, we intend to explore the construct validity of PAWS. For convergent validity, PAWS is expected to be positively related to general procrastination (*Hypothesis 1a*), CWB (*Hypothesis 1b*) and boredom at work (*Hypothesis 1c*). In addition, we examine the divergent validity of PAWS by

relating it to the subdimensions of work engagement. Work engagement is a positive, fulfilling state of mind that is characterized by vigour, dedication and absorption (Bakker, Schaufeli, Leiter, & Taris, 2008). Vigour refers to having high levels of energy and the willingness to invest effort in one's work. Dedication concerns the degree to which a worker is strongly involved in his/her work. Finally, absorption refers to the degree to which workers are fully concentrated and happily engrossed in their jobs. Given our conceptualization of procrastination at work as putting off work tasks, it is unlikely that procrastinators are engaged workers. Therefore, we expect a negative relationship between procrastination and work engagement (*Hypothesis 1d*).

Workplace characteristics and procrastination at work

In this study, we also aim to understand the relationships between particular workplace characteristics and workplace procrastination. Linking workplace procrastination to workplace characteristics might yield important input for the development of interventions aimed at preventing or reducing procrastination at work. To examine how job characteristics relate to workplace procrastination, we used the Job Demands-Resources Model (JD-R Model, Bakker & Demerouti, 2007) as a conceptual basis. The JD-R Model is a widely-used framework to examine work stress and motivation in relation to two different domains of work characteristics: job demands and job resources. Job demands refer to aspects of the job that require sustained physical and/or psychological effort or skills and that are associated with physiological and/or psychological costs (Bakker & Demerouti, 2007). Job resources are those job aspects that are functional for facilitating work goals, that stimulate personal growth and development, and that help employees reduce the negative effects of high job demands and the associated physiological and psychological costs.

The JD-R model suggests that boredom at work can originate from tasks that are qualitatively and/or quantitatively undemanding. In other words,

Chapter 2

low job demands and resources are associated with experiencing low strain, low motivation (Bakker & Demerouti, 2007) and high levels of boredom (Reijseger et al., 2012) at work. The findings of Wan and colleagues (2014) supported such a relationship in that having job unclarity, unspecific tasks, little say in decisions, and having few and/or unchallenging tasks was related to low energy and low motivation, in turn leading to boredom. Therefore, on the basis of the JD-R Model, we assume that job resources (*Hypothesis 2a*) and job demands (*Hypothesis 2b*) are negatively associated with boredom.

The hypothesized relation between boredom and procrastination of work tasks was discussed in the previous section. Briefly, experienced boredom seems to be associated with employee detachment and irrelevant task activity (e.g., Wan et al., 2014). In addition, boredom appears to have other and arguably more harmful outcomes as well. For instance, Bruursema, Kessler, and Spector (2011) found that job boredom could potentially contribute to all dimensions of CWB (rs ranging from .17 to .31) and that boredom-prone individuals scored higher on withdrawal behaviours when encountering job boredom. Employees with high levels of boredom might be subject to a certain amount of ego depletion (Reinecke, Hartmann, & Eden, 2014), i.e. an exhausted state of willpower due to impaired cognitive resources and persevered goal attainment (Schmeichel, Vohs, & Baumeister, 2003), leading the self to be easily seduced by appealing stimuli and suffer from decreased volitional control. Thus, we expect boredom to be positively related to both procrastination at work (*Hypothesis 3a*) and CWB (*Hypothesis 3b*).

Lastly, Van Eerde (2003a) concluded that procrastination was negatively related to conscientiousness, self-efficacy, and positively to self-handicapping. As regards performance, procrastinators scored high on negative aspects, such as “missing a deadline” and low on “task preparation”, showing that individual performance might be affected negatively by

procrastination behavior. This feeling of inefficacy might lead to mental detachment from work and therefore could be related to different forms of CWB due to low identification with one's job, such as intentionally restricting time on work (withdrawal) or ignoring colleagues (abuse). In short, we expect a positive relationship between procrastination at work and CWB (*Hypothesis 4*).

To sum up, based on earlier research, we propose a set of hypotheses that when integrated, form the research model of the present study (Figure 1). Figure 1 shows that we expect an understimulating work environment (low demands and low resources) to be associated with high levels of boredom. In turn, this bored state should be associated with high levels of procrastination and CWB. We base our model on the core assumption of JD-R Model that workplace characteristics (such as a resourceful environment) are related to occupational outcomes (i.e. organizational citizenship behaviour) through affective-motivational states (for instance work engagement). In our heuristic model, we propose that boredom mediates the relationship between workplace characteristics and negative outcomes. Presumably, insufficient job demands and resources would induce a feeling of understimulation and understimulated employees would experience a sense of mental detachment from work, which could show itself in engaging in non-work-related behaviour. Hence, the impact of workplace aspects on procrastination and counterproductive behaviours would be better explained through boredom. Therefore, we formulate our final hypothesis as follows: Boredom mediates the relationship between job demands and resources on the one hand and procrastination (*Hypothesis 5a*) and CWB (*Hypothesis 5b*) on the other hand.

A cross-cultural comparison of procrastination at work

When developing a scale, the influence of culture could be overlooked and scales may grasp the dynamics of a single culture only. In order to tackle this potential limitation, we aim at gathering items which could be applied in different cultures. This aim is set as a mandatory criterion of our item inclusion, alongside with the correspondence of the items to our definition of workplace procrastination, their applicability to a wide range of occupations, and their theoretical and empirical separation from related concepts. Therefore, we will test our hypotheses across a Dutch and a Turkish sample in order to explore whether culture plays a role in the functioning of procrastination at work.

The reason for selecting these two cultures is due to their distinct classification according to different indexes. For instance, Hofstede (2001) characterized the Turkish culture as being high on collectivism and low on uncertainty avoidance, whereas the Dutch culture was classified as being high on both individualism and uncertainty avoidance. According to the Global Leadership and Organizational Behavior Effectiveness (GLOBE) research program (a long-term program designed to conceptualize, operationalize, test, and validate a cross-level integrated theory of the relationship between culture and societal, organizational, and leadership effectiveness), Turkey and the Netherlands differ significantly in performance orientation score (i.e. social values and practices). In this index, Turkey is classified in the Middle East cluster, whereas the Netherlands belongs to the Germanic Europe cluster (House, Hanges, Javidan, Dorfman, & Gupta, 2004) stating that these two specific cultures could have different characteristics. OECD indexes also reveal major differences between these two countries. Per year, Turkish employees work on average 400 hours more than Dutch employees. Moreover, Turkish employees report the longest working hours by far (41% of the Turkish sample work very long hours) among 36 OECD countries, while few Dutch employees report working very long hours (0.4%). Lastly, 37% of the Dutch employees hold

a part-time job whereas only 8% of the Turkish individuals work part-time (OECD, 2014). In short, Turkish and Dutch employees could arguably differ in terms of their work environment representations. Therefore, by testing the PAWS in samples that represent different organizational and cultural environments, we aim to fulfil an important requirement of the development of the PAWS, i.e. its applicability in different cultures; as well as to observe the (in)variation of workplace procrastination in terms of its functioning, manifestation and outcomes, without any specific expectation.

Study 1: Development and preliminary validation of the Procrastination at Work Scale (PAWS)

Study 1 aimed to develop and assess the construct validity of a scale for assessing procrastination at work. In Phase 1 of this study an item pool was generated, including existing and self-generated procrastination items. These items were evaluated in terms of their suitability for measuring procrastination at work. In Phase 2, the resulting preliminary scale was included in a survey study. Exploratory and confirmatory factor analyses were conducted to assess the factorial structure of the instrument, leading to the final version of the Procrastination at Work Scale (PAWS). In Phase 3, the construct validity of the PAWS was examined by relating the scale to several other concepts. Regarding its convergent validity we expected strong and positive correlations between the PAWS and theoretically similar concepts, such as general procrastination (*Hypothesis 1a*), counterproductive work behaviour (*Hypothesis 1b*), and boredom at work (*Hypothesis 1c*). As regards its divergent validity we expected negative and/or relatively weak relationships between the PAWS and the subdimensions of work engagement (*Hypothesis 1d*).

Method

Phase 1: Questionnaire development

In the process of developing the PAWS, we followed four steps (cf. Geurts et al., 2005). Firstly, we provisionally defined workplace procrastination as the *delay of work-related action by engaging (behaviourally or cognitively) in nonwork-related actions, with no intention of harming the employer, employee, workplace or client*, in order to search the literature for relevant items. As for the second step, we generated an item pool that included 76 items from 7 previously developed scales that could tap aspects of workplace procrastination: *the Decisional Procrastination Scale* (Mann, 1982); *the General Procrastination Scale* (Lay, 1986); *the Adult Inventory of Procrastination* (McCown & Johnson, 1989); *the Susceptibility to Temptation Scale* (Steel, 2002); *the Irrational Procrastination Scale* (Steel, 2002); *the Time Management Scale* (van Eerde, 2003b); and *the Avoidance Reaction to a Deadline* (van Eerde, 2003b). Preliminary inspection of these items indicated that many of these were unlikely to be useful since in terms of their wordings they were clearly developed for assessing academic and general procrastination. Therefore, 19 self-generated items were added in order to fully cover the definition of procrastination at work.

In the third step we specified four criteria for evaluating the total of 95 items: (1) The item should fit well with our definition of procrastination at work (content validity to be examined by judges); (2) the item should not overlap conceptually with possibly related antecedents or consequences of procrastination (concurrent validity to be examined via correlation and CFA); (3) the item should be applicable to a wide range of occupations and individuals (generalizability to be ensured through convenience sample); and (4) the items should be free from cultural bias and it should be possible to translate the items to other languages (to be analysed via cross-cultural

multi-group analysis). There was an additional box where the raters could indicate whether an item might be considered for inclusion if it were rephrased (e.g. by adding that a particular procrastination behaviour should be displayed in the work context).

In the last step, 5 researchers in the field of social and organizational psychology were asked to evaluate the items on the basis of these four criteria and their evaluations were analyzed. Items were retained if at least two of the five judges indicated that the items did not violate any criterion. If only two judges evaluated an item favorably, we required that at least one more judge suggested that this item could be retained for inclusion after amending it (i.e. at least three of the five judges should indicate that a particular item held some potential as a useful item, possibly after rephrasing). By doing so, we intended to yield the approval of the majority of the judges and also to improve our final item pool with their suggestions. This procedure resulted in 27 items that were selected as corresponding to every required criterion by the majority of judges. Ten of these items showed substantial overlap to the degree that it was not useful to retain both (e.g., “I spend more than half an hour on the social network websites” and “I log on to social network sites at work”). One item was dropped after further discussion as it suggested a harmful intention on the side of the employee, might overlap with the concept of absenteeism and was not applicable to a wide variety of occupations, violating 3 out of our 4 criteria (i.e. “I leave work early even though I still have tasks to finish”). Table 1 presents the 16 items retained for use in Phase 2. The instruction presented to participants before they completed the questionnaire was as follows: “The following statements concern various sorts of behaviours at work. Please read all statements carefully and then select how often you exhibit these behaviours at work. Please use the following response scale”. A 7-point Likert-type scale was used with scale anchors 0 (“Never”) and 6 (“Always”).

Phase 2: Factorial structure of PAWS

Procedure and sample. The data used in phases 2 and 3 of Study 1 were collected in an online questionnaire study. A consent form, including a link to the questionnaire, was distributed among 514 Dutch white-collar employees who worked in an office setting with computers. Participants were contacted via the first author's social network (Facebook and LinkedIn groups) and via the intranet of one insurance company. In total, 384 questionnaires were completed and returned (74%). About half (51%) of the participants were male and the mean age of the total sample was 40.1 years, ranging from 21 to 74 years ($SD = 12.8$ years). On average participants worked 32.9 hours per week ($SD = 10.6$ hours) with an average of 5 hours overwork ($SD = 1.1$), and they had worked for their current employer for on average 8.4 years ($SD = 10.4$). Most of the participants worked in the communication (18%), finance (17%) and transportation sectors (12%). Fifty percent of the sample held a college or university degree. The high level of education in the sample was probably due to our focus on white-collar employees.

When the data collection process was finalized, the sample was randomly divided in two subsamples, with the purpose of analysing the factorial structure of the procrastination at work scale. Since we had 16 items for this particular variable, a minimum of 160 subjects was required for the exploratory factor analyses (Kass & Tinsley, 1979). Eventually, 184 subjects were randomly allocated to the sample used for the exploratory factor analyses (sample A). The rest ($N = 200$) was used for the confirmatory factor analyses and the convergent and divergent validity analyses (sample B).

Results: Exploratory and confirmatory factor analyses. Sample A was used for the exploratory principal component analysis (PCA) using a promax rotation. Bartlett's test ($\chi^2 (N = 184, df = 66) = 821.47, p < .001$) and the Kaiser-Meyer-Olkin Measure ($KMO = .87$) showed that the data was adequate for PCA. Four eigenvalues exceeded 1.00, with values of 5.85, 1.56,

1.23 and 1.07, respectively, showing that the final solution could potentially have one, two, three or four factors (Raïche, Walls, Magis, Riopel, & Blais, 2013). In the 4-factor model, only one item loaded on the fourth factor; in the 3-factor model, six items loaded on both the third factor and on one of the other two factors (with weaker loadings on the third factor). Apparently, the three- and four-factor solutions were theoretically and/or empirically of less interest. Therefore, only the one- and two-factor solutions were evaluated.

In the 2-factor solution, one item loaded highly on two factors and three other items loaded lower than .50 on both factors. Thus, these four items were excluded from the initial PAWS (Table 1). The remaining 12 items were retained for further analyses. According to the 2-factor PCA solution, an 8-item *soldiering* subscale accounted for 40.6% of the total variance and a 4-item *cyberslacking* dimension accounted for a further 12.9% of the variance (Table 1).

Sample B ($N = 200$) was utilized for the confirmatory factor analysis (CFA). Two models were compared. In the one-factor model, all twelve items that had been retained on the basis of the exploratory analyses using sample A loaded on a single latent factor. In the second factor the eight items of the Soldiering subscale loaded on one latent factor, while the four items of the Cyberslacking scale loaded on the second latent factor. As both subscales were presumed to correlate, both latent factors were allowed to correlate as well. As shown in Table 2, CFA results indicated a better fit for the 2-factor model ($\chi^2 (N = 200, df = 51) = 96.1$, GFI = .93, CFI = .93, NFI = .87, RMSEA = .07) compared to a single-factor solution ($\chi^2 (N = 200, df = 51) = 175.72$, GFI = .86, CFI = .82; NFI = .76; RMSEA = .11; $\Delta AIC = 50.93$). The internal consistency for the Soldiering subscale was $\alpha = .84$ (8 items) and $\alpha = .69$ (4 items) for the Cyberslacking subscale.

Chapter 2

Phase 3: Construct validity. Sample B ($N = 200$) was used in order to examine the convergent validity of our measure with theoretically similar constructs.

Measures

Boredom. Boredom at work was measured with the six items of the Dutch Boredom Scale (DUBS; Reijseger et al., 2012). An example item is “I daydream during my work”, 0 = “never”, 6 = “always”. Its reliability (Cronbach's alpha) was good ($\alpha = .89$).

Counterproductive Work Behaviour (CWB). CWB was measured by the Dutch translation of the 15 items of Counterproductive Behaviour Checklist (CWBC; Spector et al., 2006). Only the withdrawal and abuse subdimensions were used as these were expected to have the strongest correlations with boredom (cf. Bruursema et al., 2011). Four items measured withdrawal ($\alpha = .60$), such as “I'm late for work without permission” whereas 11 items measured abuse ($\alpha = .76$), e.g. “I purposely failed to follow instructions”. All items were answered on a 5-point scale (1 = “never”, 5 = “every day”).

General Procrastination. Six items of the Avoidance Reactions to Deadline Scale (ARDS; van Eerde, 2003b) were used ($\alpha = .83$) to assess general procrastination, since the remaining two items were included in the PAWS. The items (such as “I say to myself: ‘start now’. And I still don't start”) were rated on a scale ranging from 1 (“(almost) never”) to 5 (“(almost) always”).

Work Engagement. The 9-item version of the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006) was used to measure employee work engagement. Each subdimension, *Vigor* (i.e. “When I get up in the morning, I feel like going to work”, *Dedication* (e.g., “I am enthusiastic about my job”) and *Absorption* (for example, “I feel happy when I am working intensely”) had 3 items each (0 = ‘never’, 6 = ‘always’), and the internal consistencies of these scales were .90, .93, and .84, respectively.

Measuring Procrastination at Work

Table 1. *Items and factor loadings of the Procrastination at Work scale (first estimate: Principal Component Analysis with promax rotation, N = 184; second estimate: Confirmatory Factor Analysis, N = 200).*

Item	Factors	
	Soldiering ($\alpha = .84$)	Cyberslacking ($\alpha = .69$)
1. When I work, even after I make decision, I delay acting upon it. ¹	.70/.52	
2. I delay before starting on work I have to do. ²	.84/.70	
3. At work, I crave a pleasurable diversion so sharply that I find it increasingly hard to stay on track. ³	.80/.60	
4. When a work task is tedious, again and again I find myself pleasantly daydreaming rather than focusing. ³	.81/.59	
5. I give priority to the lesser tasks, even if there is something important, I should do at work. ⁴	.70/.52	
6. When I have excessive amount of work to do, I avoid planning my tasks, and find myself doing something totally irrelevant.	.60/.45	
7. I take long coffee breaks.	.56/.51	
8. I delay some of my tasks just because I do not enjoy doing them.	.74/.76	
9. I use Instant Messaging (MSN, Skype, GTalk, WhatsApp...) at work.		.77/.69
10. I spend more than half an hour on social network sites (Facebook, Myspace, Twitter etc.) on work per day.		.84/.81
11. I read news online at work.		.68/.59
12. I do online shopping during working hours.		.62/.41
13. I overwork because I spend my time with irrelevant work activities.	.48	
14. I play computer games at work.	.23	
15. I have another sweet/cigarette/cup of coffee instead of beginning the task. ⁵	.33	
16. I let the time go by without getting any work task being done. ⁵	.58	.28

Note. Items 13-16 were omitted from the final scale due to low loadings (< .45) or double loadings. ¹Item taken from Mann, Burnett, Radford, and Ford (1997); ²Item taken from Lay (1986); ³Item taken from Steel's (2002) Susceptibility to Temptation Scale; ⁴Item taken from Steel's (2002) Irrational Procrastination Scale; ⁵Item taken from Van Eerde (2003). The remaining items were self-generated.

Chapter 2

Results. As expected, procrastination at work showed moderate correlations with general procrastination ($r = .46, p < .001$; supporting *Hypothesis 1a*), CWB ($r = .52, p < .001$; supporting *Hypothesis 1b*), and boredom ($r = .62, p < .001$; supporting *Hypothesis 1c*). The PAWS also showed low-to-moderate negative correlations with the subdimensions of work engagement, ranging from $-.27$ (absorption) to $-.29$ (vigor), supporting *Hypothesis 1d*. In order to examine the possible overlap of the PAWS with CWB, boredom at work, and general procrastination, three two-step CFAs were conducted (Table 2) in AMOS 17 (Arbuckle, 2008). We examined overall model fit through the chi-square goodness-of fit statistic, Goodness of Fit Index (GFI), Root Mean Squared Error of Approximation (RMSEA), Normed Fit Index (NFI) and Comparative Fit Index (CFI). RMSEA values smaller than 0.08; as well as GFI, NFI and CFI values higher than 0.90 indicated acceptable model fit (Hu & Bentler, 1991). In the first step of each of these CFAs a one-factor structure, with all items of the PAWS as well as the items tapping either CWB, boredom or general procrastination loading on a single latent variable was fitted to the data. In the second step a two-factor structure was fitted to the data, with the items of the PAWS loading on one factor and the items tapping either CWB, boredom or general procrastination loading on the second factor. In all three cases, the two-factor model was significantly superior to the one-factor model (see Table 2 for fit indices). Finally, a 4-factor model (procrastination at work, boredom, CWB, and general procrastination) had a better fit than a 1-factor model with all items loading on one latent procrastination variable ($\Delta M_{4\text{factor}} - M_{\text{single factor}} = \chi^2 (N = 200, df = 6) = 1036.38, p < .001$). These results show that procrastination at work can empirically be differentiated from general procrastination, counterproductive work behaviour, and boredom.

Table 2. Comparison of various factor models examining the distinction between the procrastination at work scale (PAWS) and boredom at work, counterproductive work behaviour, and general procrastination.

	χ^2	df	NFI	CFI	GFI	RMSEA	$\Delta\chi^2_{a-b}$
<i>2-Factor PAWS vs. 1-Factor PAWS (Phase 2)</i>							79.59*
a) 1-Factor	175.72	52	.76	.82	.86	.11	
b) 2-Factor	96.13	51	.87	.93	.93	.07	
<i>PAWS vs. DUBS (Phase 3)</i>							257.66*
a) 1-Factor	908.60	132	.74	.76	.73	.12	
b) 2-Factor	650.94	131	.81	.84	.83	.10	
<i>PAWS vs. CWBC</i>							117.83*
a) 1-Factor	1360.68	321	.63	.69	.74	.09	
b) 2-Factor	1182.85	320	.68	.74	.78	.08	
<i>PAWS vs. ARDS</i>							376.34*
a) 1-Factor	762.27	132	.69	.73	.76	.11	
b) 2-Factor	385.93	131	.85	.89	.89	.07	
<i>PAWS vs. DUBS, CWBC and ARDS</i>							1036.38*
a) 1-Factor	3285.97	699	.54	.59	.61	.10	
b) 4-Factor	2249.59	693	.68	.75	.74	.08	

Note. * The difference between these models is significant at $p < .001$. PAWS: Procrastination at Work Scale; DUBS: Dutch Boredom Scale; CWBC: Counterproductive Work Behaviour Checklist; ARDS: Avoidance to Reactions Scale.

Discussion. The purpose of Study 1 was to develop a generic scale to measure workplace procrastination, the Procrastination at Work Scale (PAWS). In three phases, the items of the PAWS were developed, the factorial structure of the scale was examined and replicated and its construct validity evidence was investigated. Consistent with our expectations, the analyses showed that the PAWS consisted of two related dimensions, namely soldiering (8 items) and cyberslacking (4 items). As expected, procrastination at work correlated low to moderately highly with theoretically related concepts

(boredom at work, counterproductive work behaviour, general procrastination and work engagement), supporting its convergent and discriminant validity. Thus, these findings support the notion that the PAWS is a valid instrument to measure workplace procrastination. However, in order to better understand the concept of workplace procrastination, it is crucial to examine its possible workplace antecedents and consequences. Hence, Study 2 investigates the associations among the PAWS and possible associated workplace characteristics and outcomes in two separate samples.

Study 2: The Correlates of Procrastination at Work

In Study 1, we developed and validated a questionnaire to assess procrastination at work and empirically supported its distinction from general procrastination, CWB, and boredom at work. In Study 2, we test a model for investigating the correlates of procrastination at work (Figure 1). Drawing on the JD-R Model, we expect an understimulating work environment with low resources (*Hypothesis 2a*) and demands (*Hypothesis 2b*) to lead to low arousal (energy) and motivation among employees, triggering high levels of boredom. Previous studies report that boredom-prone employees score low on job involvement, satisfaction, commitment and high absenteeism, turnover intention, and deactivation (Kass, Vodanovic, & Callender, 2001; Reijseger et al., 2012). Therefore, we expect high levels of state boredom to be associated with negative workplace behaviours, such as procrastination at work (*Hypothesis 3a*) and high levels of CWB (*Hypothesis 3b*), particularly withdrawal and abuse. In addition, we expect a strong relationship between procrastination at work and CWB (*Hypothesis 4*). Last but not least, we expect low job demands and resources to be related to increased procrastination (*Hypothesis 5a*) and counterproductive work behaviours (*Hypothesis 5b*), but we expect that this

relationship will be mediated by boredom. The expected relationships among the study variables are illustrated in Figure 1.

In a time of globalization, recent occupational scales should be applicable among wide range of cultures for having a broader understanding of relevant concepts. Studies need to provide cross-cultural evidence for their assessment in order to strengthen the pertinence of their measurements. To respond this concern, the proposed model will be tested across two independent samples that represent two culturally distinct work contexts. Using data from Dutch and Turkish full-time white-collar employees, we aim to address a crucial feature of the development of PAWS, which is its usability in different cultures. Moreover, we aim to observe if the functioning or the manifestation of procrastination differs across cultures.

Method

Sample and procedure

The Dutch sample consisted of all participants included in Sample B used in Study 1, and the characteristics of this sample are reported there. Since Sample A had been used for exploratory purposes, we felt it was inappropriate to include it in Study 2. As regards the Turkish sample, the data were collected via online questionnaires, similar to Study 1. The Turkish sample consisted of 243 white-collar employees (56% female). Participant age varied from 24 to 73 years ($M=36.3$, $SD = 10.34$). Similar to the Dutch sample, 95% of the Turkish participants held a college (or higher) degree. On average the Turkish employees worked 8 hours more than the Dutch sample ($M = 41.15$ hours, $SD = 9.70$). The Turkish sample reported 6.4 hours of overwork per week ($SD = 8.83$), and 13% worked in tourism and 8% in academic jobs.

Chapter 2

Measures

Job Resources and job demands. Two job resources (*autonomy and opportunities for learning and development*) and two job demands (*workload and mental demands*) were measured using scales developed by Van Veldhoven and Meijman (1994). All items were rated using a five-point Likert-type scale (1 = "never", 5 = "always"), with higher scores referring to higher levels of job resources/job demands. Internal consistencies of the subdimensions for both samples are reported in Table 3. Autonomy was measured by 3 items, such as "Can you decide how to conduct your tasks". Opportunities for personal development were also assessed via 3 items, i.e. "Does your job give you the opportunity for learning new things?". The two job demands were *workload* and *mental demands*. Workload was measured with five items, including "Do you have too much work to do?". Mental demands were also measured with five items, such as "Does your work require too much concentration?".

Results

As regards the Turkish sample, the PAWS was translated into Turkish by using the translation-back translation method (Triandis & Brislin, 1984) by six Turkish work and organizational psychologists who were proficient in the English language. CFA showed that the 12-item and 2-factor structure of the PAWS was supported by the Turkish data as well ($\chi^2 (N = 243, df = 50) = 121.56$, GFI = .93, AGFI = .89, CFI = .94, RMSEA = .08, AIC = 177.56) compared to a single-factor structure ($\chi^2 (N = 243, df = 53) = 241.56$, GFI = .85, AGFI = .77, CFI = .84, RMSEA = .12, AIC = 291.58, $\Delta AIC = 114.02$). In order to examine the cross-cultural generalizability of the PAWS, a multigroup CFA analysis was conducted, comparing an unconstrained model in which the factor loadings could vary across the Dutch and Turkish samples to a constrained model in

which the loadings, covariances and residuals were constrained to be equal. The unconstrained model showed good fit, $\chi^2(102) = 241.14$, NFI = .88, CFI = .93, TLI = .90, RMSEA = .06. The constrained factor loadings model also showed good fit, $\chi^2(112) = 277.13$, NFI = .88, CFI = .91, TLI = .90, RMSEA = .06. Although the chi-square difference test was significant ($\Delta\chi^2(df=10) = 35.98$), in other respects the constrained model did not show a major improvement compared to the unconstrained model (CFI and NNFI values decreased .01 and RMSEA increased .01 or less). Therefore, we conclude that from a practical point of view the 2-factor CFA model was equivalent across the two cultures (Cheung & Rensvold, 2002).

Table 3 shows the means, standard deviations, reliabilities and correlations among the study variables across the Dutch and Turkish samples. In the Dutch sample, neither the job demands nor the job resources showed a significant relationship with the PAWS. A small negative correlation was found between procrastination at work and mental demands in the Turkish sample ($r = -.17, p < .05$). Procrastination at work was positively related to boredom ($r_{dutch} = .62, p < .01; r_{turkish} .54, p < .01$), withdrawal ($r_{dutch} = .50, p < .01; r_{turkish} .46, p < .01$) and abusive ($r_{dutch} = .55, p < .01; r_{turkish} .54, p < .01$) behaviours, and general procrastination ($r_{dutch} = .46, p < .01; r_{turkish} .55, p < .01$). The Turkish sample scored higher than the Dutch sample on both delay, $F(1, 441) = 48.31, p < .001$, and cyberslacking, $F(1, 440) = 366.57, p < .001$.

SEM analyses showed that M_1 (cf. Figure 1) did not have acceptable goodness-of-fit indices, $\chi^2(N = 200, df = 20) = 58.161, p < .001$, CFI = .92, TLI = .86, GFI = .94, and RMSEA = .10) for the Dutch sample. After examining the modification indices, a new model (M_2) without the direct paths to CWB and with direct paths to procrastination at work from workplace characteristics was tested, resulting in improved model fit ($\chi^2(N = 200, df = 20) = 59.23, p < .001$, CFI = .96, TLI = .93, GFI = .97, RMSEA = 0.07, $\Delta\chi^2 = 46.6, p < .01$). For the Turkish sample, the same model was run;

however, for workload we found a negative error variance of -59.89, leading to model misspecification (Kolenikov & Bollen, 2012). A reason for this could be the perception of difference among these cognitive and physical job demands within Turkish sample. Therefore, in both samples the indicator of mental demands was omitted from the model. This trimmed model – with only workload as an indicator of job demands – showed marginally acceptable fit ($\chi^2 (N = 234, df = 17) = 63.83, p < .001, CFI = .95, TLI = .90, GFI = .96, \text{ and } RMSEA = 0.08$).

Multi-group analyses were conducted on M_2 in order to examine whether the parameters of this particular model were invariant across the Dutch and the Turkish samples (Byrne, 2004). The model without including equality constraints showed acceptable fit indices, $\chi^2 (30) = 152.95, p < .001, CFI = .90, NFI = .88, IFI = .90, \text{ and } RMSEA = 0.08$. In stage one, the model with equality constraints of factor loadings did not differ from the non-constrained model, $\chi^2 (34) = 160.59, CFI = .90, NFI = .88, IFI = .90; \Delta\chi^2 (4) = 7.63, p = .11$. However, for the the structural paths there was a strong and significant difference across samples, $\chi^2 (41) = 1283.01, CFI = .48, NFI = .47, IFI = .48; \Delta\chi^2 (7) = 1122.42, p < .001$. Hence, the paths among the variables were examined in order to interpret possible differences between samples.

Figure 2 presents the standardized regression estimates for the final model (M_2) for both samples. *Hypothesis 2a*, stating that job resources were negatively related to boredom, was supported in both samples ($\beta_{Dutch} = -.39 / \beta_{Turkish} = -.54, ps < .01$). However, workload showed a significant negative path to boredom only for the Dutch employees ($\beta_{Dutch} = -.15, p < .01$), supporting *Hypothesis 2b* only for this sample. According to *Hypothesis 3*, boredom would be linked positively to a) procrastination at work and b) CWB. Our results supported both *Hypothesis 3a* ($\beta_{Dutch} = .74 / \beta_{Turkish} = .77, ps < .01$) and *3b* ($\beta_{Dutch} = .65 / \beta_{Turkish} = .57, ps < .01$) across both cultures. *Hypothesis 4*, stating that procrastination at work and CWB would be associated, was also supported in both samples ($r_{Dutch} = .79 / r_{Turkish} = .76, ps < .01$). Lastly, in order to

check our mediation hypotheses, the bootstrapping method was applied (Preacher & Hayes, 2008). Whereas in the Dutch sample the indirect effects of job resources on the study outcomes were not mediated by boredom ($\beta = -.21$, $SE = .13$, 95% CI [-.29, .23]), boredom did mediate the indirect effects of workload ($\beta = -.28$, $SE = .13$, 95% CI [-.47, -.09]). In the Turkish sample workload was unrelated to boredom and job resources were unrelated to procrastination at work, therefore no mediation analyses were performed. In terms of the direct links from demands to workplace procrastination, a positive relationship emerged in both samples ($\beta = .22/.14$, $p < .01$). The only significant relationship between resources and procrastination was found in the Dutch sample ($\beta = .34$, $p < .01$). Hence, *Hypothesis 5a* was only partly supported. *Hypothesis 5b* was rejected as no direct relationship was found between workplace characteristics and CWB.

Figure 1. Proposed Model for the Associations between Procrastination at Work and Other Variables (M_1).

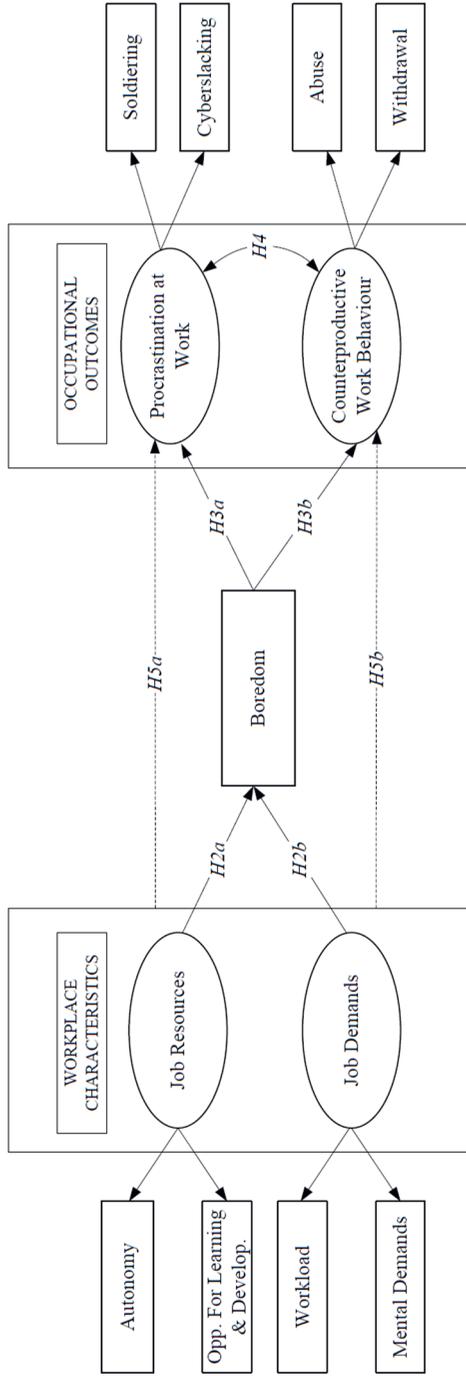
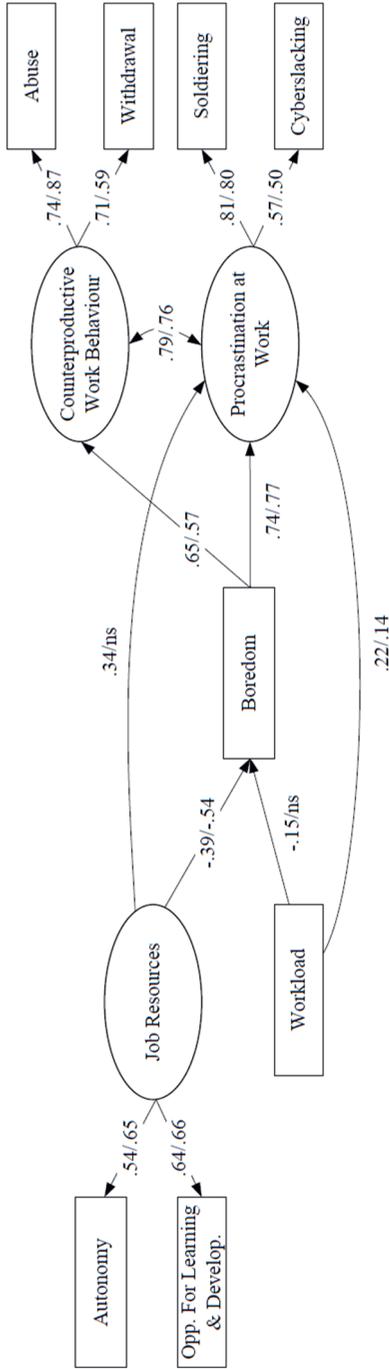


Table 3. Correlations, reliabilities, means and standard deviations for the Dutch and Turkish samples

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Proc. at Work	.83/ .85	.90	.74	-.12	-.10	.01	-.17	.54	.46	.54	-.27	-.28	-.26	.55
2. Soldiering	.91	.80/ .89	.38	-.20	-.12	.11	-.17	.53	.39	.54	-.31	-.30	-.31	.63
3. Cyberslacking	.77	.42	.71/ .70	.04	-.03	-.17	-.11	.33	.37	.33	-.08	-.13	-.08	.21
4. Autonomy	-.06	-.02	-.10	.76/ .76	.43	-.19	.14	-.34	.00	-.19	.49	.46	.33	-.21
5. OPD	.05	.05	.02	.34	.80/ .86	.81	.33	-.36	-.11	-.22	.57	.62	.41	-.07
6. Workload	.05	.13	-.09	.11	.27	.85/ .81	.36	-.03	-.09	-.09	-.12	-.01	.01	.02
7. Men. Demands	-.10	-.06	-.11	.16	.35	.48	.81/ .85	-.12	-.29	-.29	.25	.34	.25	-.21
8. Boredom	.62	.55	.49	-.26	-.28	-.23	-.35	.90/ .90	.22	.53	-.55	-.50	-.40	.37
9. Withdrawal	.50	.50	.32	-.02	-.11	-.11	-.25	.49	.60/ .69	.51	-.15	-.26	-.20	.46
10. Abuse	.55	.52	.38	-.18	-.09	-.04	-.17	.49	.54	.76/ .83	-.32	-.34	-.35	.58
11. Vigor	-.29	-.31	-.14	.34	.37	.11	.27	-.59	-.31	-.34	.90/ .91	.87	-.71	-.27
12. Dedication	-.28	-.28	-.18	.35	.50	.23	.40	-.64	-.27	-.30	.83	.93/ .92	.70	-.28
13. Absorption	-.27	-.27	-.17	.33	.39	.20	.37	-.56	-.29	-.31	.79	.85	.84/ .79	-.29
14. Gen. Procrast.	.46	.49	.23	-.01	.10	.10	.08	.21	.27	.30	-.12	-.10	-.09	.83/ .82
M (Dutch)	1.18	1.17	1.22	3.89	3.17	2.98	3.59	1.10	1.63	1.40	1.46	4.21	2.48	2.49
SD (Dutch)	0.77	0.78	1.16	0.79	0.95	0.85	0.76	1.03	0.51	0.39	0.38	1.21	0.74	0.74
M (Turkish)	2.10	1.70	2.91	2.67	2.44	2.32	3.17	1.62	0.80	0.40	0.50	4.23	2.07	2.07
SD (Turkish)	1.08	1.17	1.50	0.73	0.96	0.79	0.67	1.38	0.63	0.40	0.40	1.25	0.74	0.74

Note. For the Dutch sample (N = 384, lower diagonal) correlations higher than .08; for the Turkish Sample (N = 243; upper diagonal), correlations over .11 are significant at $p < .05$. Proc. at Work: Procrastination at Work; OPD: Opportunities for personal development; Gen. Procrast.: General procrastination; Men. Demands: Mental demands. Alphas are presented on the diagonal. The first estimate refers to the Dutch sample, the second estimate to the Turkish sample.

Figure 2. Final Model (M_3) and Standardized Coefficients among the Study Variables



Note. First estimate: Dutch sample ($N = 200$), second estimate: Turkish sample ($N = 243$).

Discussion. The primary aim of Study 2 was to further investigate the behavioural (boredom and counterproductive work behavior) and workplace correlates (job demands and resources) of procrastination at work across two cultures. In general, our expectations were supported as an understimulating work environment was associated with workplace boredom, and boredom was positively associated with negative outcomes. These findings complement the findings of Reijseger and colleagues (2012) as boredom is not only associated with low job satisfaction, low organizational commitment and high turnover intention, but also with procrastination and CWB dimensions. Moreover, similar to the flow in the JD-R Model (which suggests that workplace characteristics are related to positive behaviour, such as performance, through a positive state, which is work engagement), job demands and resources were indirectly related to procrastination (behaviour) through boredom (state), at least in the Dutch sample. This finding is interesting, as situational factors could be related to a certain state of mind to postulate behaviour. The PAWS showed similar characteristics in both the Turkish and Dutch sample, showing that this scale can be employed in countries that represent different work environments. However, Turkish participants scored significantly higher on both dimensions of procrastination at work and lower on autonomy, as compared to the Dutch sample. This finding contradicts Ferrari, Ozer and Demir (2009) as they did not find significant differences between the level of general procrastination of Turkish adults, as compared to North and South American, European, and Australian samples. In addition, workload was not related to boredom among Turks. The influence of behavioural (workload) job demands does not seem to be significant for the boredom level of Turkish employees. However, low job resources were related to increased boredom, suggesting that increasing job resources could be more effective in addressing procrastination than increasing job demands. Hence, managers

may consider investing in increasing job resources to eliminate boring aspects of workplaces.

General Discussion

The present paper had two major goals. Firstly, as acknowledged by Klingsieck (2013a), we consider procrastination as a concept that could take different forms in different domains. Hence, we aimed to develop and validate an original questionnaire (the PAWS) to measure procrastination behaviour in the work context. Secondly, we intended to test a model to investigate the physical (workplace) and cognitive (boredom) correlates of workplace procrastination, as well as associated counterproductive work behaviours. To address the first goal, items from a comprehensive item pool were derived after a thorough selection process and the validity of the generated scale was explored. Our findings indicated that workplace procrastination could be distinguished empirically from general procrastination CWB and boredom, suggesting that the PAWS is a valid tool to measure workplace idleness. In addition, the invariance of the PAWS across the Dutch and Turkish samples emphasized the applicability of this scale in disparate cultures.

As regards to our second goal, our findings showed that an understimulating work environment, which is characterized by low job demands and job resources, was linked to procrastination at work through boredom. Such a state may induce job-related stress and may cause psychological detachment from work during work hours, which may lead employees to engage in non-work-related pleasurable behaviours. These results support the findings of Eastin, Glynn and Griffiths (2007) who reported that as workplace boredom increases, so does engaging in non-work-related use of communication technology (cyberslacking). Also, the positive link between boredom and procrastination might be explained due to pleasure

seeking activity, such as taking longer coffee breaks (Reinecke et al., 2014). Last but not least, although earlier studies did not provide clear evidence for a relationship between task performance and procrastination (Meerkerk et al., 2014), the strong relationship between procrastination and CWB was notable. The significant relationship between procrastination and CWB indicates that employees' detachment from work tasks might have hazardous outcomes. However, note that this pattern of workplace procrastination was not entirely supported among the Turkish participants as here only low job resources were related to boredom, showing no significant relationship with procrastination. It is possible that Dutch participants perceived higher autonomy in and feel more responsibility for their jobs, thus engaging to a lower degree in procrastination behaviour (Cem Ersoy, Born, Derous, & van der Molen, 2012). Moreover, Turkish employees scored significantly higher on both subscales of the PAWS. Organizations in collectivistic cultures – such as that of Turkey – tend to rely on high levels of supervision and provide low levels of autonomy to their employees, whereas the level of power distance is high in such cultures. This could mean that in such cultures on the one hand employees cannot take decisions about their tasks, whereas on the other hand they are unable to report any problems resulting from this lack of autonomy to their supervisor due to the high-power distance, resulting in procrastination at work.

We believe these findings contributed to procrastination literature in several ways. Previous studies have construed employee procrastination as a harmful activity that is associated with high costs (especially monetary) for employers. From a scientific point of view, our study is the first to offer a measure that specifically assesses *contemporary* procrastination behaviours at work, and it is among the few studies to examine procrastination in the work context. Specifically, we have presented a generic, reliable and valid scale (the PAWS) that can be used to assess employee procrastination and to detect

possible correlates of workplace procrastination. By doing so, possible workplace correlates of procrastination could be detected, potentially pointing to ways to handle this slippery concept and providing more insight in the functioning of procrastination at work. From a practical point of view, the PAWS can be used in workplace surveys to detect possible problems and solutions related to procrastination. Our results suggest that it may be possible to diminish workplace procrastination. For example, boredom seems to be an important correlate of workplace procrastination and appears to stem from low job demands and resources. Diminishing the degree of procrastination in the workplace could therefore be a matter of increasing both demands and resources. Job crafting, a bottom-up strategy initiated by employees to actively shape the boundaries of their jobs and obtain a work environment which fits their preferences, skills, and competences, could be a useful strategy to diminish the boring aspects of jobs and thus limit procrastination (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012). Another useful intervention to reduce non-work-related activity appears to be organizational time-management trainings (Van Eerde, 2003b).

Limitations and future direction

There are four important limitations to this study. Firstly, the cross-sectional design of this study prevents us from establishing causal or long-term effects of procrastination at work and other study variables. However, the major aim of this study was to develop and validate the procrastination at work scale, rather than to examine the long-term antecedents and outcomes of procrastination. Although causal relationships cannot be confirmed, our results show that the newly developed procrastination at work scale is reliable and largely relates to other concepts in the expected way, supporting its validity. More rigid longitudinal research is desirable and needed to study the causes and the outcomes of procrastination at work.

Secondly, the data was collected via self-report questionnaires, thus common-method variance might have influenced the results (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, procrastination can hardly be assessed by objective measures, and this also applies to the other concepts studied in this paper. Further, Spector (2006) argues that the assumption that common-method variance automatically leads to an overestimation of the association among variables is an oversimplification. For example, Table 3 shows that some of the variables in our study are virtually unrelated to the other concepts, which discredits the reasoning that common method effects have uniformly inflated the associations among the study variables.

Third, although our analyses showed that the PAWS is a reliable and valid measure, it is still possible that some of its items can be improved in terms of their content. For instance, for a journalist the item “I read news online at work” might not necessarily impose procrastination. Likewise, instant messaging could be an internal communication tool among coworkers and can be used for work purposes. Hence, in future studies, it may be desirable to strengthen these items by adding a “for non-work purposes” statement.

Last, the data used in this research were convenience samples. Therefore, we cannot speculate about the effects of having a certain job type or being in a particular sector on procrastination behavior at work. Researchers are encouraged to conduct job-specific studies in the future to examine the differences among certain job types or sectors. For instance, people in jobs that require more internet and mobile technology usage, such as ICT, might be more frequently engaging in cyberslacking than others.

Conclusions

Procrastination appears to be a type of behaviour, which is associated with negative outcomes in different walks of life. With this study, we provided empirical results for procrastination behaviour in an understudied context – the work environment – by presenting a new scale. Work environments that contain insufficient resources and demands, may increase boredom, which might eventually lead employees to engage in irrelevant or even harmful behaviours. Researchers and practitioners can apply the PAWS to assess employee idle behaviour and investigate its correlates in some detail. Therefore, future research should consider more comprehensive models including possible determinants (i.e. motivation, personality) and consequences (i.e. performance, turnover intention) of this understudied concept.

References

- Ackerman, D. S., & Gross, B. L. (2005). My instructor made me do it: Task characteristics of procrastination. *Journal of Marketing Education, 27*, 5-13.
- Ansari, M. E., Maleki, S., & Mzreah, S. (2013). An analysis of factors affected on employees' counterproductive work behavior: The moderating role of job burnout and engagement. *Journal of American Science, 9*, 350-359.
- Arbuckle, J. L. (2013). Amos version 22.0 [computer software], Chicago, IL: SPSS.
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology, 22*, 309-328.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*, 187-200.
- Blunt, A. K., & Pychyl, T. A. (2000). Task aversiveness and procrastination: A multi-dimensional approach to task aversiveness across stages of personal projects. *Personality and Individual Differences, 28*, 153-167.
- Bruursema, K., Kessler, S. R., & Spector, P. E. (2011). Bored employees misbehaving: The relationship between boredom and counterproductive work behaviour. *Work & Stress, 25*, 93-107.
- Byrne, B. M. (2004). Testing for multigroup invariance using AMOS graphics: A road less traveled. *Structural Equation Modeling, 11*, 272- 300.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating Goodness-of- Fit Indexes for Testing Measurement Invariance. *Structural Equation Modeling, 9*, 233-255.
- Claessens, B. J. C., van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review, 36*, 255-276.

Chapter 2

- Claessens, B. J., Van Eerde, W., Rutte, C. G., & Roe, R. A. (2010). Things to do today...: A daily diary study on task completion at work. *Applied Psychology, 59*, 273-295.
- D'Abate, C. P., & Eddy, E. R. (2007). Engaging in personal business on the job: Extending the presenteeism construct. *Human Resource Development Quarterly, 18*, 361-383.
- Eastin, M. S., Glynn, C. J., & Griffiths, R. P. (2007). Psychology of communication technology use in the workplace. *Cyberpsychology & Behavior, 10*, 436-443.
- Cem Ersoy, N., Born, M. P., Derous, E., & Van der Molen, H. T. (2012). The effect of cultural orientation and leadership style on self- versus other-oriented organizational citizenship behaviour in Turkey and the Netherlands. *Asian Journal of Social Psychology, 15*, 249-260.
- Ferrari, J. R. (1992). Procrastination in the workplace: Attributions for failure among individuals with similar behavioral tendencies. *Personality and Individual Differences, 13*, 315-319.
- Ferrari, J. R. (2000). Procrastination and attention: Factor analysis of attention deficit, boredom, intelligence, self-esteem and task delay frequencies. *Journal of Social Behavior and Personality, 15*, 185-196.
- Ferrari, J. R., Diaz-Morales, J. F., O'Callaghan, J., Diaz, K., & Argumedo, D. (2007). Frequent behavioral delay tendencies by adults: International prevalence rates of chronic procrastination. *Journal of Cross-Cultural Psychology, 38*, 458-464.
- Ferrari, J. R., Özer, B. U., & Demir, A. (2009). Cross-cultural notes chronic procrastination among Turkish adults: Exploring decisional, avoidant, and arousal styles. *The Journal of Social Psychology, 149*, 302-307.
- Garrett, K. R., & Danziger, J. N. (2008a). On cyberslacking: workplace status and personal internet use at work. *Cyberpsychology & Behavior, 11*, 287-92.

- Garrett, K. R., & Danziger, J. N. (2008b). Disaffection or expected outcomes: Understanding personal internet use during work. *Journal of Computer-Mediated Communication*, *13*, 937–958.
- Geurts, S. A. E., Taris, T. W., Kompier, M. A. J., Dijkers, J. S. E., Van Hooff, M. L. M., & Kinnunen, U. M. (2005). Work-home interaction from a work psychological perspective: Development and validation of a new questionnaire, the SWING. *Work & Stress*, *19*, 319–339.
- Hagbin, M., McCaffrey, A., & Pychyl, T. A. (2012). The complexity of the relation between fear of failure and procrastination. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *30*, 249–263.
- Hammer, C. H., & Ferrari, J. R. (2003). Differential Incidence of Procrastination Between Blue- and White-Collar Workers. *Current Psychology*, *21*, 333–338.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Newbury Park, CA: Sage.
- House, R. J., Hanges P, J, Javidan M., Dorfman P. W, & Gupta V. (2004). *Culture, Leadership and Organizations: The GLOBE Study of 62 Societies*. Thousand Oaks, CA: Sage
- Hu, L.T. and Bentler, P.M. (1999), Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives, *Structural Equation Modeling*, *6*, 1-55.
- Kass, R.A., & Tinsley, H.E.A. (1979) Factor analysis. *Journal of Leisure Research*, *11*, 278-291.
- Kass, S.J., Vodanovich, S.J., & Callender, A. (2001). State-trait boredom: Relationship to absenteeism, tenure, and job satisfaction. *Journal of Business and Psychology*, *16*, 317-327.
- Klingsieck, K. B. (2013a). Procrastination in different life-domains: Is procrastination domain specific? *Current Psychology*, *32*, 175–185.

Chapter 2

- Klingsieck, K. B. (2013b). Procrastination: When good things don't come to those who wait. *European Psychologist*, 18, 24-34.
- Kolenikov, S., & Bollen, K. A. (2012). Testing negative error variances: Is a Heywood case a symptom of misspecification? *Sociological Methods & Research*, 41, 124-167.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., de Vet, H. C. W., & van der Beek, A. J. (2011). Conceptual frameworks of individual work performance: A systematic review. *Journal of Occupational and Environmental Medicine*, 53, 856-866.
- Lay, C. (1986). At last, my research article on procrastination. *Journal of Research in Personality*, 20, 474-495.
- Lim, V. K. G., & Teo, T. S. H. (2006). Cyberloafing and organizational justice: The moderating role of neutralization technique. In M. Anandarajan, T. S. H. Teo and C. A. Simmers (Eds.), *The internet and workplace transformation: Advances in management information systems* (pp. 241-258). Armonk, NY: M. E. Sharpe.
- Lonergan, J. M., & Maher, K. J. (2000). The relationship between job characteristics and workplace procrastination as moderated by locus of control. *Journal of Social Behavior & Personality*, 15, 213-224.
- Loukidou, L., Loan-Clarke, J., & Daniels, K. (2009). Boredom in the workplace: More than monotonous tasks. *International Journal of Management Reviews*, 11, 381-405.
- Mann, L. (1982). *Decision-making questionnaire* [unpublished manuscript]. Adelaide: Flinders University of South Australia.
- McCown, W., & Johnson, J. (1989). *Differential arousal gradients in chronic procrastination*. Paper presented at the American Psychological Association, Alexandria, VA.
- Meerkerk, G.-J., Schoenmakers, T., & Van de Mheen, D. (2014). *Cyberslacking: Het gebruik van het internet tijdens werktijd* [Cyberslacking: The use of

- the internet during working time]. Rotterdam, The Netherlands: IVO Instituut voor Onderzoek naar Leefwijzen en Verslaving.
- Nguyen, B., Steel, P., & Ferrari, J. R. (2013). Procrastination's impact in the workplace and the workplace's impact on procrastination. *International Journal of Selection and Assessment*, 21, 388–399.
- OECD Stat (n.d.) Retrieved 20 October 2015 from <https://stats.oecd.org/Index.aspx?DataSetCode=ANHRS>.
- Paulsen, R. (2015). Non-work at work: Resistance or what? *Organization*, 22, 351–367.
- Petrou, P., Demerouti, E., Peeters, M. C. W., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior*, 33, 1120–1141.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Preacher, K.J. and Hayes, A.F. (2008), Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models, *Behavior Research Methods*, 40, 79-891.
- Raïche, G., Walls, T. A., Magis, D., Riopel, M., & Blais, J. G. (2013). Non-graphical solutions for Cattell's scree test. *Methodology*, 9, 23–29.
- Reijseger, G., Schaufeli, W. B., Peeters, M. C. W., Taris, T. W., van Beek, I., & Ouweneel, E. (2012). Watching the paint dry at work: Psychometric examination of the Dutch Boredom Scale. *Anxiety, Stress, and Coping*, 1, 37–41.
- Reinecke, L., Hartmann, T., & Eden, A. (2014). The guilty couch potato: The role of ego depletion in reducing recovery through media use. *Journal of Communication*, 64, 569–589.

Chapter 2

- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*, 701–716.
- Schmeichel, B. J., Vohs, K. D., & Baumeister, R. F. (2003). Intellectual performance and ego depletion: Role of the self in logical reasoning and other information processing. *Journal of Personality and Social Psychology, 85*, 33–46.
- Sharma, S. K., & Gupta, J. N. D. (2004). Improving workers' productivity and reducing Internet abuse. *Journal of Computer and Information Systems, 44*, 74–78
- Sirois, F. M., Melia-Gordon, M. L., & Pychyl, T. A. (2003). 'I'll look after my health, later': An investigation of procrastination and health. *Personality and Individual Differences, 35*, 1167–1184.
- Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods, 9*, 221–232.
- Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior, 68*, 446–460.
- Steel, P. (2002). *The measurement and nature of procrastination* [unpublished doctoral dissertation]. Minneapolis: University of Minnesota.
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin, 133*, 65–94.
- Strongman, K. T., & Burt, C. D. B. (2000). Taking breaks from work: An exploratory inquiry. *Journal of Psychology, 134*, 229–242.
- Taylor, F. W. (1911) *The Principles of Scientific Management*. New York; NY: Harper and Brothers.

- Triandis, H. C., & Brislin, R. W. (1984). Cross-cultural psychology. *American Psychologist*, *39*, 1006.
- Van der Heijden, G. A. H., Schepers, J. J. L., & Nijssen, E. J. (2012). Understanding workplace boredom among white collar employees: Temporary reactions and individual differences. *European Journal of Work and Organizational Psychology*, *21*, 349–375.
- Van Eerde, W. (2000). Procrastination: Self-regulation in Initiating Aversive Goals. *Applied Psychology: An International Review*, *49*, 372–389.
- Van Eerde, W. (2003a). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences*, *35*, 1401–1418.
- Van Eerde, W. (2003b). Procrastination at work and time management training. *The Journal of Psychology*, *137*, 421–434.
- Van Veldhoven, M., & Meijman, T. F. (1994). *Het meten van psychosociale arbeidsbelasting met een vragenlijst: De Vragenlijst Beleving en Beoordeling van de Arbeid* [The measurement of psychosocial strain at work: The questionnaire experience and evaluation of work]. Amsterdam: NIA.
- Vitak, J., Crouse, J., & LaRose, R. (2011). Personal Internet use at work: Understanding cyberslacking. *Computers in Human Behavior*, *27*, 1751–1759.
- Wan, H. C., Downey, L. A., & Stough, C. (2014). Understanding non-work presenteeism: Relationships between emotional intelligence, boredom, procrastination and job stress. *Personality and Individual Differences*, *65*, 86–90.

Chapter

3



Validation of the Procrastination at Work Scale: A seven-language study

Author contributions: Ü. Baran Metin, Maria C. W. Peeters, Toon W. Taris, Max Korpinen, Urska Smrke, Josip Razum, Monika Kolářová, Reny Baykova, and Dariia Gaioshka (Conceptualization; Methodology). Ü. Baran Metin, Max Korpinen, Urska Smrke, Josip Razum, Monika Kolářová, Reny Baykova, and Dariia Gaioshka (Data collection). Ü. Baran Metin (Writing-original draft; Writing-review, Project administration; Analysis), Maria C. W. Peeters and Toon W. Taris (Supervision, Writing-review & Editing)

Appeared as: Metin, U. B., Taris, T. W., Peeters, M. C. W., Korpinen, M., Smrke, U., Razum, J., Kolářová, M., Baykova, R., & Gaioshko, D. (2020). Validation of the Procrastination at Work Scale: A seven-language study. *European Journal of Psychological Assessment*, 36(5), 767-776. <https://doi.org/10.1027/1015-5759/a000554>

Abstract

Procrastination at work has been examined relatively scarcely, partly due to the lack of a globally validated and context-specific workplace procrastination scale. This study investigates the psychometric characteristics of the Procrastination at Work Scale (PAWS) among 1,028 office employees from seven countries, namely, Croatia, the Czech Republic, Finland, Slovenia, Turkey, Ukraine, and the United Kingdom. Specifically, it was aimed to test the measurement invariance of the PAWS and explore its discriminant validity by examining its relationships with work engagement and performance. Multi-group confirmatory factor analysis shows that the basic factor structure and item loadings of the PAWS are invariant across countries. Furthermore, the two subdimensions of procrastination at work exhibited different patterns of relationships with work engagement and performance. Whereas soldiering was negatively related to work engagement and task performance, cyberslacking was unrelated to engagement and performance. These results indicate further validity evidence for the PAWS and the psychometric characteristics show invariance across various countries/languages. Moreover, workplace procrastination, especially soldiering, is a problematic behaviour that shows negative links with work engagement and performance.

Keywords: procrastination at work, work engagement, performance, multi-group analysis

Procrastination at work is a self-regulatory failure in which individuals enact a voluntary delay in an intended course of action, despite expecting to be worse off for the delay. It is generally associated with negative work outcomes, such as decreased performance, lower salary and shorter durations of employment (Metin, Peeters, & Taris, 2018; Nguyen, Steel, & Ferrari, 2013). Procrastination is becoming a more popular research topic globally (Svartdal, Klingsieck, Van Eerde, & Steel, 2018). However, it is often studied across student samples (van Eerde, 2015) and empirical evidence obtained in the work context is scarce. To assess procrastination in the work domain, Metin, Taris, and Peeters (2016, p.255) conceptualized procrastination at work as “*delay of work-related action by engaging (behaviourally or cognitively) in nonwork-related actions, with no intention of harming the employer, employee, workplace or client*”. They developed a generic Procrastination At Work Scale (PAWS) that taps procrastination-related employee behaviours during work hours using a wide range of contemporary workplace procrastination items, distributed across two dimensions (i.e. soldiering and cyberslacking). Although the PAWS showed good validity and reliability evidence in Metin et al.'s study, its possible application across different cultural settings requires further validity evidence. Consequently, the main purpose of this study is to investigate the validity of the PAWS across seven European countries. Moreover, we investigate the discriminant validity of procrastination at work by examining how procrastination at work relates to two pillar workplace concepts, namely work engagement and performance.

Procrastination at work

The literature on procrastination has mostly focused on student samples in an academic context, and studies examining workplace procrastination are relatively rare (van Eerde, 2015). So far, the available evidence shows that procrastination is a prevalent behaviour at work (Klingsieck, 2013), that is

Chapter 3

influenced by personality factors such as high neuroticism and low conscientiousness (Steel, 2007) and situational factors like limited task significance, limited autonomy and feedback (Lonergan & Maher, 2000). Furthermore, it is associated with high levels of stress and boredom, decreased work engagement, and performance (Metin, et al., 2018; Nguyen et al., 2013; Wan, Downey, & Stough, 2014).

Although previous studies have already examined the correlates of procrastination at work empirically, the scales used in that research were derived from general and academic procrastination scales (e.g. Lay's (1986) General Procrastination Scale), potentially failing to tap the dynamics of procrastination in the contemporary work context. We argue that such a relevant and detrimental behaviour needs to be assessed through a *context-specific* manner using *context-specific* instruments. Using a context-specific measure may help understanding the underlying drives and behavioural patterns of procrastination at work, allowing for developing tailored interventions to reduce its frequency and adverse outcomes.

The procrastination at work scale

Following Klingsieck's (2013) recommendation, Metin and colleagues (2016) developed the Procrastination At Work Scale (PAWS) that assesses a wide array of contemporary workplace procrastination behaviours. In their approach, workplace procrastination is characterized by two dimensions, namely *soldiering* and *cyberslacking*. Soldiering is a type of workplace procrastination that hinders work-related activity by mainly doing non-work tasks which do not have harmful intentions. Taking long coffee breaks, avoiding planning, and daydreaming are frequent examples of soldiering. However, with the emergence of the use of mobile technology, a new way of workplace procrastination has manifested itself. Cyberslacking is the utilization of internet or mobile devices for personal purposes during work

hours (Garrett & Danziger, 2008). Although the internet often allows employees to execute their work tasks faster and safer than before, it also makes it easier for them to use internet for personal purposes, leading to high financial costs associated with less time spent on work (cf. Vitak, Crouse, LaRose, 2011). Cyberslacking is hard to observe and measure compared to soldiering, because employees may give the impression of working (sitting in the cubicle and looking at the computer screen) while actually being busy with non-work activities (e.g. using instant messaging tools for personal communication or checking social network websites, cf. Metin et al., 2016). The two-factor PAWS could empirically be distinguished from instruments tapping boredom, counterproductive work behaviour, and general procrastination, suggesting that it is a distinct instrument to assess specifically employee procrastination behaviour (Metin et al., 2016).

Measurement invariance and discriminant validity of the PAWS

Measurement invariance tests whether the items of a measure or scale are perceived similarly by the members of distinct samples. In other words, it examines if subgroups understand and respond invariantly to the items of a measure. It is important to conduct this analysis in scale adaptation studies with cross-cultural samples, because if measurement invariance is not established, it would remain ambiguous if differences between subgroups reflect true group differences or are due to methodological and psychometric issues regarding the comprehension of the instrument, the meaning and valence of the items across different cultures, incorrect translation of the items, et cetera (Cheung & Rensvold, 2002). Specifically, we examine the factor structure (configural invariance) and factor loadings (metric invariance) of the PAWS across subgroups, as well as the relationship between the dimensions of the PAWS (structural covariance invariance) (cf. Taris, Bok & Meijer, 1998). In case psychometric invariance is observed for these criteria, this provides

Chapter 3

evidence that the items and dimensions of the PAWS are understood in a similar way across different cultures.

We investigate the psychometric characteristics of the PAWS across seven countries, namely Croatia, Czech Republic, Finland, Slovenia, Turkey, Ukraine, and the United Kingdom. These countries represent a variety of work values; hence results obtained from these diverse samples can provide good evidence for the cultural robustness of the PAWS. According to the Global Leadership and Organizational Behaviour Effectiveness (GLOBE; House, Hanges, Javidan, Dorfman, & Gupta, 2004) project, countries can be clustered into 10 groups (i.e. the Anglo, Germanic, Latin Europe, African, Eastern European, Middle Eastern, Confucian, Southeast Asian, Latin American, and Nordic group), based on their specific societal and organizational norms (such as power distance or collectivism) and leadership effectiveness values (for example performance orientation). Our study samples can be assigned to four of these clusters, including the Anglo (the UK), Nordic (Finland), Middle Eastern (Turkey), and Eastern European (Slovenia) group¹. For example, performance-oriented and participative leadership was valued higher among the Anglo and Nordic clusters compared to the East European and Middle Eastern groups. Conversely, self or group-protective leadership was ranked higher in the Middle Eastern and Eastern European clusters. These clusters also showed specific similarities. Regarding team-oriented and autonomous leadership styles, their values did not differ significantly. As these examples show, the samples of this study have similarities as well as dissimilarities in terms of their cultural values. Therefore, examining the measurement invariance of the PAWS in these samples could strengthen the validity evidence for the psychometric characteristics of this measure.

¹ Croatia, Czech Republic, and Ukraine did not take place in the original GLOBE project; however, succeeding research indicate that these countries can also be clustered under the Eastern European group (Mensah & Chen, 2012).

Furthermore, we examine the discriminant validity of the PAWS by assessing its relationships with two important occupational concepts, namely *work engagement* and *work performance*. Discriminant (or divergent) validity examines whether the concepts or measurements which are not theoretically related are indeed unrelated (John & Bennett-Martinez, 2000). Work engagement is a positive, work-related state of mind that is characterized by vigour (high levels of energy and mental resilience while working, and the willingness to invest effort in one's work), dedication (being strongly involved in one's work and experiencing a sense of significance, enthusiasm, and challenge), and absorption (being fully concentrated and happily engrossed in one's work, whereby time passes quickly, cf. Bakker & Demerouti, 2007). Employees are more likely to experience positive emotions such as pride, meaningfulness, and enthusiasm when they are highly engaged in their tasks. Such positive emotions are functional in stimulating employees' affective-cognitive state and make them more open to their environment (Schaufeli, Bakker, Salanova, 2007) as well as making them more focused on improving performance (Bakker & Bal, 2010). When employees experience such positive stimulation from their work, they are less likely to engage in non-work-related activities, as they would avoid potential distraction from these pleasurable activities (Metin et al, 2018). Therefore, engaged employees are expected to procrastinate to a lesser degree than others.

Work performance refers to employee behaviours that are in line with the goals of the organization (Viswesvaran & Ones, 2000). Specifically, *task performance* is the proficiency of the employees on the fundamental, concrete, and technical aspects that are central to their jobs (e.g. fulfilling a task timely and with acceptable quality), whereas *contextual performance* refers to actions that support the social, psychological, and organizational environment through boosting the functioning of the technical core (i.e. helping new colleagues with their tasks) (Koopmans et al., 2012). Since procrastination is a

self-regulatory failure to commute an intended action, procrastinators are likely to spend their time engaging in irrelevant activities at work. This should lead to impaired performance due to the shorter amount of time dedicated to task execution and occasional distractions. Earlier studies show that high levels of workplace procrastination were related to restricted work output (Nguyen et al., 2013; Steel, 2007) and even counterproductive work behaviours, such as abuse and withdrawal (Metin et al., 2016). Therefore, we expect suboptimal performance levels from high-procrastination employees.

Method

Participants and procedure

Participants in this study were full-time white-collar employees with internet access who performed administrative or managerial tasks in an office setting. The online questionnaire was delivered using a snowball method through online environments such as company intranets, social media network and e-mails to the acquaintances of the researchers with a link to the questionnaire. The participants were informed about the study and were ensured about the anonymity before they were asked to indicate their willingness to participate by checking a consent box. A total of 1,028 participants from 7 countries filled in the survey (detailed sample characteristics are presented in Table 1). Information regarding the non-response percentage is not available, since it is unknown how many individuals had access to the questionnaire.

Measures

Procrastination at work was assessed using the Procrastination at Work Scale (PAWS; Metin et al., 2016), which consists of two subdimensions, namely *soldiering* (eight items, e.g. “When I work, even after I make a decision, I delay

acting upon it”) and *cyberslacking* (four items, e.g. “I spend more than half an hour on social network sites (Facebook, Myspace, Twitter, etc.) on work per day”) (1 = “never”, 7 = “always”).

Work engagement was measured by the short version of the Utrecht Work Engagement Scale (UWES, Schaufeli et al., 2006). The scale consists of three subdimensions: *vigour* (three items, e.g. “At my work, I’m bursting with energy”), *dedication* (three items, e.g. “My job inspires me”), and *absorption* (three items, e.g. “I am immersed in my work”, 0 = “Never”, 6 = “Always-Every day”). The original three-factor solution of UWES-Short was supported in the CFA ($\chi^2 (19) = 186,82$; TLI = .96; SRMR = .07, CFI = .98; RMSEA = .09), showing superior model fit to one factor solution ($\Delta\chi^2 (3) = 671.55, p < .01$).

Work performance was measured using two subscales of the Individual Work Performance Questionnaire (IWPQ, Koopmans et al., 2012). *Task performance* was measured with five items, e.g. “I was able to perform well with minimal time and effort”). *Contextual performance* was measured using eight items, e.g. “I took on challenging work tasks, when available” (0 = “seldom”, 4 = “always”). The original factor structure of IWPQ showed acceptable goodness-of-fit indices in the CFA ($\chi^2 (60) = 284.24$; TLI = .97; SRMR = .06, CFI = .98; RMSEA = .06) and displayed better model fit than the one factor solution ($\Delta\chi^2 (1) = 1371.06, p < .01$).

If adapted versions of the PAWS and IWPQ were unavailable for a language, they were translated using a translation-back-translation approach (Triandis & Brislin, 1984). After the back-translation was completed, the translated scales were pilot-tested. The pilot testing was conducted by checking the internal consistencies of the PAWS and its subscales. The UWES had already been adapted to the languages used in this study. Table 4 shows the internal consistencies (Coefficient Omega; Peter, 2014) of the scales for the full sample.

Table 1. Demographic characteristics of the participants

Country	Czech Republic	Croatia	Finland	Slovenia	Turkey	Ukraine	UK
N	152	153	150	168	150	126	128
Age (SD)	34.1 (10.2)	40.9 (12.7)	42.6 (11.8)	42.5 (10.5)	32.4 (7.0)	26.7 (7.6)	33.2 (12.8)
Genders							
Female	39.5%	26.8%	67.3%	64.3%	60.1%	38.1%	57.8%
Male	59.9%	71.9%	30.7%	35.1%	37.9%	59.5%	41.4%
Tenure (SD)	6.2 (7.1)	11.9 (11.1)	8.2 (7.8)	13.2 (9.7)	5.1 (6.2)	5.2 (4.5)	5.7 (8.17)
% University Degree	96.7%	75.8%	85.6%	87.4%	96%	93.8%	84.4%
Sectors#	1st	Healthcare & Welfare (19.5%)	Education (19%)	Government (27%)	Manufacturing (18.3%)	ICT (23%)	Healthcare & Welfare (16%)
	2nd	Education (17.6%)	Business services (15.7%)	ICT (14%)	Culture & Leisure (13.1%)	Transportation (21.4%)	Financial Institutions (13%)
	3rd	Government (12%)	Government (10.5%)	Healthcare & Welfare (17%)	Healthcare & Welfare (9.8%)	Education (12.7%)	ICT (12%)

Notes. # Only the three most prevalent sectors are presented. % Percentages do not add up to 100% since not all participants indicated their gender.

Results

Factorial validity of the PAWS across study samples

A multi-group CFA was ran using the AMOS 24.0 program. We employed maximum likelihood methods to examine the structure of the PAWS across the seven participating countries as well as for the full sample. For goodness-of-fit criteria, we used the fit indices suggested by Hu and Bentler (1999). According to these indices, a good fit is established if Tucker-Lewis Index (TLI), Comparative-Fit Index (CFI) values are higher than .90 and the Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA) values are smaller than .08 (Hooper, Coughlan, & Mullen, 2008). Two models were tested and compared. In the first model (M₁), all items of the PAWS loaded on a single latent factor, i.e. no distinction was made between the items belonging to the soldiering and the cyberslacking dimensions. In the second model (M₂) two correlated latent factors were specified, with the items of the soldiering dimension loading on one factor and the items of cyberslacking loading on the other factor.

Table 2 presents the fit indices for M₁ and M₂, for the full sample and the seven countries separately. This table shows that the two-factor solution for the PAWS (M₂) has a significantly better fit than the single-factor solution (M₁). However, Model 2 clearly did not fit the data well. Consequently, several consecutive modifications were made to arrive at an acceptable model (Hu & Bentler, 1999). In every subsample (except for Ukraine) as well as in the total sample, acceptable fit was reached when three error covariances were estimated for three pairs of items of the soldiering dimension. Therefore, this model (M₃) was accepted as the final model (Figure 1). The correlation between the two latent variables (soldiering and cyberslacking) ranged from .40 for the Turkish sample to .71 for the Czech and Slovenian samples.

Chapter 3

In a further series of multi-group analyses (Byrne, 2004), we examined the invariance of M_3 for the seven country-specific samples. Table 3 presents the fit indices for several models. In a first step, M_3 was specified as a base model for all seven country samples and a set of overall fit indices was computed (Model A). As expected, the fit of Model A was acceptable. In Model B the factor loadings of the items of the two factors were constrained to be equal across samples. Table 3 shows the model fits and the change in CFI. The change in CFI for the factor loadings to be invariant was acceptably small ($\Delta\text{CFI} = -.009$), meaning that the factor loadings across separate samples were equivalent. According Cheung and Rensvold (2002), the CFI is one of the stronger indexes in evaluating model fit, due to its independence of model complexity and sample size and it is recommended not to reject the null hypothesis of invariance when a change in CFI is smaller or equal to -0.01 . Likewise, in the evaluation of Model C a very small change in CFI was found between study samples in terms of the covariance between latent constructs, namely soldiering and cyberslacking ($\Delta\text{CFI} = -.01$), indicating – again – that the PAWS showed similar characteristics in different countries in terms of the scalar invariance. However, when comparing Models D and E, the item intercepts (means) and the error residuals varied across samples ($\Delta\text{CFI} = -.027$ and $-.116$, respectively). This result is plausible as different samples may have different average levels of procrastination. Nevertheless, this was not the main scope of this study. Besides, even though in an analysis with relatively small sample sizes and representing different countries such differences are noteworthy, it is still important to underline that the metric and the scalar invariance across study samples support the potential global utility of the PAWS. In sum, we found supportive results regarding the factorial structure of the PAWS in the participating samples.

Table 2. CFA fit indexes of the PAWS factorial structure across study samples

		χ^2	GFI	NFI	CFI	RMSEA
Full (<i>N</i> = 1,028)	1-Factor (M1)	1257.35	.80	.77	.77	.15
	2-Factor (M2)	604.44	.91	.89	.90	.10
	2-Factor Modified (M3)	290.61	.91	.95	.96	.07
Slovenia (<i>N</i> = 168)	1-Factor (M1)	199.42	.84	.78	.83	.13
	2-Factor (M2)	175.35	.85	.81	.87	.12
	2-Factor Modified (M3)	79.76	.93	.91	.97	.06
Croatia (<i>N</i> = 153)	1-Factor (M1)	215.46	.79	.71	.76	.14
	2-Factor (M2)	141.89	.87	.81	.87	.11
	2-Factor Modified (M3)	90.07	.91	.88	.94	.07
Czech Republic (<i>N</i> = 152)	1-Factor (M1)	316.82	.69	.65	.69	.18
	2-Factor (M2)	177.04	.84	.81	.85	.12
	2-Factor Modified (M3)	119.71	.89	.87	.92	.09
Turkey (<i>N</i> = 150)	1-Factor (M1)	258.07	.76	.73	.77	.16
	2-Factor (M2)	129.38	.88	.86	.91	.10
	2-Factor Modified (M3)	89.25	.92	.91	.96	.07
Finland (<i>N</i> = 150)	1-Factor (M1)	297.00	.71	.61	.65	.17
	2-Factor (M2)	214.63	.81	.71	.77	.14
	2-Factor Modified (M3)	89.99	.91	.88	.94	.07
United Kingdom (<i>N</i> = 129)	1-Factor (M1)	192.46	.78	.72	.78	.14
	2-Factor (M2)	110.51	.88	.84	.91	.09
	2-Factor Modified (M3)	92.41	.90	.97	.93	.08
Ukraine (<i>N</i> = 126)	1-Factor (M1)	207.68	.78	.67	.73	.15
	2-Factor (M2)	147.49	.84	.77	.83	.12
	2-Factor Modified (M3)	124.38	.87	.80	.87	.10

Notes. *GFI*: goodness-of-fit index, *AGFI*: adjusted goodness-of-fit index, *NFI*: normed fit index, *CFI*: comparative fit index, *RMSEA*: root mean square error of approximation. 2-Factor Modified solution refers to the models in which error variances of item1/item2, item3/item4, and item5/item6 are correlated. M1 has 54 *df*, M2 has 53 *df*, and M3 has 50 *df*. In all comparisons of M1, M2 and M3, the $\Delta\chi^2$ is significant at $p < .01$.

Table 3. Test of multigroup analysis for the invariance and the fit indices of the PAWS 2-Factor modified model (M_3) across all study samples ($N = 1,028$)

	χ^2	df	GFI	NFI	CFI	RMSEA
A: Factorial structure invariant	687.64	350	.90	.87	.93	.03
B: Factor loadings invariant	796.48	410	.89	.86	.93	.03
C: Structural covariates invariant	811.12	416	.89	.86	.92	.03
D: Construct intercepts invariant	906.15	428	.87	.84	.91	.03
E: Measurement residuals invariant	1455.30	518	.80	.74	.82	.04

Notes. GFI: goodness-of-fit index, AGFI: adjusted goodness-of-fit index, NFI: normed fit index, CFI: comparative fit index, RMSEA: root mean square error of approximation.

Discriminant validity of the PAWS

Table 4 displays the correlations and the internal consistencies of the subdimensions of the study variables for the full sample. Tables 5 and 6 presents the correlations among the subdimensions of procrastination at work, work engagement, and performance in all study samples. Results generally showed that soldiering was negatively and significantly related to work engagement and its subdimensions, except for the samples from the Czech Republic and Ukraine (Table 5). Soldiering was a stronger correlate of work engagement compared to cyberslacking. Cyberslacking and work engagement were only significantly correlated in the Turkish sample ($r = -.22, p < .01$).

There was a similar pattern for performance, as it was negatively and significantly correlated to soldiering in all samples but the Czech Republic and Ukraine. Cyberslacking was only related positively to task performance in the Czech sample ($r = .24, p < .01$) and negatively to contextual performance in the

Turkish sample ($r = -.31, p < .01$). Soldiering was correlated with task performance and contextual performance in all countries except for the Czech Republic and Ukraine (Table 6). These findings suggest that soldiering shows a greater number of significant relationships with work engagement and performance when compared to cyberslacking. Cyberslacking could possibly be related to work engagement and performance in Middle Eastern cluster.

Table 4. Means, standard deviations, intercorrelations and coefficient omega scores (on the diagonal) of the study variables.

	M	SD	1	2	3	4	5	6	7
1. Soldiering	2.33	1.14	(.89)						
2. Cyberslack.	2.54	1.55	.44**	(.77)					
3. Vigour	4.46	1.34	-.22**	.02	(.89)				
4. Dedication	4.69	1.42	-.19**	.00	.81**	(.90)			
5. Absorption	4.74	1.35	-.19**	-.07*	.70**	.73**	(.82)		
6. Task Perf.	3.17	.96	-.21**	-.02	.30**	.27**	.30**	(.90)	
7. Cont. Perf.	3.09	1.00	-.08*	.03	.41**	.46**	.44**	.51**	(.92)

Note. * $p < .05$, ** $p < .01$; Cyberslack.: Cyberslacking, Task Perf.: Task Performance, Cont. Perf.: Contextual Performance

Figure 2. Confirmatory Factor Analysis results for the PAWS (N = 1,028)

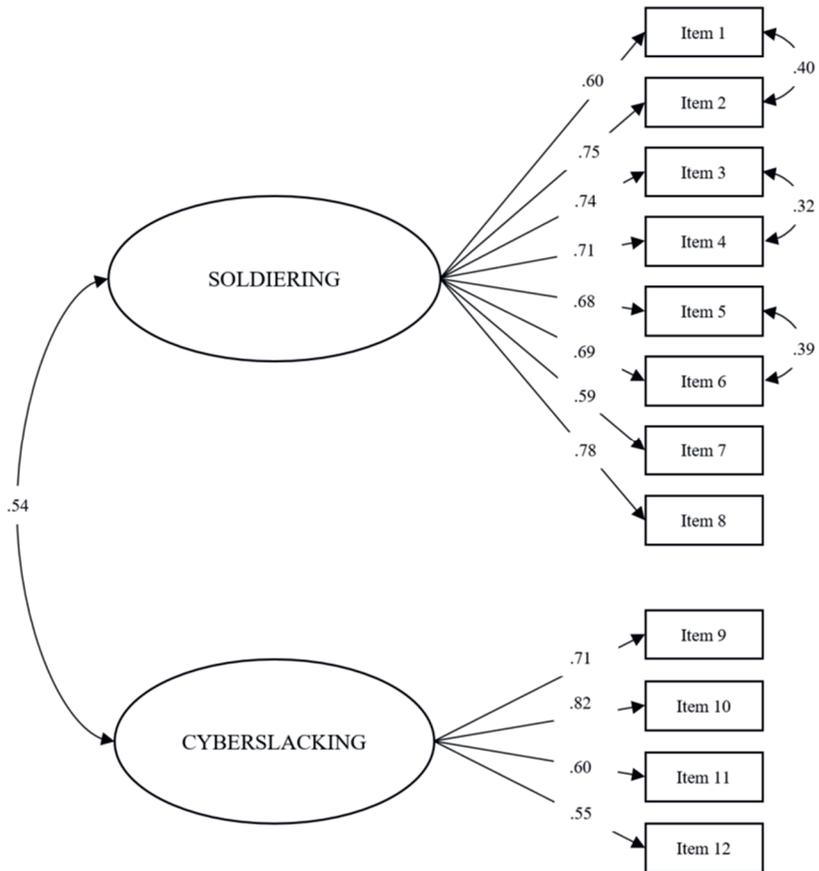


Table 5. *Correlations between procrastination at work, work engagement and their subdimensions.*

Variable	Language	Soldiering	Cyberslacking
Work Engagement	Slovenian (N = 168)	-.36**	-.07
	Croatian (N = 153)	-.31**	-.08
	Czech (N = 152)	-.13	.09
	Turkish (N = 150)	-.39**	-.22**
	Finnish (N = 150)	-.45**	-.13
	British (N = 129)	-.31**	-.07
	Ukrainian (N = 126)	-.13	-.07
Vigor	Slovenian (N = 168)	-.39**	-.03
	Croatian (N = 153)	-.31**	-.06
	Czech (N = 152)	-.11	.09
	Turkish (N = 150)	-.38**	-.12
	Finnish (N = 150)	-.39**	-.05
	British (N = 129)	-.34**	-.12
	Ukrainian (N = 126)	-.19*	-.08
Dedication	Slovenian (N = 168)	-.35**	-.07
	Croatian (N = 153)	-.32**	-.10
	Czech (N = 152)	-.14	.11
	Turkish (N = 150)	-.33**	-.15
	Finnish (N = 150)	-.40**	-.12
	British (N = 129)	-.31**	-.05
	Ukrainian (N = 126)	-.03	-.06
Absorption	Slovenian (N = 168)	-.28**	-.11
	Croatian (N = 153)	-.22**	-.07
	Czech (N = 152)	-.09	.03
	Turkish (N = 150)	-.34**	-.30**
	Finnish (N = 150)	-.43**	-.19*
	British (N = 129)	-.22*	-.01
	Ukrainian (N = 126)	-.12	-.06

Note. * $p < .05$, ** $p < .01$.

Table 6. *Correlations between procrastination at work, work performance and their subdimensions.*

Variable	Language	Soldiering	Cyberslacking
Performance	Slovenian (N = 168)	-.37**	-.07
	Croatian (N = 153)	-.42**	-.08
	Czech (N = 152)	-.12	.10
	Turkish (N = 150)	-.55**	-.26**
	Finnish (N = 150)	-.35**	.10
	British (N = 129)	-.47**	-.05
	Ukrainian (N = 126)	-.17	.05
Task Performance	Slovenian (N = 168)	-.43**	-.11
	Croatian (N = 153)	-.48**	-.04
	Czech (N = 152)	-.08	.24**
	Turkish (N = 150)	-.60**	-.09
	Finnish (N = 150)	-.36**	.16
	British (N = 129)	-.41**	.07
	Ukrainian (N = 126)	-.33**	-.10
Contextual Performance	Slovenian (N = 168)	-.25**	-.03
	Croatian (N = 153)	-.30**	-.08
	Czech (N = 152)	-.11	.01
	Turkish (N = 150)	-.41**	-.31**
	Finnish (N = 150)	-.28**	.04
	British (N = 129)	-.41**	-.12
	Ukrainian (N = 126)	-.04	.12

Note. * $p < .05$, ** $p < .01$.

Discussion

The aim of this study was to test the psychometric characteristics and discriminant validity of the Procrastination at Work Scale (PAWS) across seven European countries that represent distinct cultural and work values as well as different social and organizational circumstances. We intended to contribute to the literature on procrastination at work by providing further validation evidence for a scale – the Procrastination At Work scale, PAWS – that measures this scarcely studied unproductive behaviour in the work context (van Eerde, 2015).

Our data confirmed our assumption that the factor structure of the PAWS was largely equivalent across samples. This suggests that the PAWS can be used for assessing procrastination at work in a wider cultural context. As expected, in all samples the PAWS showed acceptable goodness-of-fit for a two-factor structure with soldiering and cyberslacking as its main dimensions. In addition, the associations among workplace procrastination, work engagement and performance were commonly invariant across samples as, procrastination behaviour exhibits similar patterns of relationships with certain positive occupational states and behaviours across countries.

An important finding of this study concerned specific characteristics of soldiering and cyberslacking. Despite the acceptable reliability and the metric and the scalar similarity of the PAWS across the study samples, the results regarding the relationship of the two subdimensions of procrastination with the work engagement and performance were not identical. Specifically, even though cyberslacking and soldiering were significantly positively related, cyberslacking was generally unrelated to either of the study variables, whereas soldiering showed a significant negative relationship with work engagement, task and contextual performance. These two types of non-work-related behaviour have a strong relationship with each other and can be categorized

Chapter 3

together both theoretically and empirically, however they show different patterns of relationships with other occupational constructs, indicating that their workplace correlates may be specific.

Although we collected data from various cultures and occupational sectors, we cannot draw general inferences for these aspects because the data sets obtained for each country are not representative for the working populations of these countries. For example, in some countries particular occupational sectors were severely underrepresented or even absent, while in other countries that same sectors were overrepresented. This implies that it is difficult to distinguish between the effects (if any) of country and those of occupational sector. Thus, instead of examining between-country or between-sector differences in procrastination behaviour, we deliberately only focused on the psychometric characteristics of the PAWS (i.e. its factor structure and reliability), as well as the relationship of procrastination with work engagement and performance (discriminant validity). Although there were small differences between countries from different cultural cluster (with the Middle Eastern and East European samples showing the only nonsignificant relationships), the pattern of relationships between procrastination (specifically soldiering) on the one hand and engagement and performance on the other were negative and significant. These differences could be due to the relatively low performance-oriented and relatively high self-protected leadership (i.e. ensuring individual and group safety; while being status-conscious, procedural and self-centred) values in these countries. Also, both clusters score high on in-group collectivism and power distance (House et al., 2004), and this may indicate that countries with such characteristics can show different relationships with other work outcomes as well (i.e. turnover intention). Consequently, we can argue that the extent to which the countries accept and endorse authority (power distance) and to which individuals express cohesiveness, loyalty, and pride within their organizations (in-group

collectivism) could play an important role in their procrastination patterns. Specifically, the Nordic cluster (Finland) shows relatively weaker correlations with performance; whereas the Middle East cluster sample (Turkey) shows the strongest correlations. This may indicate that in countries where power distance and in-group collectivism are high, individuals' performance could be hindered as a result of procrastination. Nevertheless, overall our findings indicate that procrastinating employees are more likely to be unengaged and perform at a suboptimal level. In order to address the dynamics of culture and its impact on procrastination at work, further research is necessary.

Study limitations

One limitation of this study was its use of self-report instruments, which prevents us from accurately observing how study variables are connected to each other. Future studies are encouraged to use more objective measurements of performance and procrastination alongside with self-report questionnaires. A second limitation is the possibility of common method variance issue due to the self-report surveys which were used to collect information in this study. Nevertheless, it is important to mention that the patterns of correlations among the study variables varied quite considerably. Moreover, the strongest correlation between the study variables was lower than .50 (between work engagement and performance). For both reasons we believe that it is unlikely that our findings are substantially inflated through common method variance (cf. Spector & Brannick, 2009). Finally, although the full sample was large enough to allow us to run complicated factor models and structural equation models, the country-specific samples varied from 126 to 168 individuals. This could lead to underestimation of certain fit indices, such as the comparative fit index and the chi-square test. By drawing on multiple fit indices we aimed to mitigate this issue.

Study implications

Despite these limitations, our results have several theoretical and practical implications. The findings supported a two-factor conceptualization of the PAWS in all samples, which may encourage researchers to use it in other countries as well. Furthermore, the similarity of the negative relationships of procrastination with work engagement and performance across different samples shows that procrastination behaviour has comparable cognitive and behavioural associates. However, data from the present study suggest certain variations regarding the magnitude of the relationships of cyberslacking and soldiering with engagement and performance. This could imply that these two dimensions are stimulated by different states and may have different outcomes within the work context. Hence, future research could examine the current conceptualization of procrastination at work in relation to several different work concepts (such as motivation, burnout, et cetera). Last but not least, from a practical point of view, employers are strongly encouraged to measure procrastination levels of their employees in order to enhance their understanding of workplace well-being and functioning. Our data shows that procrastination is negatively related to two cornerstone workplace constructs, underlining the relevance and importance of investigating this concept in future research.

References

- Bakker, A.B., & Bal, M.P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, 83, 189–206.
- Bakker, A.B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22, 309–328.
- Byrne, B.M. (2004). Testing for multigroup invariance using AMOS graphics: A road less traveled. *Structural Equation Modeling*, 11, 272–300.
- Cheung, G.W., & Rensvold, R.B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9, 233–255.
- Garrett, K.R., & Danziger, J.N. (2008). On cyberslacking: workplace status and personal internet use at work. *Cyberpsychology & Behavior*, 11, 287–92.
- Hooper, D., Coughlan, J., Mullen, M. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. *Electronic Journal of Business Research Methods*, 6, 53–60.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. London Sage publications.
- Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- John, O. P., & Benet-Martinez, V. (2000). Measurement: Reliability, construct validation, and scale construction. *Handbook of research methods in social and personality psychology*. Cambridge: Cambridge University Press.
- Klingsieck, K.B. (2013). Procrastination in different life-domains: is procrastination domain specific? *Current Psychology*, 32, 175–185.

Chapter 3

- Koopmans, L., Bernaards, C., Hildebrandt, V., van Buuren, S., van der Beek, A. J., & de Vet, H.C. (2012). Development of an individual work performance questionnaire. *International Journal of Productivity and Performance Management*, 62, 6-28.
- Lay, C.H. (1986). At last, my research article on procrastination. *Journal of Research in Personality*, 20, 474-495.
- Lonergan, J. M., & Maher, K. J. (2000). The relationship between job characteristics and workplace procrastination as moderated by locus of control. *Journal of Social Behavior and Personality*, 15, 213.
- Mensah, Y. M., Chen H. (2012). Global Clustering of Countries By Culture – An Extension of the GLOBE (2004) Study. Rutgers University CGAER Working Paper Series No. 2012-4.
- Metin, U.B., Taris, T.W., & Peeters, M.C.W. (2016). Measuring procrastination at work and its associated workplace aspects. *Personality and Individual Differences*, 101, 254-263.
- Metin, U.B., Peeters, M.C.W. & Taris, T.W. (2018). Correlates of procrastination and performance at work: The role of having "good fit ". *Journal of Prevention & Intervention in the Community*, 46.
- Nguyen, B., Steel, P., & Ferrari, J.R. (2013). Procrastination's impact in the workplace and the workplace's impact on procrastination. *International Journal of Selection and Assessment*, 21, 388-399.
- Peters, G. J. Y. (2014). The alpha and the omega of scale reliability and validity: Why and how to abandon Cronbach's alpha and the route towards more comprehensive assessment of scale quality. *The European Health Psychologist*, 16, 56-69.
- Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: a cross-national study. *Educational and Psychological Measurement*, 66, 701-716.

- Spector, P. E., & Brannick, M. T. (2009). Common method variance or measurement bias? The problem and possible solutions. *The SAGE handbook of organizational research methods*, (pp. 346-362). Thousand Oaks 597 (CA): Sage.
- Steel, P. (2007). The nature of procrastination: a meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, *133*, 65-94.
- Svartdal, F., Klingsieck, K. B., Van Eerde, W., Steel, P. (Eds.) (2018) New Perspectives on Procrastination [Special Issue]. *Frontiers in Psychology*, *9*.
- Taris, T.W., Bok, I.A., & Meijer, Z. (1998). Assessing stability and change of psychometric properties of multi-item concepts across different situations: A general approach. *The Journal of Psychology*, *132*, 301-316.
- Triandis, H.C., & Brislin, R.W. (1984). Cross-cultural psychology. *The American Psychologist*, *39*, 1006.
- van Eerde, W. (2016). Procrastination and well-being at work. In F. M. Sirois & T. A. Pychyl (eds.), *Procrastination, Health, and Well-Being* (pp. 233-253). London. Academic Press.
- Viswesvaran, C., & Ones, D. S. (2000). Perspectives on models of job performance. *International Journal of Selection and Assessment*, *8*, 216-226.
- Vitak, J., Crouse, J., & LaRose, R. (2011). Personal Internet use at work: Understanding cyberslacking. *Computers in Human Behavior*, *27*, 1751-1759.
- Wan, H. C., Downey, L. A., & Stough, C. (2014). Understanding non-work presenteeism: Relationships between emotional intelligence, boredom, procrastination and job stress. *Personality and Individual Differences*, *65*, 86-90.

Chapter

4



Correlates of Procrastination and Performance at Work: The Role of Having “Good Fit”

Author contributions: Ü. Baran Metin, Maria C. W. Peeters, and Toon W. Taris (Conceptualization; Methodology; Validation; Writing-review & editing); Ü. Baran Metin (Data collection; Formal analysis; Writing-original draft; Analysis). Maria C. W. Peeters and Toon W. Taris (Supervision).

Appeared as: Metin, U. B., Peeters, M. C. W., & Taris, T. W. (2018) Correlates of procrastination and performance at work: The role of having “good fit”, *Journal of Prevention & Intervention in the Community*, 46(3), 228-244. <https://doi.org/10.1080/10852352.2018.1470187>

Abstract

Occupational research often emphasizes the importance of workplace characteristics for understanding job stress and employee well-being, but the role of personal characteristics and having a good match with the job is mostly neglected. We explored how job crafting and feelings of being authentic at work were related to work engagement, work performance, and procrastination at work. A structural equation model was used to analyze self-reports from 380 Dutch office employees. Job crafting and authenticity were positively related to work engagement, and high work engagement predicted better in-role and extra-role performance and less work procrastination. Moreover, performance and procrastination were negatively related. Results emphasize the importance of having a “good fit” between the employment settings and employees to promote engagement. By improving employee’s work engagement, organizations might improve the likelihood that personnel respond favorably with organizational goals and reduce the chances of engaging in workplace procrastination.

Keywords: job crafting, authenticity, work engagement, performance, procrastination at work

Research on procrastination has become more popular during the last three decades (Ferrari, 2010). Steel (2007, p. 66) and others (e.g., Ferrari, Johnson, and McCown, 1995) described procrastination as a “voluntarily delay [of] an intended course of action despite expecting to be worse off for the delay”. Procrastination has been studied with respect to behaviors in various life domains, such as activities in the academic, every day routine or health areas (Ferrari, 2010; Klingsieck, 2013). However, *workplace procrastination* has received considerably less attention (DeArmond, Matthews, & Bunk, 2013). Despite the scarce available research in work contexts, chronic procrastination is mainly associated with negative outcomes such as receiving a lower salary, experiencing shorter spells of employment, having a tendency to be underemployed (Nguyen, Steel, & Ferrari, 2013), having lower self-efficacy (Steel, 2007) and reporting higher levels of boredom (Wan, Downey, & Stough, 2014).

To date little is known about the possible relationships between procrastination and *positive* aspects of employee functioning, such as motivation and performance. In the present study we focus on examining the relationship between procrastination and positive aspects of employee functioning, namely work engagement and job performance. In addition, we explored the role of the level of fit between a worker, his/her work environment (cf. Kristof-Brown, Zimmerman, & Johnson, 2005), and workplace procrastination. We consider job crafting and workplace authenticity as possible indicators of a good fit between the characteristics, preferences, goals, and expectations of employees and their organizations. Finally, we propose and test a heuristic mediation model for the links among these concepts. By doing so, this study contributes to the understanding of the correlates of procrastination in the workplace.

Procrastination, Performance and Work Engagement

Work performance refers to employee behaviors consistent with the goals of the organization (Viswesvaran & Ones, 2000), and, in turn, is among the core work outcomes in occupational research. Risk exists that employees may sometimes engage in non-work related activities during work hours, such as procrastinating work tasks (e.g., excessive breaks, browsing on social media, or online shopping). We proposed that the extent to which employees engage in task-unrelated activities at work, is a function of their cognitive-motivational involvement with their jobs. In this section, we focused on the potential relationship between work engagement on the one hand and performance and procrastination on the other hand.

Work engagement and Performance

Work engagement (i.e., a positive, energetic, and fulfilling state of mind at work) is one of the most-studied well-being conditions within the positive psychology approach of the last two decades (see Bakker, Schaufeli, Leiter, & Taris, 2008). Work engagement may be characterized by *vigor* (the energy and the mental resilience at work), *dedication* (the strong involvement in one's work and the experience of significance, enthusiasm, pride, and challenge at work), and *absorption* (being happily engrossed and fully concentrated in work). Work engagement is an important predictor of several positive individual (e.g. better health) and organizational (e.g. job satisfaction) outcomes. For example, engaged employees experience more flow, confidence, and optimism (Cropanzano & Wright, 2001) and report fewer health problems (Schaufeli, Taris, & van Rhenen, 2008) than others. Such positive, work-related emotions as well as physical conditions also appear to increase energy and affect employee functioning positively. Longitudinal studies show that work engagement is likely to improve both task performance (e.g., submitting finance reports timely the finance department, Bakker & Bal, 2010; Bakker,

Demerouti, & Ten Brummelhuis, 2012) and contextual performance (such as helping new colleagues with job-related problems, Bakker, Demerouti, & Verbeke, 2004). In this paper, we examine the task as well as the contextual dimensions of performance. *Hypothesis 1* is therefore that work engagement is positively related to both indicators of job performance.

Work engagement and Procrastination

Procrastination at work is a type of self-regulatory failure to execute an intended work task (Nguyen et al., 2013). In the present study, we conceptualized procrastination at work as an adverse and non-productive type of work activity. Consistent with this notion, previous studies showed that procrastination at work was associated with fatigue, psychological detachment (DeArmond et al., 2014), job-related stress (Wan et al. 2015), and low income (Nguyen et al. 2013). However, a shortcoming of these earlier studies was that they used general and academic procrastination scales for measuring procrastination at work. Consequently, typical procrastination activities that can be applied in work settings, such as taking long pauses or playing computer games during work hours, cannot be measured with these instruments. Recently, Metin, Taris, and Peeters (2016) addressed this gap and developed the Procrastination at Work Scale (PAWS) to measure and explore specific employee idle behaviors. In their conceptualization, procrastination at work refers to *putting off work-related action by engaging (behaviorally or cognitively) in nonwork-related actions, with no intention of harming the employer, employee, workplace or client*. They distinguished between *soldiering* and *cyberslacking*. The former may be defined as avoiding work (such as taking longer coffee breaks or daydreaming) without aiming to harm others or shift work onto colleagues, whereas the latter can be defined as the utilization of mobile technology and internet for personal purposes during work hours (Garrett & Danziger, 2008). Metin and colleagues (2016) deliberately excluded

Chapter 4

usage of internet and mobile technology from the manifestation of soldiering as it corresponds to the cyberslacking dimension of procrastination. Cyberslacking is a contemporary and a very prevalent type of workplace behavior; apparently, employees spend no less than 30% of their of day with non-work related online activity and almost 80% of employees report that they use internet for their personal interest while at work, such as checking social network sites, reading blogs, doing online shopping (Eddy, D'Abate, & Thurston, 2010; Lavoie & Pychyl, 2001).

Scantiness of positive emotions at work could steer employees to seek for shorter or longer spells of non-work related but potentially pleasurable activities during work hours, and such employees might show lower levels of productivity than others. For instance, procrastination at work was found to be related to job boredom (Metin et al., 2016) which is a state of understimulation at work (Reijseger et al., 2013). Employees who do not experience high levels of cognitive-physical stimulation might experience less cognitive energy and feel less committed to their work; therefore, they might be open for or even be actively looking for pleasurable distractions from work, such as engaging in instant messaging or taking overly long breaks. In contrast, engaged workers are expected to have high resilience, to be active, and to experience pleasure while working, which could diminish their need to engage in off-task activities. This leads to the expectation that work engagement is negatively related to procrastination at work (Hypothesis 2).

Procrastination and performance

Whereas the workplace procrastination literature presents little evidence for a possible relationship between procrastination and work performance, research on academic procrastination revealed that procrastination is strongly and negatively related to conscientiousness. In turn, conscientiousness is positively linked to academic performance. Moreover, procrastination was mostly

associated with lower academic performance (such as grade average) and higher stress (Steel, 2007; van Eerde, 2003). We expect a similar pattern within the work context. Employees displaying high levels of procrastination spend a significant amount of their work hours on non-work related activity. Therefore, in order to finish their daily tasks, they might work for longer hours (resulting in lower levels of concentration and more exhaustion) or might rush their tasks (possibly resulting in mistakes). As a result, by engaging in procrastination behaviors employees could display poorer job performance. Thus, *Hypothesis 3* is that procrastination at work and job performance are negatively related.

Authenticity and Job Crafting as Indicators of Fit

According to *Person-Environment Fit* theory, good fit is obtained if the characteristics of a work environment match well with employees' needs and abilities (Kristof-Brown et al., 2005). In the literature different types of person-environment fit at work are distinguished, including *needs-supplies fit* (the capability of environmental supplies to meet individual needs), *demands-abilities fit* (the degree to which individual knowledge, skills, and abilities meet the demands of the job), and *value congruence* (the similarity between individual values and the values of others in the organization or the social environment). Although conceptually different, all types of fit assume that high levels of fit are associated positive work outcomes. Clearly, it is important for both the employee and the organization that the employee fits well in the organizational/job context, i.e., that good fit is achieved.

In the present study, we focus on two concepts that can be considered as indicators of good fit, namely authenticity and job crafting. *Authenticity at work* refers to being able to experience one's true self at work (Van den Bosch & Taris, 2014b). It is the degree to which a person is able to act in accordance to one's true self (Harter, 2002). Although authenticity is both conceptually and empirically different from person-environment fit (Van den Bosch,

Chapter 4

Schaufeli, Taris, Peeters & Reijseger, 2016), both concepts also overlap to a substantial degree, since employees who experience good fit with their respective environments in terms of their values, needs and abilities are likely to indicate that they can act in accordance with their own values, needs and abilities – i.e., their true selves. In this sense, high levels of authenticity signify good fit of the individual worker in their work environment.

Job crafting refers to “the physical and cognitive changes individuals make in the task or relational boundaries of their work” (Wrzesniewski & Dutton, 2001, p. 179). Physical changes refer to changes regarding the form, scope or the number of job tasks; whereas, cognitive changes refer to changes about how one experiences the job (Demerouti & Bakker, 2014). Workers can craft their jobs for a multitude of reasons, and among these is the wish to achieve better fit between the requirements of their job and their values, needs and abilities. Thus, it can be assumed that high levels of job crafting are associated with good fit.

Authenticity. In their person-centered concept Wood, Linley, Maltby, Baliouis, and Joseph (2008) defined authenticity as a three-dimensional concept. The first dimension is *self-alienation*, referring to the (mis)match between an individual’s actual physiological states and this individual’s conscious awareness of this state. A perfect match is almost never possible; hence, the discrepancy between these two domains might lead to a more inauthentic state, thus leading to misfit. The second dimension is *authentic living*, which stands for the expression of emotions in such a way that it is consistent with the conscious awareness of an individual’s physiological states, emotions, beliefs, and cognitions. It is the degree to which people are true to their own selves and live in accordance with their values and beliefs. The last dimension is *external (or social) influence*, referring to the acceptance of others’ expectations. External influence can affect both self-alienation and authentic living processes, thus completing the tripartite nature of authenticity (van den

Bosch & Taris, 2014a).

Although authenticity has been studied in different domains, authenticity at work only gained interest very recently. Van den Bosch and Taris (2014b) adapted the general authenticity scale of Wood and his colleagues (2008) to the workplace context, and reported positive relationships between workplace authenticity, job satisfaction, in-role performance and work engagement. Similarly, Metin, Taris, Peeters, Van Beek, and Van den Bosch (2016) found that authenticity at work mediated the association between job resources on the one hand and job satisfaction, work engagement and subjective job performance on the other. Ménard and Brunet (2011) also found a positive association between managers' cognitive and behavioral authenticity and their subjective well-being. In short, individuals who experience a good fit between their job/work environment and their true selves tend to be more engaged a work and perform better than others. Thus, *Hypothesis 4a* is that authenticity at work is positively related to performance, but this relationship is (at least partly) mediated by work engagement. Further, *Hypothesis 4b* states that authenticity at work is negatively related to procrastination, but this relationship is (at least partly) mediated by work engagement.

Job crafting. If workers are indeed capable of making changes in their tasks or the social conditions under which their work (Wrzesniewski & Dutton, 2001), it is plausible that active job crafters are more likely to achieve good fit with their job (and experience the positive outcomes thereof) than others. For example, Bakker (2011) argued that employees may be able to improve their person-job fit as a consequence of job crafting.

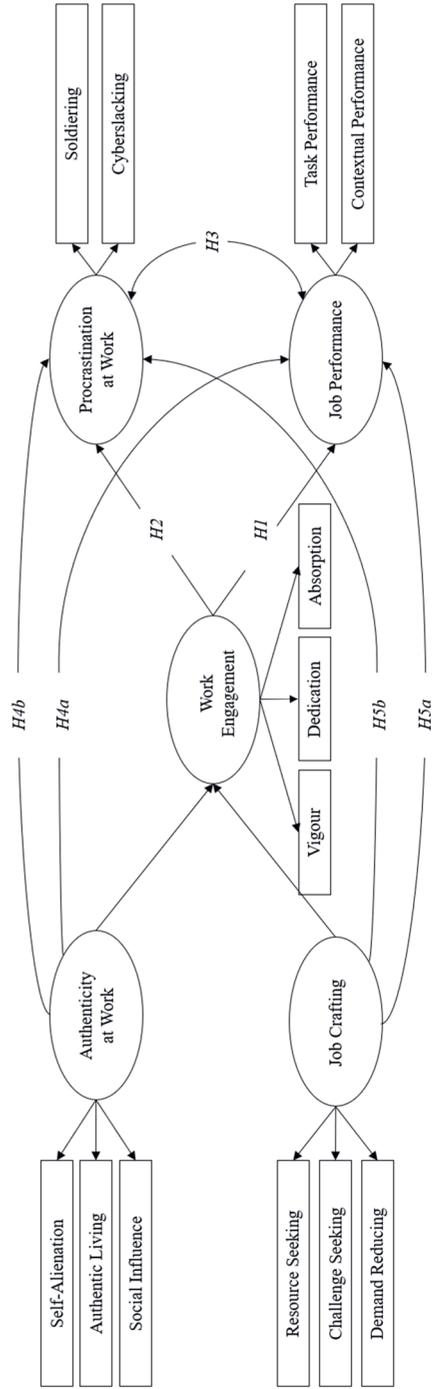
Job crafting can facilitate fit in three different ways. First, individuals aim to avoid uncertainty regarding their jobs by aiming to take more control over what they do. Second, job crafting motivates individuals to change certain aspects of the tasks in order to experience a more positive sense of self, which is expressed and confirmed by coworkers. Third, job crafting satisfies

Chapter 4

employees' need for being affiliated with others (Wrzesniewski & Dutton, 2001). Job crafting is found to contribute to the creation of more healthy and motivating work conditions that correspond with individual needs. Earlier longitudinal and diary research has largely confirmed these ideas. For example, a 5-day diary survey showed that day-level challenge-seeking was positively and day-level demands-reduction was negatively related to day-level work engagement, illustrating the potential motivational role of job crafting (Tims, Bakker, & Derks, 2012). Similarly, Tims, Bakker, and Derks (2015) found that job crafting intention was related to increasing job resources and challenges and eventually higher levels of work engagement in time. Moreover, Petrou, Demerouti, Peeters, Schaufeli, and Hetland (2012) found that day-level fluctuations in job crafting corresponded with day-level fluctuations in work engagement. Last, in their longitudinal study, Lu and his colleagues (2014) found that work engagement was positively related to changes in person-job fit via changes in physical and relational job crafting.

In short, job crafters seem to be aware of their personal needs and change their work conditions according to these needs, eventually leading to higher levels of work engagement and performance. Consequently, we expect a positive relationship between job crafting and work engagement. *Hypothesis 5a* is that job crafting is positively related to performance, but this relationship is (at least partly) mediated by work engagement. *Hypothesis 5b* states that job crafting is negatively related to procrastination, but this relationship is (at least partly) mediated by work engagement. A summary of the relationships expected in this study as well as the heuristic model to be tested is illustrated in Figure 1.

Figure 1. Proposed model (model M₁) for the associations between authenticity at work, job crafting, work engagement, job performance, and procrastination at work.



Method

Sample and procedure

Sample consisted of white-collar full-time employees who worked in the Netherlands in various (i.e., 20% government, 15% education, and 12.5% insurance). An online questionnaire was distributed using the authors' personal networks and social network websites, such as LinkedIn. Individuals received a message that obtained a short description of the study and a link to the web-based survey. A total of 380 individuals completed the survey, yielding equal numbers of males and females (50.0 % each) with an average age of 42.1 years ($SD = 12.4$) and 72% of the participants earned a college or university degree. On average, respondents reported they worked 33.9 hours ($SD = 7.1$) per week, with an average of 4 hours of overwork per week. Respondents had a career length of 20.1 years ($SD = 12.3$), worked in their current organization for on average 11.6 ($SD = 10.9$) years.

Measures

Job crafting was assessed by the 13-item job crafting questionnaire of Petrou et al., (2012). Responses ranged along a 5-point Likert scale (1 = *never*, 5 = *often*). The dimension of *seeking resources* was measured by six items (e.g., 'I ask my colleagues for advice'). The dimension of *seeking challenges* was measured by three items (e.g., 'I ask for more challenging tasks'). Finally, the dimension of *reducing demands* was measured by four items (e.g., 'I make sure I do less physical tasks').

Work authenticity was assessed by the 12-item Individual Authenticity Measure at Work (IAM Work: Van den Bosch & Taris, 2014b), consisting of three dimensions: *self-alienation* (including "At work, I feel alienated from myself"), *authentic living* (e.g., "At work, I am true to myself"), and *social influence* (for example, "At work, I usually do what others tell me"). Each

dimension was measured with 4 items (1= *strongly disagree*, 7 = *strongly agree*).

Work engagement was measured with the nine-item version of the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003). Its three sub dimensions (*vigour*, e.g., ‘At my work, I feel bursting with energy’; *dedication*, e.g., ‘I am enthusiastic about my job’; and *absorption*, e.g., ‘I get carried away when I am working’) were measured by three items each that were answered on a 7-point Likert scale (0 = never, 6 = always).

Procrastination at work was measured by the Procrastination at Work Scale (PAWS; Metin, Taris, & Peeters, 2016). The PAWS is a 12-item two-dimensional scale that focuses on contemporary workplace procrastination behaviors. It is scored on a 7-point Likert scale (0 = never, 6 = always). Eight items measure *soldiering* (i.e. “When I have excessive amount of work to do, I avoid planning my tasks, and find myself doing something totally irrelevant”) and 4 items measure *cyberslacking* (such as “I do online shopping during working hours”).

Job performance was assessed with the Individual Work Performance Questionnaire (IWPQ; Koopmans et al., 2013). Only the positive dimensions of the IWPQ were used in this study, namely *task* performance and *contextual* performance. The items of the IWPQ refer to the 3 months before the questionnaire was completed. Items are rated on 5-point Likert scales (1 = seldom; 5 = always). Five items assess task performance (such as “I managed to plan my work so that it was done on time”) and 8 items assess contextual performance (i.e. “I took on extra responsibilities”).

Statistical Analysis

The model proposed in Figure 1 was tested using structural equation modeling. The model fit was examined through the chi-square test, the Goodness of Fit Index (GFI), the Root Mean Squared Error of Approximation (RMSEA), the Normed Fit Index (NFI) and the Comparative Fit Index (CFI). RMSEA values

smaller than 0.08, as well as GFI, NFI and CFI values higher than 0.90 indicate acceptable model fit (Hu & Bentler, 1999). For the mediation analyses Shrout and Bolger's (2002) bootstrapping method was used. Bootstrap samples (2,000 resamples) were generated from the original sample using random sampling with replacement and maximum likelihood method. Mediation takes place if the 95% CI for the estimates of the indirect effect excludes zero.

Results

Descriptive statistics reporting the means, standard deviations, bivariate correlations between the study variables, and internal consistencies of the scales are shown in Table 1. As this table shows, all dimensions of work engagement were related to soldiering (r s ranging from $-.13$ to $-.27$, $p < .05$) but only vigor was related to cyberslacking ($r = -.14$, $p < .01$). Likewise, all dimensions of authenticity were negatively related to soldiering (r s ranging from $-.11$ to $-.27$; $p < .05$). Both the authentic living and self-alienation dimensions of authenticity showed positive correlations with task (r s were $.17$ and $.25$, $ps < .01$) and contextual (r s were $.25$ and $.23$; $ps < .01$) performance, respectively.

Model Testing. The results revealed a poor fit for M_1 , χ^2 ($df = 60$) = 589.06, GFI = .90, NFI = .83, CFI = .86, RMSEA = .09. The modification indices suggested the addition of direct paths from job crafting to job performance and procrastination, as well as a direct path from authenticity to procrastination at work. Moreover, the residuals of the two dimensions of job crafting, namely demand reducing and resource seeking, were correlated. The new model (M_2) had a significantly better fit, χ^2 ($df = 56$) = 166.52, GFI = .94, NFI = .89, CFI = .92, RMSEA = .07, $\Delta\chi^2$ $M_1 - M_2$ ($df = 6$) = 92.54, $p < .01$. Hence, M_2 was accepted as the final model.

Hypothesis Testing. Figure 2 presents the final model (M_2) and its

standardized regression coefficients. *Hypotheses 1* stated a positive relationship from work engagement to performance whereas *Hypothesis 2* stated a negative relationship from work engagement to procrastination. Both *Hypotheses 1* and *2* were supported as work engagement was positively linked to performance ($\beta = .53, p < .01$) and negatively to procrastination ($\beta = -.19, p < .05$). Moreover, performance and procrastination were negatively related ($r = -.23, p < .05$), supporting *Hypothesis 3*. For *Hypotheses 4a-b* and *5a-b*, a series of bootstrapping analysis was conducted. As can be seen in Table 2, work engagement mediated the indirect paths from authenticity to performance ($\beta = .19, p < .01, 95\%$ lower CI = .12, higher CI = .27, *Hypothesis 4a* confirmed) and from job crafting to performance ($\beta = .14, p < .01, 95\%$ [CI: .07, .22]), supporting *Hypothesis 5a*. No mediation was found for the indirect path from job crafting and authenticity to procrastination via work engagement (*Hypotheses 4b* and *5b* rejected).

Table 1. Means, Standard Deviations, and Correlations for the Model Variables (internal consistency scores of the related scales are reported on the diagonal) ($N = 380$).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Resource Seeking	3.77	.57	(.72)												
2. Challenge Seeking	2.95	.96	.41**	(.77)											
3. Demand Reducing	2.15	.62	.08	.18**	(.71)										
4. Self-Alienation	5.77	1.27	.06	-.14**	-.17**	(.76)									
5. Authentic Living	5.73	.82	.16**	.05	-.06	.37**	(.76)								
6. Social Influence	3.94	1.11	-.20**	-.15**	-.13*	.16**	.07	(.95)							
7. Vigor	5.11	1.18	.11*	-.01	-.07	.47**	.19*	.11*	(.86)						
8. Dedication	5.29	1.36	.20**	.00	-.06	.54**	.22**	.07	.80**	(.90)					
9. Absorption	4.67	1.34	.20**	.06	-.01	.30**	.14**	.01	.68**	.76**	(.82)				
10. Task Perf.	3.72	.66	-.05	.08	-.01	.17**	.14**	.06	.25**	.19**	.14**	(.77)			
11. Context Perf.	3.41	.78	.39**	.21**	.08	.25**	.23**	.04	.41**	.51**	.43**	.22**	(.89)		
12. Soldiering	2.31	.92	.17**	.11*	.15**	-.27**	-.11*	-.26**	-.27**	-.21**	-.13*	-.24**	-.11*	(.87)	
13. Cyberslacking	2.64	1.36	.17**	.14**	.07	-.09	-.02	-.15**	-.14**	-.09	-.04	-.13*	-.07	.44**	(.72)

Note. Values along the diagonal are Coefficient alpha with the present measures. * $p < .05$; ** $p < .01$

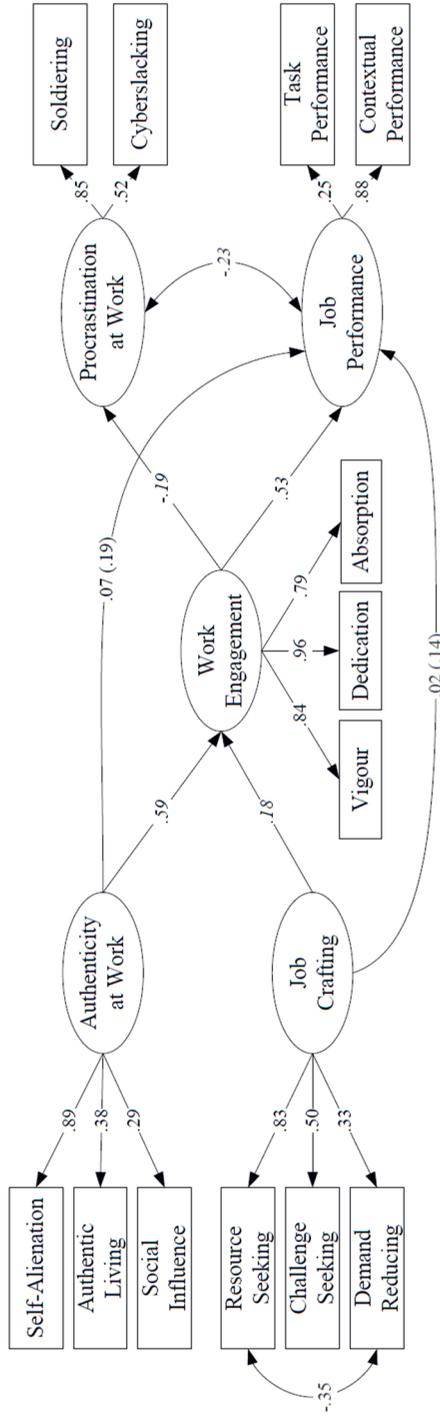
Correlates of Procrastination and Performance

Table 2. *Indirect Pathways After Executing Bootstrapping (N = 380)*

Indirect Effects	Bootstrapping (CI 95%)			
$x \rightarrow m \rightarrow y$	Estimate	SE	Lower	Upper
Authenticity → Work Engagement → Performance	.19*	.05	.12	.27
Authenticity → Work Procrastination at Work → Work Engagement → Performance	-.07	.05	-.14	.01
Job Crafting → Work Engagement → Performance	.14*	.05	.07	.22
Job Crafting → Work Procrastination at Work → Work Engagement → Performance	-.05	.05	-.14	.01

Note. * $p < .01$.

Figure 2. Final model M₂ of the relationships between authenticity at work, job crafting, work engagement, job performance, and procrastination at work.



Note: Coefficients represent standardized estimates. Direct effects from authenticity and job crafting are presented within the parenthesis. Coefficients over .11 indicate significance at * $p < 0.01$ level.

Discussion

The present study had three main goals. Firstly, we aimed at improving the understanding of procrastination at work by focusing on its relationship with important positive occupational constructs, such as work engagement and performance. Secondly, we examined the role of having good person-job fit by focusing on two indicators of fit (job crafting and authenticity). Lastly, we explored whether work engagement mediates the link between having a good match with one's work on the one hand and performance and procrastination on the other hand. By doing so, our purpose was to get a better understanding of the correlates of procrastination at work and the specific role of having a good fit in this respect.

As expected, there was a negative relationship between engagement and procrastination. Apparently, individuals who have high levels of energy, mental resilience, enthusiasm, inspiration, and concentration (i.e. engaged workers, Schaufeli & Bakker, 2003), do not spend much time on non-work related activities during work hours. Also as expected, procrastination and performance were negatively related. Hence, it is plausible that spending excessive time on personal activities while actually at work (such as reading blogs, engaging in gossiping and instant messaging et cetera) could affect performance negatively, either by decreasing the quality or the amount of the work done.

Our findings also provide insight in certain strategies that might *increase* productivity and worker functioning. Results demonstrated that both job crafting behavior and feeling authentic at work (as two possible indicators of having a good person-job fit) (Kristof-Brown et al., 2005) may have a positive effect on in-role and extra-role performance via the promotion of work engagement. Although no such effect of having good fit was found for procrastination, our results still provide empirically significant evidence for the

negative relationship of idle behavior with work engagement and performance. These are notable findings for understanding the nature of this relatively novel concept and its relationship with some of the most profound positive workplace constructs.

Our results further demonstrate that employees report higher levels of work engagement when they are able to experience their authentic being at work and can redesign their tasks according to their preferences. Building on earlier studies (Metin et al., 2016; Petrou et al. 2012; Tims et al., 2015), these findings suggest that individuals who are seeking to control their environment and structure their work with the aim of achieving a better match with their jobs, are likely to experience improved well-being. Possibly, individuals who experience good fit also experience higher levels of energy at work because they find their jobs more meaningful, which eventually improves their engagement. Hence, an organization that values and promotes job crafting and authenticity at work is likely to be able to achieve higher levels of work engagement among its employees, in turn leading to the positive outcomes associated with engagement (Petrou, Demerouti, & Schaufeli, 2015).

Unexpectedly, we did not find indirect links between the two person-job fit indicators and procrastination. One explanation for the absence of these relationships could be that procrastination is perhaps better explained through personality factors such as discipline and carelessness (e.g. Schouwenburg & Lay, 1995) or self-handicapping processes (Jones & Berglas, 1978) than by the interaction between a person and his/her environment. In an earlier study, procrastination was found to be linked to boredom at work; however, procrastination was not directly related to workplace characteristics such as autonomy or mental demands (Metin et al., 2016). Moreover, in her meta-analytic study, Van Eerde (2003) found strong links between personality (especially conscientiousness), self-imaging (self-efficacy and self-esteem), self-handicapping and procrastination, which suggests that procrastination is

a type of behavior that is not directly affected by the environment, but rather stems from either personality factors or from states that are evoked by the environment (such as work engagement or boredom). However, note that both job crafting and authenticity were indirectly related to performance via work engagement, and that both work engagement and performance were negatively related to procrastination. Hence, it can be argued that by achieving high levels of work engagement, it could be possible to limit procrastination behaviors.

In summary, the present study focused on the factors that can boost work engagement and employee functioning. Our findings highlight the importance of two relatively novel concepts, authenticity and job crafting, as indicators of person-job fit and demonstrate their benefits for sustaining work engagement. A further added value of this study is that it provides evidence for the relationships between positive work constructs, such as work engagement and performance, and procrastination. To our knowledge, this is the first study to examine the positive workplace correlates of procrastination in a structural equation model. Hence we hope that our findings are helpful for improving our understanding of this slippery concept.

Limitations and suggestions for future studies

There are three major limitations to this study. First, the cross-sectional design of this study prevents us from making causal interpretations. Therefore, longitudinal data are needed to further validate these findings (Taris & Kompier, 2006). Nevertheless, our results for the nomological network of our study variables mesh well with earlier research. Thus, we encourage researchers to test the proposed relationships in a longitudinal design for causal implications.

Second, participants filled in an online self-report questionnaire, which may have resulted in inflated correlations among the concepts due to

common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, Spector (2006) argues that self-report scales do not necessarily and automatically inflate associations among variables. In our study, we found a varied pattern of correlations without unexpectedly high associations among the study variables (the highest r was .54; cf. Table 1), which supports Spector's view and goes contrary to the assumption that common-method bias affected all of these correlations uniformly.

Finally, the data were collected from a convenience sample. Our sample consisted of highly educated white-collar employees, which are most likely not representative of the population, resulting in an underestimation of the true associations among the study concepts due to restriction-of-range effects. This implies that the estimates reported in the current study are conservative estimates of the population effects. Future studies among more representative samples may provide more insight in the true magnitude of the associations reported in this study.

Practical and Scientific Implications

Despite these limitations, this study has implications for both research and practice. From a scientific point of view, the present study adds to our insight in two concepts that have only recently been examined within the work context, namely authenticity and procrastination. The significant relationships of authenticity and workplace procrastination with some of the most widely studied concepts in occupational psychology underline the relevance of these concepts within the work context and this finding will hopefully encourage researchers to explore these constructs in more detail in the future.

From a practical point of view, our findings emphasize the positive outcomes of having a good match with one's work. This confirms previous findings that showed that job crafting behaviours are beneficial for achieving organizational and personal goals (Tims et al., 2013); experiencing authenticity

seems to have similar outcomes (e.g. Van den Bosch et al. 2013a-b). Further, the strong positive link between engagement and performance (and specifically to decreased procrastination behavior) speaks to the importance of promoting work engagement in organizations. Thus, organizations are encouraged to consider how they can maximize employees' opportunities for job crafting and authenticity, as these facilitate employee fit and work engagement.

To this aim, supervisors may help individuals to experience their core selves and execute their tasks as they prefer in order to exhibit better functioning through work engagement. For example, managers can organize meetings to ask subordinates how satisfied they are with their task execution and if they would like to change certain characteristics according to their preferences. Receiving feedback from employees concerning their work environment and task execution can guide management towards ways to improve the positive aspects of work. By focusing on these antecedents, organizations are more likely to provide employees with the personal and job resources they need, which could result in higher levels of well-being (Petrou et al., 2012; Petrou et al., 2015). Note that organizations are also likely to benefit from implementing such employee-centered interventions, like job crafting and authenticity, since this is expected to lead to higher task and contextual performance, as well as less non-work related activity during work hours.

References

- Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science, 20*, 265-269.
- Bakker, A. B., & Bal, M. P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology, 83*, 189-206.
- Bakker, A. B., Demerouti, E., & ten Brummelhuis, L., L. (2012). Work engagement, performance, and active learning: The role of conscientiousness. *Journal of Vocational Behavior, 80*, 555-564.
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management, 43*, 83-104.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*, 187-200.
- DeArmond, S., Matthews, R. A., & Bunk, J. (2014). Workload and procrastination: The roles of psychological detachment and fatigue. *International Journal of Stress Management, 21*, 137-161.
- Demerouti, E., & Bakker, A. B. (2014). Job crafting. In M. C. W. Peeters, J. De Jonge, and T. W. Taris (Eds.), *An introduction to contemporary work psychology* (pp. 414-433). Chichester: Wiley-Blackwell.
- Eddy, E. R., D'Abate, C. P., & Thurston, P. W. (2010). Explaining engagement in personal activities on company time. *Personnel Review, 39*, 639-654.
- Ferrari, J.R. (2010). Still procrastinating? The no regrets guide to getting it done. New York: John Wiley & Sons.
- Ferrari, J.R. Johnson, J.L., & McCown, W.G.(1995). Procrastination and task avoidance: Theory, research, and treatment. New York: Springer Publications.

- Garrett, K. R., & Danziger, J. N. (2008). Disaffection or expected outcomes: Understanding personal internet use during work. *Journal of Computer-Mediated Communication*, *13*, 937–958.
- Harter, S. (2002). Authenticity. In C. R. Snyder and S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 382–394). Oxford (UK): Oxford University Press.
- Jones, E.E., & Berglas, S. (1978). Control of attributions about the Self through self-handicapping strategies: The appeal of alcohol and the role of underachievement. *Personality and Social Psychology Bulletin*, *4*, 200–206.
- Klingsieck, K. B. (2013). Procrastination in different life-domains: Is procrastination domain specific? *Current Psychology*, *32*, 175–185.
- Koopmans, L., Bernaards, C., Hildebrandt, V., van Buuren, S., van der Beek, A. J., & de Vet, H. C. (2012). Development of an individual work performance questionnaire. *International journal of productivity and performance management*, *62*, 6–28.
- Kristof-Brown, A.L., Zimmerman, R.D., & Johnson, E.C. (2005). Consequences of individuals' fit at work: A meta-analysis of person–job, person–organization, person– group, and person–supervisor fit. *Personnel Psychology*, *58*, 281–342.
- Lavoie, J. A. A., & Pychyl, T. A. (2001). Cyberslacking and the procrastination superhighway: A web-based survey of online procrastination, attitudes, and emotion. *Social Science Computer Review*, *19*, 431–444.
- Lu, C., Wang, H., Lu, J., Du, D., & Bakker, A. B. (2014). Does work engagement increase person–job fit? The role of job crafting and job insecurity. *Journal of Vocational Behavior*, *84*, 142–152.
- Ménard, J., & Brunet, L. (2011). Authenticity and well-being in the workplace: A mediation model. *Journal of Managerial Psychology*, *26*, 331–346.
- Metin, U. B., Taris, T. W., & Peeters, M. C. (2016). Measuring procrastination

Chapter 4

- at work and its associated workplace aspects. *Personality and Individual Differences*, 101, 254-263.
- Metin, U. B., Taris, T. W., Peeters, M. C. W., van Beek, I., & Van den Bosch, R. (2016). Authenticity at work: A job-demands resources perspective, *Journal of Managerial Psychology*, 31, 483-499.
- Nguyen, B., Steel, P., & Ferrari, J. R. (2013). Procrastination's impact in the workplace and the workplace's impact on procrastination. *International Journal of Selection and Assessment*, 21, 388-399.
- Petrou, P., Demerouti, E., & Schaufeli, W. B. (2015). Job crafting in changing organizations: antecedents and implications for exhaustion and performance. *Journal of Occupational Health Psychology*, 20, 470-480.
- Petrou, P., Demerouti, E., Peeters, M. C., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior*, 33, 1120-1141.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- Reijseger, G., Schaufeli, W. B., Peeters, M. C. W., Taris, T. W., van Beek, I., & Ouweneel, E. (2012). Watching the paint dry at work: psychometric examination of the Dutch Boredom Scale. *Anxiety, Stress, and Coping*, 1, 37-41.
- Schaufeli, W.B., & Bakker, A. B. (2003). *Test manual for the Utrecht Work Engagement Scale* [unpublished manuscript]. Utrecht, The Netherlands: Utrecht University.
- Schaufeli, W. B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, burnout, and work engagement: three of a kind or three different kinds of employee well-being? *Applied Psychology*, 57, 173-203.
- Schouwenburg, H.C. & Lay, C.H. (1995). Trait procrastination and the big-five factors of personality. *Personality and Individual Differences*, 18, 481-490.

- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, *133*, 65-94.
- Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods*, *9*, 221-232.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, *7*, 422-445.
- Taris, T.W., & Kompier, M.A.J. (2006). Games researchers play: Extreme-groups analysis and mediation analysis in longitudinal, occupational, and health research. *Scandinavian Journal of Work, Environment, & Health*, *32*, 463-472.
- Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior*, *80*, 173-186.
- Tims, M., Bakker, A. B., & Derks, D. (2015). Job crafting and job performance: A longitudinal study. *European Journal of Work and Organizational Psychology*, *24*, 914-928.
- Van den Bosch, R., & Taris, T. W. (2014a). The authentic worker's well-being and performance: the relationship between authenticity at work, well-being, and work outcomes. *The Journal of Psychology*, *148*, 659-81.
- Van den Bosch, R., & Taris, T. W. (2014b). Authenticity at work: Development and validation of an individual authenticity measure at work. *Journal of Happiness Studies*, *15*, 1-18.
- Van den Bosch, R. Schaufeli, W. B., Taris, T. W., Peeters, M. C. W., & Reijseger, G. (2016). *Authenticity at work: A matter of fit?* Manuscript currently under editorial consideration.
- van Eerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences*, *35*, 1401-1418.
- Viswesvaran, C., & Ones, D. S. (2000). Perspectives on models of job

Chapter 4

- performance. *International Journal of Selection and Assessment*, 8, 216-226.
- Wan, H. C., Downey, L. A., & Stough, C. (2014). Understanding non-work presenteeism: Relationships between emotional intelligence, boredom, procrastination and job stress. *Personality and Individual Differences*, 65, 86-90.
- Wood, A. M., Linley, A. P., Maltby, J., Baliouisis, M., & Joseph, S. (2008). The authentic personality : A theoretical and empirical conceptualization and the development of the Authenticity Scale. *Journal of Counseling Psychology*, 55, 385-399.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26, 179-201.
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., & Schaufeli, W.B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, 82, 183-200.

Chapter

5



Authenticity at Work: A Job-Demands Resources Perspective

Author contributions: Ü. Baran Metin, Toon W. Taris, and Maria C. W. Peeters (Conceptualization; Methodology). Ilona van Beek (Data collection). Ü. Baran Metin (Writing-original draft; Writing-review, Project administration; Analysis), Ü. Baran Metin, Toon W. Taris, Maria C. W. Peeters, Ilona van Beek and Ralph van den Bosch (Writing-review & Editing). Toon W. Taris and Maria C. W. Peeters (Supervision)

Appeared as: Metin, U. B., Taris, T. W., Peeters, M. C. W., van Beek, I. and Van den Bosch, R. (2016), Authenticity at work – a job-demands resources perspective. *Journal of Managerial Psychology*, 31(2), 483-499. <https://doi.org/10.1108/JMP-03-2014-0087>

Abstract

Previous research has demonstrated strong relations between work characteristics (e.g., job demands and job resources) and work outcomes such as work performance and work engagement. So far, little attention has been given to the role of authenticity (i.e., employees' ability to experience their true selves) in these relations. The present study aimed to explore the relationship of state authenticity at work with job demands and resources on the one hand and work engagement, job satisfaction and subjective performance on the other hand. Drawing on a sample of 680 Dutch bank employees, the results of structural equation modelling showed that high levels of job resources were associated with high levels of authenticity and, in turn, that high levels of authenticity experienced by the employees were related to high levels of work engagement, job satisfaction, and job performance. Authenticity partially mediated the effects of job resources on these three outcomes. This study is among the first to examine the role of authenticity at workplace and highlights the importance of authenticity for work-related outcomes.

Keywords: Authenticity, work engagement, JD-R Model, job satisfaction, job performance

Questions regarding being authentic have attracted the attention of philosophers, psychologists, aestheticians and many other disciplines due to its fundamental nature (Kernis & Goldman, 2006). Authenticity can be briefly explained as an individual's ability to act in accordance with his/her true self (Harter, 2002). It is the unobstructed operation of one's true or core self in one's daily activities (Goldman & Kernis, 2002). High levels of divergence from authenticity are assumed to lead to psychopathology (Schmid, 2005). In other words, well-being can be affected negatively by the dissonance between behaviours that are conducted and feelings that are authored by the self. Therefore, contemporary counselling approaches construe authenticity as a core dimension of well-being and healthy functioning (May, 1981; Rogers, 1961; Wood, Linley, Maltby, Baliousis & Joseph, 2008).

In this study, we consider state authenticity as a central aspect of workplace well-being and performance. Most people spend a large amount of time at work and it seems crucial to understand the impact of experiencing authenticity within the work environment. However, only few empirical studies investigated the deep-lying functions of authenticity at work (Sheldon, 2004). One important reason for the dearth of relevant empirical research on this issue is that at present there are only few valid measures of authenticity (Wood et al., 2008). Moreover, most of these measures tap authenticity *in general* and as a stable *trait*, rather than in relation to a *specific context* (e.g., at work) and as a *state*. The latter implies that most of the currently available measures are not well-suited for examining authenticity as a consequence of environmental characteristics, since these measures assume authenticity– as a trait – to be more or less stable across contexts and time, and should therefore not be sensitive to changes across and within contexts.

The first aim of the present study is to examine how particular workplace characteristics are associated with workplace authenticity. As authenticity is considered to be a solid determinant of general well-being

(Rogers, 1961), insight in the relationship between workplace characteristics and authenticity might give us indications on how to increase employee well-being at work.

A second aim is to examine the relationship between authenticity, indicators of well-being at work (i.e. job satisfaction and work engagement) and job performance. By doing so, we aim to demonstrate that authenticity is not only relevant for general well-being but also for well-being at work and job performance. Recently, Van den Bosch and Taris (2014) addressed the relevance of authenticity, using the person-centred conception of Wood et al. (2008). In this study, we used the same conception in order to compare the findings in a new sample.

A Person-Centred Conception of Authenticity

In their seminal paper, Wood et al. (2008) built on the person-centred model of Rogers (1961) to define the tripartite structure of authenticity. In the present study, we also consider this person-centred approach as the fundamental structure of authenticity. According to this model, a person's subjective and psychological well-being depends strongly on the balance of three dimensions: self-alienation, authentic living, and social influence. *Self-alienation* refers to the discrepancy between the true self and the conscious awareness. The subjective experience of not being aware of oneself or feeling out of touch with the actual self is an indicator of self-alienation (Van Den Bosch & Taris, 2014).

The second dimension of authenticity is *authentic living*, which stands for the expression of the emotions and behaviours in a way consistent with one's conscious awareness of physiological states, emotions, beliefs, and cognitions. Authentic living is the expressed behaviours and experiences due to one's conscious awareness of physiological states, emotions, beliefs, and

cognitions. Rogers (1961) argues that a perfect match between a person's actual physiological states, emotions, deep-lying cognitions and their consciously perceived environment is almost never possible, yet a good fit is linked with well-being.

Finally, the third dimension is *social influence*. This dimension concerns the influence of the environment (i.e., external influence) on an individual's behaviour. Humans are fundamentally social beings and they are affected by the influence of their social environment. Hence, the interaction of this environment and an individual's deep-lying cognitions is an essential determinant of authenticity (Schmid, 2005). That is, external influences may interfere with one's true self and conscious state or could affect this conscious state, possibly affecting one's behaviour or emotions. As a result, the degree to which the influence of the social environment is accepted or withstood takes a central role in determining both self-alienation and authentic living (Wood et al., 2008).

According to Schmid (2005), the level of experienced self-alienation and authentic living might be influenced strongly by the social environment, thus may lead to changes in experienced subjective authenticity. For instance, Sheldon, Ryan, Rawsthorne and Ilardi (1997) reported variations in individuals' experienced authenticity levels across different roles. This shows that the authenticity level of an individual is not just a personality characteristic or a trait, but may also be conceptualized as a state that facilitates the adjustment of an individual to his/her particular role or functions.

Workplace Characteristics and State Authenticity: The Job Demands-Resources Model

One of the main purposes of this research is to examine to what degree workplace characteristics are related to authenticity. By doing so, we aim to find

out which aspects of the workplaces are strongly related to authenticity. By promoting these job characteristics it might be possible to encourage them to express their true selves at work, which could in turn yield a more favourable employee well-being. For instance, a manager might invest in these relevant workplace characteristics in order to increase workplace authenticity and the associated positive outcomes. To this aim, the Job Demands-Resources Model (JD-R Model) was used as the theoretical framework for understanding the relations between workplace aspects and outcomes (e.g., Bakker & Demerouti, 2007). The JD-R Model distinguishes between two broad categories of job characteristics, namely job demands (the physical, social, and organizational aspects of the job that require physical and/or psychological effort, and that are associated with certain physiological and/or psychological costs) and job resources (physical, social, and organizational aspects of the job that are functional in achieving work-related goals). Job demands are strongly associated to negative work outcomes such as burnout and impaired health, through an energetic process; whereas the presence of job resources are related to positive work outcomes, such as work engagement and organizational commitment, through motivational process (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; De Jonge, Demerouti, & Dormann, 2014).

In understanding the relationship between workplace aspects and authenticity, the role of motivation is crucial. Ryan, LaGuardia, and Rawsthorne (2005) addressed the importance of authenticity within Self-Determination Theory (SDT) for understanding subjective well-being. SDT (Deci & Ryan, 2000) is a theoretical framework that places different types of individual motivational regulation for a particular activity on a continuum ranging from fully intrinsic (the action is considered as inherently satisfying and enjoyable) to fully extrinsic (performing this activity for its instrumental value). Intrinsically motivated individuals perform their actions with a sense of volition and their actions are autonomous; whereas the enactment of extrinsically motivated

people depends on the perception of a contingency between the behaviour and a desired consequence (Gagné & Deci, 2005). The satisfaction of three psychological needs (for autonomy, belongingness and competence, respectively) are important for optimal functioning (Deci & Ryan, 1985). When functioning authentic, people tend to think, feel, and behave in ways that represent the fulfilment of such needs (Rogers, 1961). SDT argues that individuals are authentic when their actions are congruent with their core self; thus, when they are autonomous and self-determining. There is considerable research to show that satisfaction of these needs is linked to well-being (Kernis & Goldman, 2006; Sheldon & Elliot, 1999). Bettencourt and Sheldon (2001) also found that feeling autonomy and belongingness in social roles were related with well-being, thus it is plausible to expect people with satisfied needs at work (social role) to feel authentic and report more favourable well-being. Findings of Van den Broeck, Vansteenkiste, De Witte, Soenens, and Lens (2010) support this expectation within the work context, as the degree of satisfaction of these three basic needs was found to be strongly related to higher levels of task autonomy, social support, job satisfaction, vigour, performance and intrinsic motivation, and low levels of exhaustion.

In the present study, we measured three types of job demands (workload, mental demands, emotional demands) and four types of job resources (autonomy, opportunities for learning and development, supervisory support and colleague support), which are in line with the SDT research (Van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). Previous research has shown that job resources stimulate intrinsic motivation by promoting growth, learning, development; and they can fulfil basic human needs (Bakker & Derks, 2010). Therefore, a workplace with high levels of autonomy, support and opportunities for personal development might give individuals a feeling of self-determination, belongingness and competence through the motivational

process. As a result, we expect job resources to stimulate intrinsic motivation by satisfying psychological needs and to be positively related with authenticity.

Hypothesis 1: Job resources are positively related to authenticity.

Conversely, high job demands have often been found to be related to negative individual (i.e. ill-health) and organizational (i.e. exhaustion etc.) outcomes (Hakanen, Schaufeli, & Ahola, 2008; Nahrgang, Morgeson & Hoffman, 2011; Roelen, Koopmans, de Graaf, van Zandbergen, & Groothoff, 2007), possibly because of the energy required to meet these high demands. From the point of view of SDT, high job demands might thwart psychological needs through the psychophysiological costs and efforts needed to meet these demands. For example, Van den Broeck, Vansteenkiste, De Witte, and Lens (2008) reported a negative relationship between job demands and need satisfaction, with the latter in turn leading to exhaustion. Employees with a high workload must exert much time and effort in addressing these and may therefore be unable to find the opportunity to satisfy their needs for autonomy, belongingness and competence. In this sense, high job demands can affect workers' opportunities to act authentically at work through the energetic process of the JD-R model. From a slightly different angle, strong evidence for the adverse effects of behaving inauthentically stems from the body of research on emotional labour (e.g., Grandey, Fisk, & Steiner, 2005). This research has shown that high levels of emotional demands can lead individuals to exhibit emotional cues which are not really experienced (surface acting), i.e., to act differently than they would when acting in agreement with their authentic state. In short, both lines of reasoning lead us to expect that highly demanding jobs might restrict individuals' ability and/or opportunity to act authentically.

Hypothesis 2: Job demands are negatively associated to authenticity.

Authenticity As a Mediator of the Association Between Workplace Characteristics and Work Outcomes

This section focuses on how experiencing state authenticity at work may be associated with certain work outcomes, and more importantly, on authenticity as a possible mediator of the associations between work characteristics and work outcomes. There is ample empirical evidence that workplace characteristics are strongly related to employee well-being, such as work engagement, and several job-related outcomes, such as absenteeism, turnover intention, job satisfaction, and performance (among others, Koopmans et al., 2011; Schaufeli & Bakker, 2004; Schaufeli, Bakker, & Van Rhenen, 2009; Van Beek et al., 2012). However, the psychological processes linking the experience of authenticity at work to work-related outcomes have as yet not been examined.

As defined earlier, authenticity is the degree to which an individual's values, beliefs, and characteristics (or shortly, their true self) fit his/her environment. Whether individuals "feel authentic" will often not be immediately evident, not even to the individuals themselves. Rather, a process of cognitive evaluation is required in which the degree of fit between one's true self and the work environment (the job or the organization) is assessed. In this sense, authenticity is a cognitive-affective phenomenon (cf. Lenton, Slabu, Sedikides, & Power, 2013). Since people spend a large part of their lives at work, it seems reasonable to assume that having a job that fits one's true self is beneficial for the employee him/herself as well as for the organization (Ménard & Brunet, 2011; Van Beek et al., 2012). This meshes well with Van den Bosch and Taris's (2014) finding that authenticity and job satisfaction are positively related. Although the processes underlying this association are not entirely clear, it can be assumed that authenticity (as a positive, cognitive-affective phenomenon) will be associated with high satisfaction and positive work outcomes (Wood et al., 2008).

Hypothesis 3: Authenticity is positively related to job satisfaction.

Work engagement can be defined as a positive, fulfilling, work-related state of mind, which is characterized by vigour (high levels of energy and mental resilience at work), dedication (high levels of pride, challenge, significance, and enthusiasm regarding work), and absorption (being fully concentrated and happily engrossed by the work) (Bakker, Schaufeli, Leiter, & Taris, 2008). Research on work engagement has shown that it is strongly related to other positive work-related (such as organizational commitment, reduced turnover intention, and good performance) and non-work-related (e.g., good health, and marital satisfaction) outcomes (Bakker, Demerouti, & Schaufeli, 2005; Demerouti, Bakker, Geurts, & Taris, 2009). Moreover, Van Beek et al. (2012) found that employees who find their jobs interesting and enjoyable and who find their jobs consistent with their own values experience higher levels of work engagement. Based on Van Beek et al.'s (2012) findings, we also expect that employees who experience high levels of authenticity at work report high levels of work engagement.

Hypothesis 4: Authenticity is positively related to work engagement.

Finally, we examine the relation between authenticity and job performance. Koopmans et al. (2011) reported that job performance is an important outcome since it will often be associated with higher levels of productivity. They argue that performance is facilitated by the presence of job resources, such as communication, feedback, politeness, and collaboration. As outlined above, such characteristics may also promote authenticity. For example, previous research on the so-called "happy-productive worker" hypothesis has shown that "happy" (i.e., satisfied, low-stress) workers tend to be more productive than others (e.g., Taris & Schreurs, 2009). A job that agrees

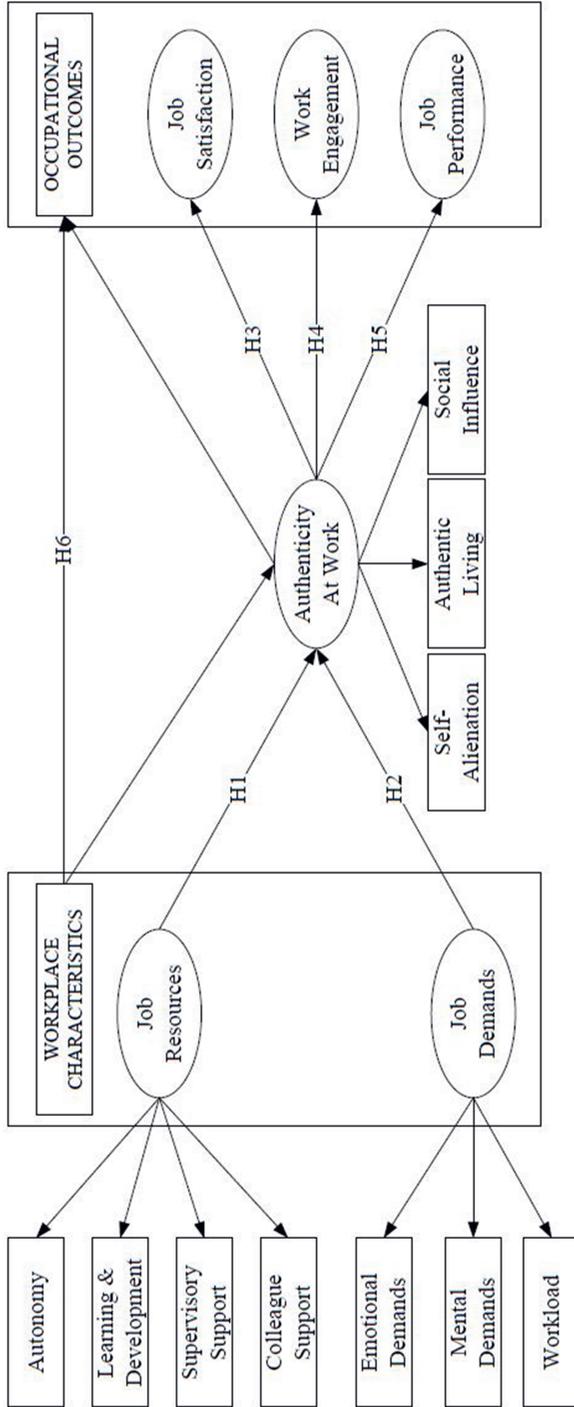
with one's values, beliefs and interests might motivate an individual to invest more energy in their work, thus enhancing performance (Gagné & Deci, 2005).

Hypothesis 5: Authenticity is positively associated with job performance.

Figure 1 summarizes the expected relationships among the study variables. We expect that job demands and resources are positively related to employees' levels of experienced authenticity. In turn, a high level of authenticity will be positively related to job satisfaction, work engagement and performance. Authenticity constitutes the core point of this model, suggesting that authenticity mediates the relationships between job characteristics on the one hand and satisfaction, engagement and performance on the other.

Hypothesis 6: Authenticity at least partially mediates the relationship between job demands and resources on the one hand and work performance, work engagement and job satisfaction on the other hand.

Figure 1. Proposed model (model M₁) for the associations between job demands, job resources, authenticity and its presumed outcomes



Method

Sample

An online survey was delivered among 2,023 employees of a large Dutch organization in the banking and finance sector. 680 Surveys were completed and returned (33.7 % response rate). Of these 680 employees, 464 were male (68.2 %). Participants were on average 40 years-old ($SD = 8.92$) and 80.6 % held a college or university degree. Respondents had been working in their current position for on average 3.9 years ($SD = 6.64$), and they worked for on average 42.7 hours per week ($SD = 8.47$).

Measures

Job Demands. Three types of job demands were measured, namely, *workload* (5 items, such as “Do you have to work very fast?”), *mental demands* (5 items, for example “Does your job require much concentration?”), and *emotional demands* (3 items, such as “Does your work put you in emotionally upsetting situations?”). The items were taken from the Questionnaire on the Experience and Evaluation of Work (QEEW; Van Veldhoven & Meijman, 1994). In all cases, a five-point frequency scale was employed (1 = “never”, 5 = “always”).

Job Resources. *Autonomy* was measured by 3 items, e.g., “Can you decide how to perform your work?”. The *opportunities for learning and development* were assessed by 3 items, including “Can you develop yourself within the company?”. *Supervisor support* was measured by 3 items, including “If necessary, can you ask your direct manager for help?”. Lastly, *colleague support* was assessed by 3 items, such as “Can you count on your colleagues when you come across difficulties in your work?”. All items were scored on a 5-point frequency scale (1 = “never”; 5 = “always”). Again, all items were taken from the QEEW (Van Veldhoven & Meijman, 1994).

Work Authenticity was measured with the Individual Authenticity Measure at Work (IAM Work, Van den Bosch & Taris, 2014). The IAM Work is a 12-item adaptation of Wood et al.'s (2008) Authenticity Scale. Whereas the items of Wood et al.'s scale refer to context-free, dispositional authenticity, the items of the IAM Work explicitly refer to work as the context in which authenticity is experienced. Moreover, rather than considering authenticity as a stable personal property, the IAM Work construes authenticity as a concept that is contingent upon changes in the presumed antecedents of authenticity – i.e., as a variable that reacts to and reflects such variation. Consistent with Wood et al.'s (2008) original instrument, the IAM Work consists of three dimensions; *self-alienation* (including “At work, I feel alienated from myself”), *authentic living* (e.g., “At work, I am true to myself”), and *social influence* (for example, “At work, I usually do what others tell me”). Each dimension was measured with 4 items (1= “strongly disagree”, 7 = “strongly agree”). Reliability analyses showed that the reliability of the Social Influence subscale was low ($\alpha = .43$). After removing one item (“I make my own choices at work”), Cronbach's Alpha increased to .67. Post-hoc CFA confirmed the original 3-factor structure of the IAM Work scale ($\chi^2 (df = 44, N = 680) = 271.334, p < .001$; GFI = .93, AGFI = .90, CFI = .93, TLI = .92, RMSEA = .09) over a single-factor solution ($\Delta\chi^2 (2) = 1,270.10, p < .001$).

Job Satisfaction was measured with 3 items devised by Van Veldhoven and Meijman (1994), e.g., “I am satisfied with my current work” (1 = “strongly disagree”, 7 = “strongly agree”).

Work Engagement was evaluated by the short form of the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). This measure assesses *vigour*, *dedication* and *absorption* with 3 items for each dimension. Sample items are “At work, I feel strong and vigorous”(vigour), “I am enthusiastic about my job” (dedication), and “I feel happy when I am working intensely” (absorption; 0 = “never”, 6 = “always”). Schaufeli et al. (2006)

recommend using the composite score of these three dimensions, thus, participants' scores on these three dimensions were averaged to yield a single score for work engagement.

Finally, *job performance* was assessed by a single self-report item taken from the World Health Organization Health and Work Performance Questionnaire (HPQ) (Kessler et al., 2003). Since objective performance data could not be obtained, self-reported performance was measured. The participants were asked to assess their overall work performance using the item “On a scale from 0 to 10, where 0 is the worst performance and 10 is the top performance, how would you rate your overall job performance on the days you worked during the past 4 weeks?”. There were three reasons for using a single-item self-report global scale. Firstly, this item was found to be a valid and inclusive measure of job performance (Kessler et al., 2003). Secondly, it is difficult to obtain objective data on performance levels of anonymous participants. Lastly, most of the existing surveys consider particular occupations, thus have items referring to aspects that are relevant to specific occupations, rather than aspects of performance in general. This scale has also successfully been used in the past (Shimazu & Schaufeli, 2009).

Before testing the study hypotheses, the fit of the overall measurement model was tested. Our hypothesized 6-factor model (with all 17 scales loading on their respective latent variables, cf. Figure 1) was tested and compared to a model with all scales loading on one latent variable (1-Factor solution) and a model with the 17 scales loading on three separate latent variables (Workplace Characteristics, Authenticity, and Occupational Outcomes, 3-Factor solution). CFA showed that the proposed overall measurement model fitted the data better ($\chi^2(53) = 205.24, p < .001, GFI = .96, CFI = .96, TLI = .94, RMSEA = .06$) than the one-factor ($\Delta\chi^2(12) = 433.25, p < .001$) and three-factor solutions ($\Delta\chi^2(9) = 288.50, p < .001$).

Results

Table 1 shows the means, standard deviations, scale reliabilities (Cronbach's Alpha), and the correlations for the study variables. All job resources (i.e., autonomy, opportunities for learning and development, colleague support, and supervisor support) correlated positively with all three work outcomes (work engagement, performance, and job satisfaction). Interestingly and contrary to previous research (e.g., Bakker & Demerouti, 2007; Schaufeli et al., 2009), the associations between the three job demands (workload, mental demands, and emotional demands) and the work outcomes varied. Workload and mental demands were positively related to work engagement, whereas emotional and mental demands were negatively related to performance. Emotional demands were also negatively related to job satisfaction. Job demands showed a very weak relationship with authenticity dimensions. Only significant relationships were between authentic living and mental demands ($r = .12, p < .01$) and emotional demands and social influence ($r = -.09, p < .05$). As expected, the three dimensions of authenticity (self-alienation, authentic living, and social influence) were significantly and positively related to work engagement and job satisfaction. The only positive relationship among the authenticity dimensions and performance was obtained for self-alienation.

Testing the Proposed Model

Structural Equation Modeling was implemented in AMOS 16.0 (Arbuckle, 2007) to test the goodness-of-fit (Bryne, 2009) for the hypothesized relationships and the partial mediation model (M_1). M_1 showed a good fit to the data ($\chi^2 (df = 53) = 194.11, p < .001, GFI = .96, AGFI = .93, CFI = .94, TLI = .91, RMSEA = .06$) and yielded better fit indices than the full mediation model ($M_2: \chi^2 (df = 62) = 273.39, p < .001, GFI = .94, AGFI = .91, CFI = .91, TLI = .88, RMSEA = .07, M_2 - M_1 \Delta\chi^2 (df = 9, N = 680) = 79.28, p < .001$).

As shown in Figure 2, job resources were positively associated with workplace authenticity ($\beta = .61, p < .01$; Hypothesis 1 confirmed). The relationship between job demands and workplace authenticity was not significant, rejecting Hypothesis 2. Workplace authenticity was positively associated with job satisfaction ($\beta = .49, p < .01$, Hypothesis 3 confirmed), work engagement ($\beta = .43, p < .01$, Hypothesis 4 confirmed) and job performance ($\beta = .19, p < .01$, Hypothesis 5 confirmed). In short, except for Hypothesis 2, we found empirical support for all of our hypotheses regarding relationships among study variables.

Table 1. Means, Standard Deviations, and Correlations for the Model Variables (internal consistency scores of the related scales are reported on the diagonal)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Autonomy	3.74	.67	(.77)												
2. Learning & Development	3.49	.83	.41	(.82)											
3. Supervisory Support	3.84	.91	.40	.52	(.87)										
4. Colleague Support	3.87	.74	.30	.42	.52	(.84)									
5. Workload	3.04	.73	.10	.04	.01	-.02	(.85)								
6. Mental Demands	3.63	.62	.13	.11	.09	.12	.46	(.79)							
7. Emotional Demands	1.94	.64	.01	-.08	-.13	-.15	.39	.24	(.78)						
8. Self-Alienation	5.73	1.11	.38	.34	.36	.37	-.07	-.01	-.25	(.87)					
9. Authentic Living	5.49	0.87	.21	.11	.11	.17	.00	.12	-.07	.33	(.77)				
10. Social Influence	4.07	1.20	.20	.05	.10	.08	-.07	-.06	-.09	.24	.11	(.67)			
11. Work Engagement	4.54	1.02	.40	.45	.41	.35	.11	.14	-.08	.47	.24	.12	(.92)		
12. Job Satisfaction	5.60	1.20	.43	.55	.49	.38	.03	.10	-.18	.58	.26	.17	.67	(.94)	
13. Performance	7.88	0.87	.11	.09	.14	.17	-.01	-.09	-.10	.26	.07	.07	.26	.28	-

Note. Correlations of .09 and over are significant at $p < .05$; correlations of .11 and over are significant at $p < .01$. $N = 680$.

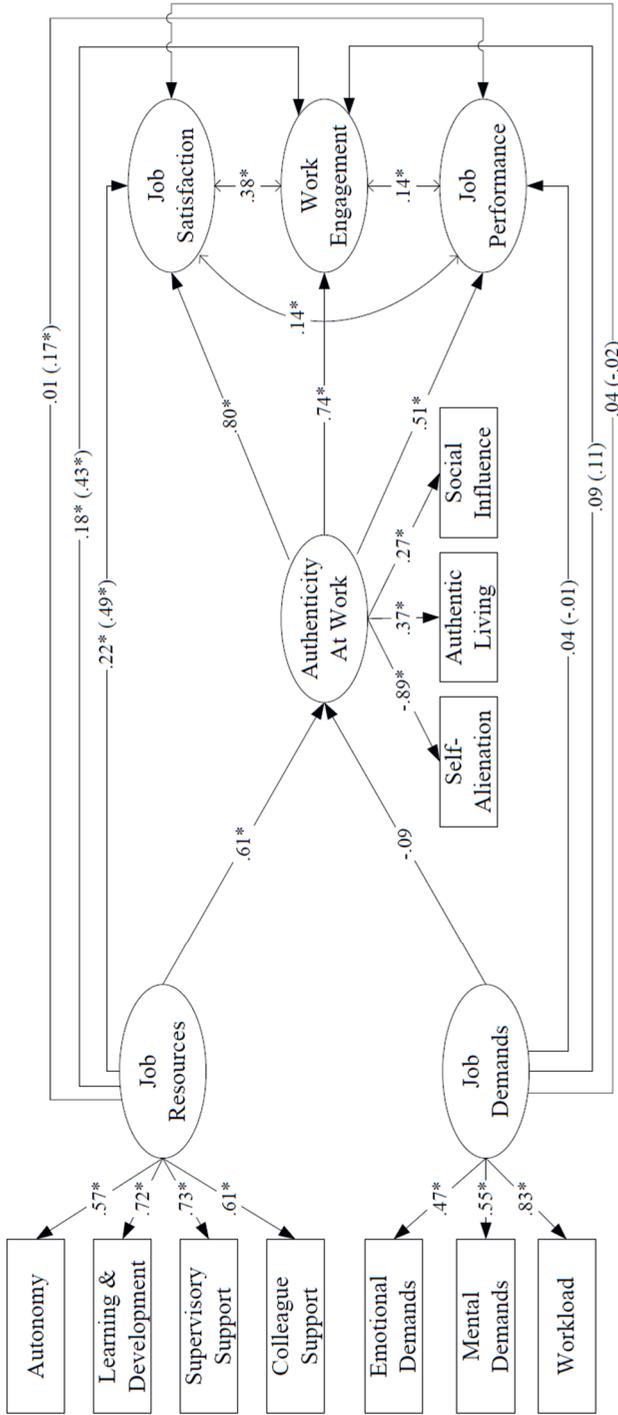
Mediation analyses. Bootstrapping (Preacher & Hayes, 2008) was used to examine the possible mediation effects of authenticity on workplace characteristics on the one hand and occupational outcomes on the other hand (M_1). Bootstrap samples were generated from the data set ($N = 680$) and partial mediation model for M_1 was tested 2,000 times. Our results indicate that authenticity partially mediated the relationship between job resources on the one hand, and engagement ($\beta = .18, p < .01$) and satisfaction ($\beta = .22, p < .01$) and fully mediated job performance ($\beta = .01, p = ns$). 95% Confidence Interval bounds, standardized weights and explained variances are displayed at Table 2. The direct and the indirect relationships are also displayed in Figure 2 (direct effects are shown in parenthesis).

Table 2. *Specific Indirect Pathways After Executing Bootstrapping ($N = 680$)*

Indirect Effects $x \rightarrow m \rightarrow y$	Bootstrapping				BC 95% CI
	Estimate	SE	Lower	Upper	Explained Variance in y
Job Resources \rightarrow Authenticity \rightarrow Work Engagement	.18*	.04	.10	.28	43%
Job Resources \rightarrow Authenticity \rightarrow Job Performance	.17*	.04	.10	.27	9%
Job Resources \rightarrow Authenticity \rightarrow Job Satisfaction	.21*	.05	.14	.32	57%

Note. * $p < .01$.

Figure 2. Final model M₁ of the relationships between job resources, authenticity at work and positive occupational outcomes.



*Note: Coefficients represent standardized estimates. Direct effects from Job Demands and Resources to Occupational Outcomes are presented within the parenthesis. * p < 0.01.*

Discussion

The main purposes of this study were to investigate how characteristics of the work environment are related to workplace authenticity and, in turn, how workplace authenticity is related to three different kinds of work outcomes: job satisfaction, work engagement, and job performance. By doing so, the present study is among the first to examine authenticity in the workplace.

Interestingly, whereas high levels of job resources were – as expected – associated with increased authenticity at work, job demands were unrelated to authenticity. Van den Bosch and Taris (2014) found a weak but significant relationship between job demands and authenticity; however, in this study this association was not replicated. Cooley and Yovanoff (1996) distinguished between two types of work characteristics, namely; *alterables* and *givens*. This study assessed only hindering job demands and supported the findings of Tims, Bakker, and Derks (2013). They found that, even though employees were given the chance of engaging in *job crafting* (the proactive redesign of the job by the employees with the consideration of seeking resources, seeking challenges and reducing the demands, cf. Berg, Wrzesniewski, & Dutton, 2010), they did not decrease hindering job demands. However, job resources and challenging job demands, which might fall into the alterables category of Cooley and Yovanoff (2006) were increased. It shows that job demands might be perceived as “given” characteristics of a job, thus large-scale interventions would be needed to change them; whereas job resources were likely to be increased by the employees. Therefore, managers might focus on helping employees to increase their job resources in order to promote their authenticity, rather than to decrease their job demands.

With regard to the work-related outcomes, our results showed that authenticity was positively linked with job satisfaction, work engagement and

performance (cf. M_i) partially mediating the effects of job resources. These findings show that not only the characteristics of a job, but also the experience of one's true self is a good indicator of occupational well-being. These relationships are in line with previous findings (Ménard & Brunet, 2011; Van den Bosch & Taris, 2014), and the robustness of these results might encourage managers to take state authenticity at work into consideration in order to obtain positive outcomes. Authenticity might in fact be functional for the motivational process of JD-R Model (Bakker & Demerouti, 2007) and is strongly related with positive occupational outcomes via work engagement. However, it is important to underline the strong relationship among these variables rather than offering a causal interpretation.

Study Limitations

There are several limitations of this study. Firstly, the participants filled in self-report scales, which may have resulted in common method variance (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). The concepts measured in this study, referring to workers' levels of authenticity, engagement, satisfaction and feelings on the characteristics of their jobs, are notoriously difficult to observe objectively. Therefore, self-report surveys were appropriate to map these experiences. Even though Spector (2006) argues that the consequences of common method variance are often overestimated, our results should be interpreted carefully. Although it is hard to measure our study concepts objectively, we would encourage future researchers to use non-self-report means, such as company records for performance, in order to avoid common-method variance.

Secondly, due to the cross-sectional nature of the data, causal interpretations of the findings are not warranted. Although longitudinal data is needed to further validate the relationships among the study variables, it

should be noted that the present findings mesh well with those obtained in previous research (Ménard & Brunet, 2011; Van den Bosch & Taris, 2014). In this sense, the findings reported here are robust across studies. The cross-sectional design also prevented us from testing double-mediation models (Taris & Kompier, 2006), therefore we analysed job performance and satisfaction not as outcomes of work engagement (Bakker & Bal, 2010). Rather, all three concepts were analysed at the same level as overall work-related positive outcomes. Although this is not in line with the traditional JD-R framework, it should be noted that the significant relationships between authenticity and occupational outcome variables constitute the heart of this research, rather than the associations among the outcome variables.

Further, our dataset was relatively homogeneous, consisting of Dutch bank employees only. This implies that the strength of the associations among the study variables may have been estimated conservatively due to restriction-of-range effects.

A final limitation relates to the low internal consistency ($\alpha = .67$) of the social influence dimension of the authenticity scale. Although one of its items was excluded in order to improve its reliability, the final alpha coefficient for this scale was still below the level of .70 (Nunnally, 1978). However, Schmitt (1996) criticizes the applicability of a “sacred” coefficient level, arguing that even low alpha coefficients (around .50) do not seriously attenuate the validity coefficients and can still be useful. In the study of Van den Bosch and Taris (2014) the external influence dimension yielded also the lowest alpha score of all three dimensions. Even though this limitation will usually not severely affect the study findings (as authenticity will be generally measured as the combination of the three subscales), findings regarding the social influence subscale deserve additional attention when interpreting due to the dearth of research on workplace authenticity.

Scientific and Practical Implications

From a scientific point of view, the present study finds support for utilization of IAM Work as an adequate measure for empirical studies by supporting the findings of Van den Bosch and Taris (2014). However, we encourage researchers to investigate the relation between authenticity and other individual (e.g., personality, motivation, employability perceptions, etcetera) or organizational (i.e., organizational citizenship behaviour, turnover intention, and presenteeism) aspects in longitudinal designs to enhance our understanding of the underlying dynamics of expressing true self at work.

From a practical point of view, our findings underline the importance of state authenticity as a relevant concept in OHP, showing that job resources and job outcomes might not be only related to worker well-being and performance through the motivational process proposed in the JD-R model (e.g., Bakker & Demerouti, 2007), but also through authenticity, which can be considered as an additional resource and may influence positive organizational outcomes. Apparently, since state authenticity is a cognitive-affective concept, cognitions and affect are also relevant dimensions in the interface between job resources and work outcomes.

Our findings might help managers to improve their subordinates' workplace conditions in order to obtain more favourable outcomes. The positive links between job resources, authenticity, and positive work outcomes generate the most important findings of this study. These results suggest that managers could consider increasing job resources in order to nurture self-determination processes among their employees, as these resources are related to both high levels of authenticity and positive work outcomes. Note that resources are considered as more changeable than job demands (Tims et al., 2013), and it should therefore be easier to achieve positive outcomes through changing job resources than by focusing on job demands. Indeed, in the present

study job demands were not associated with state authenticity, which is consistent with the idea that from a practical point of view job resources are more important for obtaining positive outcomes than job demands.

Concluding Notes

The present study is among the first to investigate the role of authenticity in the workplace. The results provide strong evidence for the relevance of authenticity in the area of OHP, since this concept is linked to both job resources and work outcomes such as job satisfaction, work engagement, and job performance. Moreover, this study provided additional evidence for the validity of a newly developed state measure of authenticity at work, the availability of which could spur interest in research on authenticity in the workplace. All in all, this study suggests that paying attention to employee authenticity could help companies to sustain a more positive working environment by enhancing employee well-being and their fit to their jobs in the long run.

References

- Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, 52, 317-332.
- Arbuckle, J.L. (2007). Amos (Version 16) [computer software]. Chicago (IL): SPSS.
- Bakker, A. B., & Bal, M. P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, 83, 189–206.
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22, 309-328.
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2005). The crossover of burnout and work engagement among working couples. *Human Relations*, 58, 661-689.
- Bakker, A. B., & Derks, D. (2010). Positive occupational health psychology. In S. Leka & J. Houdmont (Eds.), *Occupational health psychology* (1st ed., pp. 194–224). West Sussex: Blackwell.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, 22, 187-200.
- Berg, J. M., Wrzesniewski, A., & Dutton, J. E. (2010). Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior*, 186, 158–186.
- Bettencourt, A. B., & Sheldon, K. M. (2001). Social roles as mechanisms for psychological need satisfaction within social groups. *Journal of Personality and Social Psychology*, 81, 1131–1143.

- Byrne, B. M. (2009). *Structural equation modeling with AMOS: Basic concepts, programming, and applications* (2nd edn.). Mahwah, NJ: Erlbaum.
- Cooley, E., & Yovanoff, P. (1996). Supporting professionals-at-risk: Evaluating interventions to reduce burnout and improve retention of special educators. *Exceptional Children*, 62, 336–355.
- De Jonge, J., Demerouti, E., & Dormann, C. (2014). Current theoretical perspectives in work psychology. In M.C.W. Peeters, J. de Jonge and T.W. Taris (Eds.), *An introduction to contemporary work psychology* (pp. 89-114). Malden: Wiley-Blackwell.
- Deci, E. L. and Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory*, 11, 227–268.
- Demerouti, E., Bakker, A. B., Geurts, S. A. E., & Taris, T. W. (2009). Daily recovery from work-related effort during non-work time. In S. Sonnentag, P.L. Perrewé and D. C. Ganster (Eds.), *Research in occupational stress and wellbeing* (Vol. 7, pp. 85-123). Bingley (UK): Emerald Group Publishing.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands- resources model of burnout. *Journal of Applied Psychology*, 86, 499–512.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26, 331–362.

Chapter 5

- Goldman, B. M., & Kernis, M. H. (2002). The role of authenticity in healthy psychological functioning and subjective well-being. *Annals of the American Psychotherapy Association*, 5, 18–20.
- Grandey, A. A, Fisk, G. M., & Steiner, D. D. (2005). Must “service with a smile” be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology*, 90, 893-904.
- Harter, S. (2002). Authenticity. In C. R. Snyder and S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 382–394). Oxford (UK): Oxford University Press.
- Hakanen, J.J., Schaufeli, W.B., & Ahola, K. (2008). The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress*, 22, 224-241.
- Kernis, M. H., & Goldman, B. H. (2006). A multicomponent conceptualization of authenticity: Theory and research. *Advances in Experimental Social Psychology*, 38, 283-357.
- Kessler, R. C., Barber, C., Beck, A., Berglund, P., Cleary, P. D., McKenas, D., Pronk, N., Simon, G., Stang, P., Ustun, T. B., Wang, P. (2003). The World Health Organization Health and Work Performance Questionnaire (HPQ). *Journal of Occupational and Environmental Medicine*, 45, 156-174.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., De Vet, H. C. W., & Van der Beek, A. J. (2011). Conceptual frameworks of individual work performance: A systematic review. *Journal of Occupational and Environmental Medicine*, 53, 856-866.
- Lenton, A.P., Slabu, L., Sedikides, C., & Power, K. (2013). I feel good, therefore I am real: Testing the causal influence of mood on state authenticity. *Cognition and Emotion*, 27, 1202-1224.

- May, R. (1981). *Freedom and destiny*. New York: Basic Books.
- Ménard, J., & Brunet, L. (2011). Authenticity and well-being in the workplace: a mediation model. *Journal of Managerial Psychology*, 26, 331–346.
- Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 96, 71–94.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879–891.
- Roelen, C. A. M., Koopmans, P. C., de Graaf, J. H., van Zandbergen, J. W., & Groothoff, J. W. (2007). Job demands, health perception and sickness absence. *Occupational Medicine*, 57, 499–504.
- Ryan, R. M., Laguardia, J. G., & Rawsthorne, L. J. (2005). Self-complexity and the authenticity of self-aspects: Effects on well-being and resilience to stressful events. *North American Journal of Psychology*, 7, 431–448.
- Rogers, C. R. (1961). *On becoming a person: A therapist's view of psychotherapy*. London: Constable.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, 25, 293–315.

Chapter 5

- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*, 701-716.
- Schaufeli, W. B., Bakker, A. B., & van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior, 30*, 893-917.
- Schmid, P. F. (2005). Authenticity and alienation: Towards an understanding of the person beyond the categories of order and disorder. In S. Joseph and R. Worsley (Eds.), *Person-centred psychopathology* (pp. 75- 90). Ross-on-Wye (UK): PCCS Books.
- Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment, 8*, 350-353.
- Sheldon, K. M. (2004). Integrity (honesty/authenticity). In C. Peterson and M. E. P. Seligman (Eds.), *Character strengths and virtues* (pp. 249- 272). New York: Oxford University Press.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well- being: The self-concordance model. *Journal of Personality and Social Psychology, 76*, 482-497.
- Sheldon, K. M., Ryan, R. M., Rawsthorne, L. J., & Ilardi, B. (1997). Trait self and true self: Cross-role variation in the Big-Five personality traits and its relations with psychological authenticity and subjective well-being. *Journal of Personality and Social Psychology, 73*, 1380-1393.
- Shimazu, A., & Schaufeli, W. B. (2009). Is workaholism good or bad for employee well-being? The distinctiveness of workaholism and work engagement among Japanese employees. *Industrial Health, 47*, 495-502.
- Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods, 9*, 221-232.

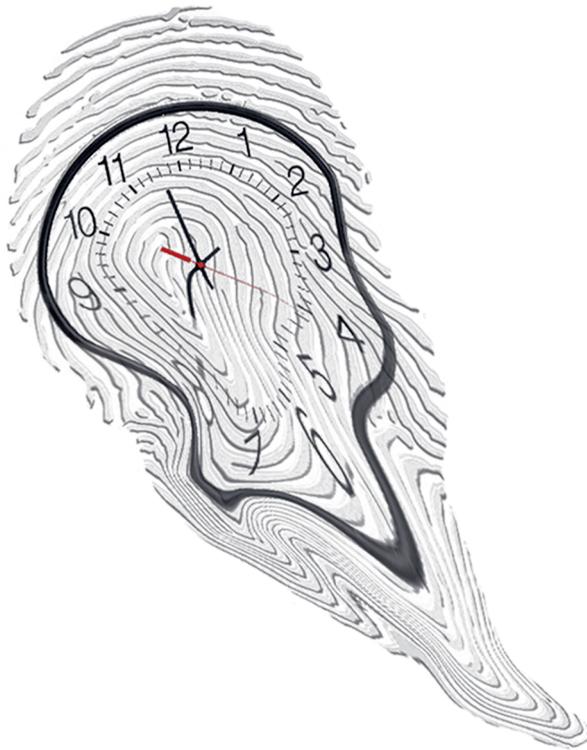
- Taris, T. W., & Kompier, M. A. (2006). Games researchers play—extreme-groups analysis and mediation analysis in longitudinal occupational health research. *Scandinavian Journal of Work, Environment & Health*, 32, 463–472.
- Taris, T. W., & Schreurs, P. J. G. (2009). Well-being and organizational performance: An organizational-level test of the happy-productive worker hypothesis. *Work & Stress*, 23, 120–136.
- Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, 18, 230–40.
- Van Beek, I., Hu, Q., Schaufeli, W. B., Taris, T. W., & Schreurs, B. H. J. (2012). For fun, love, or money: What drives workaholic, engaged, and burned-out employees at work? *Applied Psychology: An International Journal*, 61, 30–55.
- Van den Bosch, R., & Taris, T.W. (2014). Authenticity at work: Development and validation of an Individual Authenticity Measure at Work. *Journal of Happiness Studies*, 15, 1–18.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, 22, 277–294.
- Van den Broeck, A., Vansteenkiste, M., de Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, 83, 981–1002.

Chapter 5

Van Veldhoven, M., & Meijman, T. F. (1994). The measurement of psychosocial strain at work: The questionnaire experience and evaluation of work [in Dutch]. Amsterdam: NIA.

Wood, A. M., Linley, A. P., Maltby, J., Baliouisis, M., & Joseph, S. (2008). The authentic personality: A theoretical and empirical conceptualization and the development of the authenticity scale. *Journal of Counseling Psychology*, 55, 385-399.

Chapter 6



Conclusions and Discussion

Author contributions: Ü. Baran Metin (Writing-review & editing; Writing-original draft); Toon W. Taris, Maria C. W. Peeters (Validation; Supervision; Writing-review & editing).

Understanding the psychological aspects of various types of employee behaviours as well as their antecedents and consequences is among the core aims of occupational psychologists. Past research has shown that positive employee behaviour (for example optimal performance) is contingent upon many factors, such as job characteristics, type of leadership, team dynamics, individual factors, and naturally remuneration policies (Peeters, De Jonge & Taris, 2014). Hence, occupational researchers have investigated a large variety of concepts for improving their understanding of work life. Consequently, emerging concepts such as job crafting, recovery, and self-management provided original points of views to our understanding of the drivers of employee well-being and performance (Taris, Peeters, De Witte, & Hovden, 2019).

In the present dissertation, we focused on two of these emerging - or at least relatively novel - concepts that help to improve our understanding of contemporary work life, namely procrastination and authenticity at work. Specifically, we aimed to address their conceptualization and measurement and explored the work factors they are contingent on. By doing so, we intended to enhance our understanding of their nature and to comprehend more fully to what extent these two concepts are related to each other, as well as to other relevant concepts in occupational health psychology.

The first aim of this thesis was to study the role of workplace procrastination by providing an overarching definition that fits with contemporary work settings, and by developing a psychometrically sound measurement tool. Previous studies on procrastination at work commonly adapted Steel's (2007) general definition of procrastination to the work setting. Steel identified procrastination as a form of self-regulatory failure which leads "to voluntarily delay [of] an intended course of action despite expecting to be worse off for the delay" (p. 66). Steel's definition typically applies to delaying any intended course of action indefinitely. Although this definition captures

Chapter 6

procrastination in general life well, what the “intended course of action” within the work context is and how this self-regulatory failure occurs at work, remains unclear. Therefore, providing a refined definition of procrastination at work that includes these elements of Steel’s definition of procrastination would add clarity to understanding which types of behaviours can be seen as procrastination at work (Klingsieck, 2013). A work-specific definition and measurement instrument of procrastination were also essential for studying the second aim of this dissertation, which was to investigate the work factors that procrastination at work relates to. To this aim, we explored the relationships with its occupational correlates such as employee states (i.e. work engagement and boredom) and behavioural outcomes (i.e. task performance, contextual performance and counterproductive work behaviour) in an attempt to understand the factors procrastination at work is contingent on (Van Eerde, 2015).

Our third aim was to investigate if employees’ good fit with work could potentially be effective to diminish procrastination and to increase performance. Authenticity at work refers to the experience of being one’s “true self” at work (Van den Bosch & Taris, 2014), whereas job crafting refers to behaviours that encompass employees’ proactive redesign of their work environment (Wrzesniewski & Dutton, 2001). We assessed these concepts as indicators of a good fit with work, because, at large, both concepts relate to (creating) a desirable match between an individual and their experience of the work environment. Finally, after finding support for the positive nature of authenticity at work in terms of its connection with decreased procrastination and enhanced performance, our fourth and final aim was to study the possible antecedents and consequences of authenticity within the framework of Job Demands-Resources theory (Bakker & Demerouti, 2007). Building on previous research, we aimed to identify some of the workplace characteristics that could be instrumental for increasing authenticity and other positive occupational

outcomes.

In this final chapter, the main findings presented in the earlier chapters are summarized and discussed. Furthermore, the theoretical and practical implications of these findings are addressed. Finally, the strengths and the weaknesses of the current research as well as suggestions for future research are presented.

Summary of the main findings

In order to test the four main hypotheses presented in Chapter 1, we conducted four separate yet related studies. This section summarizes how Chapters 2 to 5 of this dissertation explored the main hypotheses as well as how the findings in each chapter contribute to the main goals of this dissertation.

Conceptualization and measurement of procrastination at work. To begin with, one main aim of this study was to address the conceptualization and measurement of procrastination at work. In Chapter 2 we addressed its conceptualization by bringing together the common elements of previous definitions of procrastination (among others, Claessens, Van Eerde, Rutte, & Roe, 2010; Lay, 1986; Steel, 2007; Vitak, Crouse, & LaRose, 2011). We defined procrastination at work as the “delay of work-related action by engaging (behaviourally or cognitively) in nonwork-related actions, with no intention of harming the employer, employee, workplace or client”. In line with this definition, the Procrastination at Work Scale (PAWS) was developed and its psychometric characteristics were investigated. The 12-item PAWS showed acceptable reliability and validity scores in a sample of 184 office employees. In terms of its factorial structure, the two-factor PAWS showed superior fit compared to other factor structures. Its two factors were labelled as soldiering (offline and non-work-related employee actions; i.e. taking long breaks or engaging in lengthy non-work related conversations) and cyberslacking

Chapter 6

(engaging online in non-work related actions; i.e. instant messaging or social media use for non-work purposes). These findings show that a measure of procrastination at work should address two different types of behavioural patterns. Furthermore, the results of a confirmatory factor analysis showed that the items of the PAWS could be empirically distinguished from those of conceptually related concepts like general procrastination, boredom, and counterproductive work behaviour (CWB). This indicates that procrastination needs to be studied as a concept that is different from such conceptually related types of work outcomes. Chapter 2 thus provided support for the uniqueness of workplace procrastination and the relevance of studying it with a domain-specific approach (Klingsieck, 2013). These findings confirmed the first hypothesis that was proposed in the Chapter 1 of this dissertation, which was that Workplace procrastination can be measured reliably and validly with the PAWS.

Workplace correlates of procrastination. Chapter 2 further presented findings on the workplace correlates of procrastination at work. Using the Job Demand-Resources Model (JD-R Model, Bakker & Demerouti, 2007) as a theoretical framework, the situational and behavioural correlates of procrastination at work were explored in a Dutch (N = 200) and a Turkish (N = 243) sample. Structural equation modeling showed that in the Dutch sample, both low levels of job demands and job resources were indirectly related to procrastination at work through boredom. In the Turkish sample only low levels of job resources were related to procrastination through boredom. Furthermore, in both samples, procrastination was positively related to CWB (abuse and withdrawal). These results may be seen as support for the adverse nature of procrastination at work (Van Eerde, 2015). Building on the findings of Reijseger and colleagues (2012), a work environment which provides adequate job demands and resources may cognitively stimulate individuals and reduce their bored state, which in return can potentially reduce procrastination and

CWB. These findings showed that procrastination may be an outcome of having a passive, unchallenging work environment.

Chapter 3 reported further cross-cultural evidence for the validity of the PAWS across seven countries. The measurement invariance of the PAWS was explored by examining the extent to which the factor loadings and factor structure of the PAWS were similar across a number of samples with different characteristics (Cheung & Rensvold, 2002). These samples were obtained from Croatia (N = 153), the Czech Republic (N = 152), Finland (N = 150), Slovenia (N = 168), Turkey (N = 150), Ukraine (N = 126), and the United Kingdom (N = 129). Multi-group confirmatory factor analysis showed that the 12-item, two-factor structure of the PAWS was invariant across these samples. Moreover, also the item loadings appeared invariant across all study samples. This chapter also showed that the two subdimensions of the PAWS, soldiering and cyberslacking, showed different patterns of relationships with engagement and performance. Soldiering correlated negatively with work engagement and task performance (with the exception of the Czech and Ukrainian samples); however, only in the Turkish sample was cyberslacking negatively related to work engagement and task performance. These findings suggest that although soldiering and cyberslacking represent two kinds of procrastination at work, they could be contingent upon different work and cultural factors. This chapter provided support for the validity and cross-cultural measurement invariance of the PAWS, which provides even more support for hypothesis 1 that workplace procrastination can be measured reliably and valid with the PAWS. Furthermore, the findings regarding work engagement and performance as negative correlates of workplace procrastination highlight the relevance of studying this behaviour. Consequently, findings from Chapters 2 and 3 confirm Hypothesis 2 (cf. Chapter 1), stating that Procrastination at work is related to an understimulating work environment and decreased performance.

Procrastination and fit at work. While Chapters 2 and 3 discussed the

Chapter 6

conceptualization, measurement, and correlates of workplace procrastination, they did not generate a full understanding of the type of work environment in which procrastination is likely to occur. Specifically, the work factors that enable good fit or high subjective well-being were not yet investigated in relation to procrastination. In Chapter 4, the relationship between authenticity at work and job crafting (as indicators of the degree of fit with work) on the one hand and procrastination and performance (as indicators of employee functioning) on the other were explored among 380 Dutch employees. The results showed that both job crafting and authenticity at work were positively related to work engagement. In addition, work engagement was related to higher levels of performance and lower levels of procrastination. Finally, work engagement mediated the relationship between job crafting and authenticity on the one hand, and performance on the other hand. Although work engagement did not fully mediate the relationship between good fit indicators and procrastination, there was still a significant indirect relationship between these concepts through work engagement. These results suggest that having (or creating) a work setting that is in line with one's values, beliefs, and preferences, can help decrease procrastination through increasing work engagement. Taken together, employees reporting a favourable fit with their work environment, either by experiencing their true selves or through proactively adjusting the work conditions for a better alignment, report higher levels of performance (Bakker, Tims, & Derks, 2012; Harju & Hakanen, 2016). Hence, Hypothesis 3 in Chapter 1, stating that a good person environment fit, which is indicated by job crafting and authenticity, is indirectly related to higher performance and lower procrastination through work engagement, was supported.

Correlates of authenticity at work. Finally, after finding support for the idea that high levels of authenticity at work are related to higher levels of performance and lower levels of procrastination, we further explored the possible antecedents and consequences of authenticity at work by building on

the JD-R Model (Demerouti & Bakker, 2007). In Chapter 5, the relationships between job resources (such as autonomy, learning and development possibilities, supervisory support, and colleague support), job demands (such as emotional demands, mental demands, and workload) and authenticity at work were examined. In addition, the relationships between authenticity and several positive occupational outcomes such as job satisfaction, work engagement and performance were explored. Data was collected from 680 Dutch office employees. The results showed that only job resources were significantly and positively related to authenticity. Moreover, authenticity at work mediated the relationship between job resources on the one hand and positive work outcomes (such as work engagement, job satisfaction and subjective work performance) on the other hand. However, no significant relationship appeared between job demands and authenticity. Arguably, the availability of job resources can be functional for a more authentic state by enabling a sense of intrinsic motivation, similar to how they influence work engagement through the motivational process (Ryan & Deci, 2000). In a work environment where abundant job resources are available, employees are likely to have their basic needs satisfied and this can facilitate experiencing positive states, such as work engagement and authenticity (Schaufeli & Taris, 2014).

For job demands, there may be a more complex relationship with authenticity. Although excessively high levels of job demands are generally perceived as stressful and can lead to burnout, a less extreme level of job demands could provide a sense of stimulation and challenge (Schaufeli & Taris, 2014). Therefore, to some degree, job demands could foster a sense of challenge and stimulation (Schaufeli, 2017). Challenging job demands when interacting with job resources can foster dedication to the tasks (Bakker & Demerouti, 2007), whereas hindering job demands can threaten employee well-being. Briefly, evaluating the type of job demands (challenging versus hindering) and the availability of job resources may be a better approach to understand the

relationship between job demands and authenticity. Consequently, the fourth and the final hypothesis stated in Chapter 1 (“High levels of job resources and low levels of job demands are related to job satisfaction, work engagement and work performance; and authenticity at work mediates this relationship”) is partly confirmed, since we only found significant relationships between job resources, authenticity and occupational outcomes.

Theoretical Implications

Conceptualization issues of procrastination at work

The first theoretical contribution of the present dissertation is that we provided a new, refined definition of procrastination behaviour within work boundaries by complementing the definitions of earlier workplace procrastination studies. In Chapter 2, procrastination at work was defined as the delay of work-related action by intentionally engaging (behaviourally or cognitively) in nonwork-related actions, with no intention of harming the employer, employee, workplace or client. There are two aspects in which this definition improves upon previous understanding of procrastination at work. Firstly, it specifies the procrastination activity to be explicitly non-work-related (off-task). In this sense, the intended action to which Steel (2007) refers can be embodied as the execution of a work-related activity (in-task behaviour). It is important to clarify why only non-work-related actions are defined as procrastination. Our main aim was to provide a clear definition of procrastination at work. By limiting its definition to only non-work activity, we focused on what definitely falls under procrastination at work. It could be possible that in specific instances on-task behaviours can also be seen as procrastination. For example, when employees focus on irrelevant tasks rather than the urgent ones, this could be seen as procrastination at work; however, this could also occur as a

result of bad planning, poor supervision, unclear goal-setting or even as a way to recover. In order to avoid this ambiguity and to provide a clear point of view, we restricted our definition to include non-work related activity only.

Second, the present definition implies that a procrastinating employee should not perform this behaviour with a harmful intention to their environment. Although procrastination may be related to limited productivity, procrastinating employees do not explicitly aspire to harm their work environment (contrary to what is the case for counterproductive work behaviour, CWB). Instead, they have a lack of attention to act upon tasks due to the characteristics of the tasks or their susceptibility to temptation (Steel, 2010). Briefly, procrastination is a self-defeating behaviour that defies personal interests, preferences, and goals (Pychyl & Flett, 2012). In contrast, employees who engage in CWB tend to experience negative emotions (such as anger or distress) and either deliberately sabotage the organization or do not care for the consequences of their behaviour (Robinson & Bennett, 1995). Hence, procrastination at work cannot be seen as a form of CWB in this respect (Marcus, Taylor, Hastings, Sturm, & Weigelt, 2016). The difference between procrastination and CWB was also observed psychometrically in our findings (see Chapter 2).

Our findings supported Klingsieck's (2013) point that procrastination could be a domain-specific construct, as we showed that procrastination at work could be empirically distinguished from general procrastination (cf. Chapter 2). This was not surprising, since tasks in workplaces are often executed within teams, and in such circumstances, procrastination can have both individual and collective consequences. Procrastination of work tasks may lead to sub-optimal individual and team performance which could lead to financial costs (Lim & Teo, 2006; Paulsen, 2015), whereas other types of procrastination appear to have more personal and generally less costly outcomes such as stress (general procrastination; Lay, 1986), low academic

performance (academic procrastination; Steel & Klingsieck, 2016) or lack of sleep (bedtime procrastination; Kroese, Kamphorst, Anderson, & de Ridder, 2016). These findings underline the importance of studying workplace procrastination as a domain-specific phenomenon. Examining procrastination at work with a work-specific conceptualization can improve the awareness of its reasons as well as its unique adverse outcomes in the work context.

Measurement issues of procrastination at work

Another contribution of this dissertation is that we enhanced procrastination research by developing a theory-grounded and empirically valid scale. Building on our definition of procrastination at work, we developed a domain-specific Procrastination at Work Scale (PAWS) instrument. The PAWS consists of two dimensions; one taps traditional procrastination behaviour (such as soldiering), whereas the other taps procrastination behaviour within contemporary work settings (such as cyberslacking). Up till now, procrastination at work studies have embodied this behaviour as a singular construct (among others DeArmond, Matthews, & Bunk, 2014, Nguyen, Steel, & Ferrari, 2013; Prem, Scheek, Weigelt, Hofmann, & Korunka, 2018; Van Eerde, 2003). Our findings show that soldiering and cyberslacking represent the fundamentals of the definition of procrastination suggested in this dissertation. Especially investigating cyberslacking as a way of procrastinating tasks is important, because cyberslacking is a relatively new topic that emerged only after the use of internet took flight in the work environment. The use of internet and mobile devices has become more frequent in the past two decades; therefore, understanding their influence on problematic employee behaviour (or even as a form of such behavior) is important. By addressing cyberslacking as a type of workplace procrastination the present dissertation taps into the characteristics of the contemporary work environment.

Generally, both soldiering and cyberslacking appear to be related to

lower well-being and performance. However, the relationships of soldiering and cyberslacking with different indicators of well-being and performance seems to vary. Compared to cyberslacking, soldiering showed relatively stronger and positive relationships with boredom, and negative relationships with work engagement, task and contextual performance. Perhaps soldiering involves stronger physical and cognitive detachment from work (e.g., by taking longer coffee breaks) than cyberslacking, leading to low task and contextual performance. Cyberslacking was only related to increased boredom and poor contextual performance. Possibly, cyberslacking employees engage in procrastination behaviour with lesser physical and cognitive detachment; if so, they could experience less problems to shift their focus back on tasks once their cyberslacking is over (Meerkerk, Schoenmakers, & Van de Mheen, 2014). Another possibility is that the distinction between cyberslacking and acceptable task performance is blurred in internet-based work. E.g., finding literature for a research project could lead to employees reading all sorts of only remotely relevant papers, inspection of popular websites that might present useful information somewhere but that are mainly intended as providing pleasurable but non-work-related content. Stated differently, conducting internet/computer-based tasks makes it easy to get involved in tasks that are superficially similar to productive and useful activities, but that are in reality not. Nevertheless, in spite of their differences, both cyberslacking and soldiering can be deemed as problematic behaviors and as outcomes of a negative state.

Having a good fit with the job and its relationship with procrastination at work

The present dissertation further contributed to the literature by illustrating how having a good fit with one's work is related to lower levels of procrastination and better performance. The Person Environment (P-E) Fit

Chapter 6

Theory can be briefly explained as the match between the characteristics of an individual and a work environment (Kristof-Brown, Zimmerman, & Johnson, 2005). Authenticity refers to feeling congruent with one's true self in a specific environment (Harter, 2002), and such a psychological state may in the occupational context be reflected in experiencing a good fit with the job. However, when this is not the case, employees can proactively apply changes in their immediate work environment for a better fit (i.e., job crafting (Wrzesniewski & Dutton, 2001)). We therefore considered the role of job crafting and authenticity as indicators of a good fit with work. Shortly, employees who experience high levels of authenticity as well as employees who perform job crafting are likely to have (or create) a better match with their work environments, which can loosely relate to having a good fit. Therefore, we considered these two concepts as indicators of fit between an employee and their workplace.

According to Self-Determination Theory (SDT; Ryan & Deci, 2000), authentic behaviour reflects a property of self-determined motivation. Authentic employees may participate in work-related activities more actively because they like what they do and find their work meaningful (Deci, Olafsen, & Ryan, 2017). Such accordance can satisfy the three dimensions of authenticity (authentic living, self-alienation, and external influence), leading to positive experiences (Van Den Bosch & Taris, 2018). Job crafting shows a similar pattern of connection with employees' functioning. Job crafting (particularly seeking challenges) was found to be a viable strategy to reduce the bored state and improve work engagement in previous longitudinal research (Harju & Hakanen, 2016). Our findings are in line with this and imply that job crafting as a coping mechanism can mitigate boredom and its adverse outcomes (Van Hooff & Van Hooft, 2014), including procrastination. Moreover, the "increasing resources" dimension of job crafting showed a significant relationship with state authenticity. This implies that job crafting, or at least increasing resources,

contributes to experienced state authenticity. Shortly, either naturally being in accordance with one's self (authenticity) or proactively changing the work environment for better fit (job crafting) can have a positive impact on reducing procrastination. Our research was among the first to study the relationship between job crafting, authenticity and procrastination and to support the relevance of studying these concepts for better in-role activity at work.

Our final theoretical contribution refers to the study of the occupational antecedents and outcomes of authenticity. Authenticity at work is an emerging topic (Van Den Bosch, 2016) and our findings are among the first to illustrate its workplace correlates using the theoretically grounded JD-R Model as a framework. Briefly, job resources were more strongly related to authenticity than job demands, showing that positive aspects of work can pose additional value to sustain authenticity. Since job resources are the physical and psychological aspects of a job that help achieve work goals and stimulate personal growth, they can be deemed essential for positive work experiences (Bakker & Demerouti, 2007). Employees can benefit from the availability of job resources, not only to cope with job demands, but also to facilitate a work environment to fit their expectations better. Job resources, such as support, opportunities for personal development, and autonomy, may increase the chances that employees do their jobs with enhanced inspiration and meaningfulness. Such characteristics are instrumental for intrinsic motivation; hence, they can provide a strong basis for high levels of state authenticity. These findings are also in line with the meta-analytic review of Lesener, Gusy, Jochmann, and Wolter (2019), as such organizational-level resources (i.e. how work is organized, designed, and managed with regards to psychosocial factors) are among the most important predictors of employees' work engagement. Taken together, the findings generally support the positive nature of authenticity and its relatedness to desired personal and occupational outcomes, such as work engagement, satisfaction and performance. Therefore, the present

thesis adds to the relevance of studying authenticity at work as an indication of favourable fit between an individual and their job.

Practical Implications

Next to these theoretical implications, the present dissertation also provides important implications for employees, managers, and organizations. Since this thesis has shown that procrastination behaviour tends to result in negative outcomes for the organization and the employee, it is important to see how this sort of behaviours can be noticed and prevented.

Firstly, it appears important to assess procrastination at work, as the problematic nature of this behaviour appeared consistent throughout the chapters of this dissertation. Seemingly, managers would benefit from assessing the level of procrastination taking place in their organizations and by acting upon it. As our results show, procrastination is not only a non-productive behaviour, it is also often an indication of boredom and misfit. Yet, procrastination at work might be difficult to observe. An employee who uses the internet for personal purposes or who takes longer coffee breaks than needed may not always be noticed instantly. To address this difficulty, organizations can consider using the PAWS as a helpful assessment tool. This scale showed acceptable psychometric characteristics in several cultures and countries, suggesting that its multi-dimensional structure is robust. The PAWS can possibly assess the overall level of procrastination across the organization and it may help managers to detect and address action points. It is important to note that procrastination can be a delicate issue and that employees may not want to be identified as procrastinators in organization-wide surveys. Therefore, it is important to ensure the anonymity of participants and confidentiality of the results to minimize the potential effect of social desirability. This also implies that measures to reduce procrastination,

boredom and other non-productive behaviours can in practice only be taken at a general (organizational or departmental) level.

Second, our results showed that improving the fit between employees and their work environment is related to decreased procrastination. An effective way to improve such fit is through enhancing job resources. Job resources, such as learning opportunities, support, or autonomy, showed positive relationships with both job crafting and authenticity at work. Apparently, employees who can access the job resources they need are less likely to experience boredom, stress, frustration, and lack of self-efficacy. On the contrary, lack of job resources may constitute a work environment that also lacks challenge, stimulation and enjoyment (Reijseger et al, 2012). Under these conditions employees could typically perform pleasurable, non-work-related activities (such as procrastination) while at work to increase their depleted energy and stimulation. Therefore, by providing relevant job resources, managers can generate a work environment which limits boredom, thus preventing employees from developing and engaging in procrastination behaviours.

Third, training programmes on improving employees' time management (TM) could be another useful implication. According to Claessens and colleagues, (2007) TM can be described as "behaviours that aim at achieving an effective use of time while performing certain goal-directed activities" (p. 36). Research shows that employees who participate in time management training tend to worry and procrastinate significantly less, compared to untrained groups one month after this training (Van Eerde, 2003). In TM training, procrastinating employees may learn strategies such as creating overview of tasks, setting manageable and realistic goals, subdividing and specifying large and vague tasks, working with clear deadlines, and overcoming tempting distractions (Van Eerde, 2015). These tactics can be useful to reduce the gap between intention (achieve a particular goal) and engaging in the

Chapter 6

specific behaviours needed to achieve that goal. Furthermore, such trainings can help procrastinating employees to have a more realistic estimation of their control over their planning. Although many procrastination intervention studies were not rigorous and some interventions were difficult to transfer to practice, they generally highlight planning as a useful precondition to overcome procrastination (Van Eerde, 2015). Therefore, managers may consider the application of such training programmes to mitigate the negative impact of procrastination at work.

Finally, the implementation of agile work practices may an effective method to tackle procrastination at work. Specifically, in software development units, agile work methodologies have become increasingly popular in the last two decades (Dingsøyr, Nerur, Balijepally, & Moe, 2012). The principles of agile methodologies stem from giving employees the chance of having more control over their work activities. In such practices, teams decide about their own work schedule and methods, organize periodical meetings to inform each other about their progression, and assess each other's performance. These aspects of agile work methods can foster intrinsic motivation by satisfying the three basic human needs (i.e. autonomy, relatedness, and competence) of SDT (Ryan & Deci, 2000). As a result, agile work practices could be functional to limit procrastination via setting clear goals, concrete deadlines, enhanced overview on planning, frequent monitoring of productivity, and peer support. Earlier research showed positive relationships between agile work practices and experienced job resources and work engagement (Huck-Fries, Prommegger, Wiesche, & Krcmar, 2019). In this thesis, we also found significant relationships between increased job resources, work engagement, and lower levels of procrastination. In this sense, it would seem possible that the implementation of agile work practices will help reducing procrastination behaviors via enhanced job resources and work engagement.

In sum, managers are encouraged to consider increasing job resources

in case they would like to increase authenticity and reduce excessive procrastination. Our findings illustrate the possible incremental role of job resources for enhanced well-being and functioning. By enabling relevant job resources, it would be more likely to enhance the fit between work and employees. Eventually, employees would potentially experience higher levels of authenticity, work engagement, and decreased boredom. Hence, managers can sustain a more productive workforce as a result of decreased procrastination and optimal performance.

Limitations and suggestions for future research

This dissertation has three main limitations. The first is that all results in this dissertation are based on cross-sectional survey research. Hence, the findings of this dissertation can only suggest possible correlates of procrastination and authenticity at work, rather than to show causal associations between the study variables. However, the empirical chapters in this dissertation aimed to develop a reliable and valid measurement of procrastination at work and explore its work correlates, including authenticity. To study these, we used statistical approaches such as confirmatory factor analysis (for investigating the psychometric characteristics of the PAWS) and structural equation modeling (to examine the relationships among the study variables). In order to achieve these goals, cross-sectional data could be deemed as sufficient (Taris, Kessler, & Kelloway, 2021). However, future studies that use diary or time-separated designs may further our understanding regarding the antecedents and consequences of both procrastination and authenticity at work. Clearly, longitudinal designs could present stronger links across study variables, but we hope that our findings provide an adequate theoretical basis for understanding procrastination and authenticity, as well as for further – longitudinal – research in this area.

A second limitation was the use of self-report measurements in the

present dissertation, potentially leading to common-method variance (CMV). Briefly, CMV refers to the levels of variance among the variables that can be attributed to the measurement method rather than the actual relationship between variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2009). When the measurement of different constructs occurs using the same method, the correlations between these constructs can be systematically inflated. Since all measures in this study were obtained using self-report surveys, CMV may have impacted the relationships among the study variables. On the one hand, it can be argued that states (i.e. authenticity, work engagement, or boredom) can best be measured by self-report scales because they are difficult to observe. On the other hand, objective measures of behavioural concepts (such as procrastination, performance or job crafting) could eliminate the possible influence of the CMV. Therefore, it is encouraged for future studies to consider collecting data with objective measures (such as colleague or supervisor ratings) as well as with subjective measures or using longitudinal designs to reduce the potential impact of common-method bias (Taris et al., 2021).

Further, note that while CMV can be an important statistical bias, there are two main reasons why it may not have biased our findings to a large degree. Firstly, according to Spector (2006), assuming that CMV automatically leads to stronger correlations is an oversimplification. Therefore, a careful consideration of what kind of factors could actually influence our measurements and controlling them is important. The correlations among the latent variables in the empirical chapters did not consistently present statistically significant results. Throughout the chapters, the magnitude of the relationships between study variables varied from almost zero to moderate ($r = 0.60$). Hence, we argue that there was no convincing evidence of systematic inflation of the relationships between study variables due to using self-report instruments. Secondly, the relationships we observed among the study variables were often in line with previous research. In other words, we did not

find relationships which were unexpectedly strong, compared to the findings in the literature. Our findings showed comparable patterns to earlier literature, such as between procrastination at work and boredom (Wan, Downey, & Stough, 2014), procrastination and performance (Meerkerk, et al., 2014), and authenticity and work engagement (Van den Bosch, 2016). Building on these arguments, we may tentatively conclude that there is no strong evidence that CMV led to substantial bias of our findings.

A third and final limitation of this thesis was that Person-Environment (P-E) Fit was not directly measured. Instead, job crafting and authenticity were considered its indicators. P-E fit refers to the compatibility between employees and their work environment. This compatibility occurs when the characteristics of the individual and the work match (Kristof-Brown et al., 2005). Specifically, the Person-Job (P-J) Fit domain of the P-E fit concept focuses on the degree to which employees' knowledge, skills, and abilities (demands-abilities fit) as well as their needs, desires, and preferences (needs-supplies fit) match with their jobs. In case employees already experience good fit in these respects, employees would possibly feel congruent to their "true selves" in that their abilities and needs match well with the demands of and supplies offered by their jobs. Hence, an employee who reports high levels of authenticity at work can be considered as someone who also experiences good fit. However, if good fit is absent, then employees can actively look for ways to improve fit by engaging in job crafting behaviour. By increasing their job resources and challenging job demands, employees can enable a more favourable fit with their work. As a result, high scores on both authenticity and job crafting may signify good fit. Yet, future researchers are encouraged to measure P-J fit directly as well as the other domains of P-E fit to enhance our understanding of how these mechanisms may be functioning in relation to authenticity and procrastination at work.

Although this dissertation addressed several important workplace

concepts in relation to procrastination and authenticity, two important issues remained unanswered. The first concerns the differences between procrastination and recovery. Recovery at work refers to engaging in non-work activities to replenish the reduced energy (Demerouti, Bakker, Sonnentag, & Fullagar, 2012). Therefore, recovering employees might engage in non-work activities (such as coffee breaks, socialize with their colleagues, meditate, or even take naps for detachment) for relaxation. Recovery appears a functional behaviour, which helps employees to diminish the adverse effects of work (i.e. exhaustion and lack of vigor) (Demerouti et al., 2012). Although recovery and procrastination are behaviourally similar to each other, only few studies have focused on the empirical differences between them as different types of non-work behaviour (Van Den Berg & Roosen, 2018). Hence, future research could focus on unravelling the differential psychological processes that distinguish procrastination from legitimate recovery behaviors.

A second suggestion for future research is to examine different personal and contextual factors in relation to procrastination and authenticity. For example, it can be beneficial to know which personality traits at work are related to procrastinating work tasks. Earlier studies showed that conscientiousness is strongly and negatively related to academic procrastination (Steel & Klingsieck, 2016) so a similar disposition could be relevant at work. Furthermore, examining the personal resources (such as self-efficacy, self-esteem, and optimism) which are related to authenticity can improve our knowledge regarding the type of personal characteristics, which may help in creating a more positive work experience. For the contextual factors, an interesting line of research could be to investigate the relationship between organizational culture and procrastination. For example, understanding which aspects of various organizational culture types (for example the clan, adhocracy, hierarchy, or market cultures distinguished in Competing Values Theory; Quinn & Rohrbaugh, 1983) relate to authenticity and

procrastination and can provide a better understanding of the influence of the work context. Possibly, different aspects of these culture types may have unique relations with authenticity and procrastination. For example, in clan culture organizations, employees may struggle experiencing their true selves; thus behaving inauthentically due to the close-knit nature of such work environment. Similarly, in hierarchical cultures tight supervision could limit the possibility of procrastination behaviour but also it could reduce the level of authenticity due to certain expected behaviours. Studying both concepts under these various conditions may thus help addressing more accurate action points for desired work experiences.

Concluding Notes

It is probably easy to think that procrastinators are lazy, that they are afraid of failure or that they simply do not like their tasks. These and many other thoughts about the nature of procrastination behaviour do not fully grasp the cognitive mechanism of this concept. In fact, procrastination is extremely common and especially in an occupational context, it is estimated to lead to large financial costs. Even though there have been attempts to conceptualize and examine the mechanism of procrastination since early 20th century (i.e. Taylor, 1911), there are still many questions unanswered. This was the main notion of this dissertation. In a series of empirical studies, we intended to improve the understanding of procrastination at work by proposing an overarching conceptualization and developing a context-specific measure.

Similar to procrastination, the present thesis provided promising findings for authenticity as an important state to explore within the work context. By building on the earlier work of Van den Bosch and Taris (2014) our aim was to explore if authenticity could be deemed a relevant and useful state

Chapter 6

to diminish procrastination and enhance positive work outcomes. From this perspective, the present dissertation is among the first to underline the positive relationship between authenticity and improved employee functioning.

Our findings demonstrate that procrastination can be seen as a behavioural output of an understimulating work environment. By improving job resources and creating a work environment where employees can be more in accordance with their true selves, procrastination and its associated costs can potentially be reduced. We propose a number of theoretical and practical implications, and provided suggestions for future research on how to address these issues. In spite of the limitations of our research, we hope that this dissertation contributes to the occupational health psychology literature by offering a new point of view regarding procrastination at work and by strengthening the existing knowledge regarding the measurement of procrastination, as well as the possible predictors and consequences of authenticity.

References

- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22, 309–328.
- Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations*, 65, 1359-1378.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9, 233–255.
- Claessens, B., Eerde, W. van, Rutte, C., & Roe, R. (2007). A review of the time management literature. *Personnel Review*, 36, 255–276.
- DeArmond, S., Matthews, R. A., & Bunk, J. (2014). Workload and procrastination: The roles of psychological detachment and fatigue. *International Journal of Stress Management*, 21, 137–161.
- Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 19-43.
- Demerouti, E., Bakker, A. B., Sonnentag, S., & Fullagar, C. J. (2012). Work-related flow and energy at work and at home: A study on the role of daily recovery. *Journal of Organizational Behavior*, 33, 276–295.
- Dingsøyr, T., Nerur, S., Balijepally, V., & Moe, N. B. (2012). A decade of agile methodologies: Towards explaining agile software development. *Journal of Systems and Software*, 85, 1213-1221.
- Harju, L. K., & Hakanen, J. J. (2016). An employee who was not there: A study of job boredom in white-collar work. *Personnel Review*, 45, 374–391.
- Huck-Fries, V., Prommegger, B., Wiesche, M., & Krcmar, H. (2019). The role of work engagement in agile software development: Investigating job demands and job resources. In *Proceedings of the 52nd Hawaii*

International Conference on System Sciences.

Klingsieck, K. B. (2013). Procrastination in different life-domains: Is procrastination domain specific? *Current Psychology*, 32, 175-185.

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58, 281-342.

Kroese, F. M., Nauts, S., Kamphorst, B. A., Anderson, J. H., & de Ridder, D. T. (2016). Bedtime procrastination: A behavioral perspective on sleep insufficiency. In F. M. Sirois and T. A. Pychyl (Eds.), *Procrastination, health, and well-being* (pp. 93-119). Place: Elsevier Academic Press.

Lay, C. H. (1986). At last, my research article on procrastination. *Journal of Research in Personality*, 20, 474-495.

Lesener, T., Gusy, B., Jochmann, A., & Wolter, C. (2019). The drivers of work engagement: A meta-analytic review of longitudinal evidence. *Work & Stress*, 34, 1-20.

Lim, V. K., & Teo, T. S. (2006). Cyberloafing and organizational justice: The moderating role of neutralization technique. In M. Anandarajan, T. S. H. Leo, and C. A. Simmers (Eds), *The Internet and workplace transformation*, (pp. 241-258), Amonk, NY: M. E. Sharpe.

Marcus, B., Taylor, O. A., Hastings, S. E., Sturm, A., & Weigelt, O. (2016). The structure of counterproductive work behavior: A review, a structural meta-analysis, and a primary study. *Journal of Management*, 42, 203-233.

Meerkerk, G. J., Schoenmakers, T., & Van de Mheen, D. (2014). *Cyberslacking: Het gebruik van het internet tijdens werktijd [Cyberslacking: The use of the internet during working time]*. Rotterdam, The Netherlands: IVO Instituut voor Onderzoek naar Leefwijzen en Verslaving.

Nguyen, B., Steel, P., & Ferrari, J. R. (2013). Procrastination's impact in the workplace and the workplace's impact on procrastination. *International*

- Journal of Selection and Assessment, 21, 388–399.
- Paulsen, R. (2015). Non-work at work: Resistance or what? *Organization*, 22, 351–367.
- Peeters, M. C., De Jonge, J., & Taris, A. W. (2014). Introduction: People at work. In M.C.W. Peeters, J. De Jonge, J., and T.W. Taris (Eds.), *An introduction to contemporary work psychology* (pp. 3-30). Chichester: Wiley-Blackwell.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Prem, R., Scheel, T. E., Weigelt, O., Hoffmann, K., & Korunka, C. (2018). Procrastination in daily working life: A diary study on within-person processes that link work characteristics to workplace procrastination. *Frontiers in Psychology*, 9, 1–11.
- Pychyl, T. A., & Flett, G. L. (2012). Procrastination and self-regulatory failure: An introduction to the special issue. *Journal of Rational - Emotive and Cognitive - Behavior Therapy*, 30, 203–212.
- Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science*, 29, 363–377.
- Reijseger, G., Schaufeli, W. B., Peeters, M. C. W., Taris, T. W., van Beek, I., & Ouweneel, E. (2012). Watching the paint dry at work: psychometric examination of the Dutch Boredom Scale. *Anxiety, Stress, and Coping*, 26, 37–41.
- Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38, 555-572.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American*

Chapter 6

- Psychologist, 55, 68–78.
- Schaufeli, W. B. (2017). Applying the job demands-resources model. *Organizational Dynamics*, 2, 120-132.
- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. In G. F. Bauer and O. Hämmig (Eds), *Bridging occupational, organizational and public health* (pp. 43-68). Dordrecht: Springer.
- Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods*, 9, 221–232.
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133, 65–94.
- Steel, P. (2010). Arousal, avoidant and decisional procrastinators: Do they exist? *Personality and Individual Differences*, 48, 926–934.
- Steel, P., & Klingsieck, K. B. (2016). Academic procrastination: Psychological antecedents revisited. *Australian Psychologist*, 51, 36–46.
- Taris, T. W., Kessler, S. R., & Kelloway, E. K. (2021) Strategies addressing the limitations of cross-sectional designs in occupational health psychology: What they are good for (and what not), *Work & Stress*, 35, 1-5.
- Taris, T. W., Peeters, M. C., De Witte, H., & Hovden, M. (2019). Occupational health psychology: From past to present. In T. Taris, M. Peeters, and H. De Witte (Eds), *The fun and frustration of modern working life: Contributions from an occupational health psychology perspective* (pp. 94-104). Antwerp, Belgium: Pelckmans Pro.
- Van den Berg, J., & Roosen, S. (2018). Two faces of employee inactivity: Procrastination and recovery. *Journal of Prevention & Intervention in the Community*, 46, 295-307.
- Van den Bosch, R. (2016). *Authenticity at work*. [unpublished doctoral dissertation]. Utrecht: Utrecht University.

- Van den Bosch, R., & Taris, T. W. (2018). Authenticity at work: Its relations with worker motivation and well-being. *Frontiers in Communication*, 3, 1-11.
- Van den Bosch, R., & Taris, T. W. (2014). Authenticity at work: Development and validation of an individual authenticity measure at work. *Journal of Happiness Studies*, 15, 1-18.
- Van Eerde, W. (2003). Procrastination at work and time management training. *The Journal of Psychology*, 5, 421-434.
- van Eerde, W. (2015). Procrastination and well-being at work. In F. M. Sirois and T. A. Pychyl (Eds), *Procrastination, health, and well-being* (pp. 233-253). Oxford: Elsevier Academic Press.
- van Hooff, M. L., & van Hooft, E. A. (2014). Boredom at work: Proximal and distal consequences of affective work-related boredom. *Journal of Occupational Health Psychology*, 19, 348-359.
- Vitak, J., Crouse, J., & Larose, R. (2011). Personal Internet use at work: Understanding cyberslacking. *Computers in Human Behavior*, 27, 1751-1759.
- Wan, H. C., Downey, L. A., & Stough, C. (2014). Understanding non-work presenteeism: Relationships between emotional intelligence, boredom, procrastination and job stress. *Personality and Individual Differences*, 65, 86-90.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26, 179-201.

Uitstelgedrag en authenticiteit op het werk: De conceptualisatie en validatie van twee hedendaagse verschijnselen op het werk

Nederlandse samenvatting

Werk verandert voortdurend. Als we kijken naar de werkomgeving, dan zien we bijvoorbeeld dat werknemers tegenwoordig autonomer zijn in het bepalen van hun werkmethoden en planning, en dat zij minder onder toezicht werken en flexibelere deadlines hebben dan vroeger. Ook kan het werk vaker worden uitgevoerd met behulp van online tools. Bovendien zijn medewerkers veel frequenter betrokken bij op cognitie gebaseerde taken, zoals het bedenken van ideeën of het leveren van diensten (Peeters, de Jonge, & Taris, 2014). Wellicht zouden deze ontwikkelingen kunnen zorgen voor een efficiënte planning van taken door de werknemer zelf. Ook zouden deze ontwikkelingen de samenwerking met collega's mogelijk kunnen maken, zelfs als zij niet op hetzelfde kantoor zijn. Echter, het is ook te verwachten dat deze omstandigheden een werkomgeving creëren waarin er meer ruimte is voor uitstelgedrag.

Uitstelgedrag op het werk is zeer relevant in veel hedendaagse werksettings. Over het algemeen wordt dit gedrag geassocieerd met lagere productiviteit vanwege het uitvoeren van niet-werkgerelateerde activiteiten tijdens werkuren (Nguyen, Steel, & Ferrari, 2013). Er wordt geschat dat

werknemers binnen de werkomgeving wel anderhalf tot drie uur per dag besteden aan niet-werkgerelateerde activiteiten, leidend tot een productiviteitsverlies van ongeveer \$544 miljard per jaar voor Amerikaanse bedrijven (Paulsen, 2015). Volgens D'Abate en Eddy (2007) kost het uitvoeren van persoonlijke activiteiten tijdens het werk Amerikaanse bedrijven per werknemer maar liefst \$8.875,- aan salaris op jaarbasis, en Hemp (2004) schat dat de kosten hiervan groter zijn dan die van verzuim (het niet aanwezig zijn op het werk). Deze cijfers benadrukken het belang van het begrijpen en beperken van uitstelgedrag op het werk.

Als veel hedendaagse banen inderdaad aan het veranderen zijn en dat waarden zoals het doen wat je leuk vindt, trots, enthousiasme en expertise steeds belangrijker worden, waarom vertonen werknemers dan nog steeds uitstelgedrag? Een aannemelijk antwoord op deze vraag is dat werknemers een gebrek aan aansluiting ervaren tussen hun gewenste en hun feitelijke werkzaamheden. Soms verkiezen werknemers financiële zekerheid boven een baan die aansluit bij hun voorkeur of ambities. Dit is geen ideale situatie, voor de werkgever noch voor de werknemer. Er is een groeiende trend dat werknemers de voorkeur geven aan organisaties die hun voorkeuren en ambities vertegenwoordigen, oftewel, waar ze zich authentiek kunnen voelen (Van den Bosch, 2016). Authenticiteit verwijst naar de mate waarin iemand dicht bij zijn/haar ware zelf blijft (Harter, 2002). Hedendaagse organisaties besteden steeds meer aandacht aan de gevoelens en het welzijn van werknemers (Erickson & Gratton, 2007), in de overtuiging dat het managen van de verwachtingen van de medewerker kan bijdragen aan de vergroting van hun productiviteit (Peeters et al., 2014). Deze groeiende trend leidt ertoe dat onderzoekers zich in toenemende mate richten op de ervaring en betekenis van het werk, evenals de mogelijkheden voor persoonlijke verbetering en groei die het werk kan bieden. Als gevolg hiervan kan vergroting van authenticiteit op

het werk mogelijkwerijs het uitstelgedrag van werknemers, en de bijbehorende kosten hiervan, beperken.

Het algemene doel van dit proefschrift is om de relatie tussen authenticiteit en uitstelgedrag op het werk te onderzoeken, en te exploreren hoe beide concepten samenhangen met de werkomstandigheden, bevoegenheid en prestaties. Daarbij kijken we allereerst naar de conceptualisatie en de manier van meten van authenticiteit en uitstelgedrag op het werk. Verder beogen we om de validiteit van beide werkconcepten te onderzoeken. Er zijn tenminste drie redenen waarom de antwoorden op deze kwesties van toegevoegde waarde zijn. Ten eerste is het mogelijk dat in de traditionele conceptualisatie van authenticiteit en uitstelgedrag de veranderende kenmerken van de hedendaagse werkomgeving niet volledig zijn meegenomen. Veel moderne werkomgevingen worden gekenmerkt door een digitale transformatie, flexibele werkvormen en het samenwerken met collega's op afstand (ook al vóór covid-19 zijn intrede deed). Daarom is het belangrijk om te onderzoeken hoe deze twee concepten - authenticiteit en uitstelgedrag - vorm krijgen in de huidige veranderende werkomstandigheden en om te onderzoeken of deze concepten nog steeds van toepassing zijn in de huidige werkpraktijk. Ten tweede bestudeerden onderzoekers authenticiteit en uitstelgedrag weliswaar in verschillende contexten (zoals los van de werkcontext of specifiek in de academische setting), maar empirische bevindingen in de arbeids- en organisatiepsychologische literatuur zijn relatief schaars (Klingsieck, 2013). De werkomgeving heeft als context unieke kenmerken en hoe authenticiteit en uitstelgedrag zich manifesteren in de werkcontext kan verschillen van hun manifestatie in andere contexten. Op het werk komen individuen samen die gedeelde belangen en doelen hebben, en hun individuele toestand en gedrag kan gevolgen hebben voor collectieve uitkomsten zoals contextuele of taakprestatie.

Ten slotte is er in de arbeidspsychologie behoefte aan een nauwkeurige manier om de eerder genoemde variabelen te meten. Voor het meten van authenticiteit op het werk hebben Van Den Bosch en Taris (2014a) de Individual Authenticity Measure At Work (IAM Work) schaal ontwikkeld en in een nog beperkt aantal onderzoeken toegepast. Als het gaat om het meten van uitstelgedrag in de werkcontext zijn er, voor zover wij weten, alleen schalen gebruikt die oorspronkelijk waren ontwikkeld om uitstelgedrag in andere contexten te meten.

Conceptualisatie en operationalisatie van uitstelgedrag op het werk.

Een eerste doel van dit onderzoek was om tot een conceptualisatie en operationalisatie van uitstelgedrag op het werk te komen. In hoofdstuk 2 hebben we de conceptualisatie van uitstelgedrag onderzocht door de gemeenschappelijke elementen van eerdere definities samen te brengen (o.a. die van Claessens, Van Eerde, Rutte, & Roe, 2010; Lay, 1986; Steel, 2007; Vitak, Crouse, & LaRose, 2011). We definieerden uitstelgedrag op het werk als "uitstel van werkgerelateerde activiteiten door (gedragmatig of cognitief) deel te nemen aan niet-werkgerelateerde activiteiten, zonder de werkgever, werknemer, werkplek of klant schade te willen berokkenen". In lijn met deze definitie is de Procrastination at Work Scale (PAWS) ontwikkeld en zijn de psychometrische kenmerken ervan onderzocht. In een steekproef van 184 kantoormedewerkers vertoonde de PAWS met 12 items acceptabele betrouwbaarheids- en validiteitsscores. Een twee-factorstructuur voor de PAWS liet - in vergelijking met andere factorstructuren - een goede fit zien. Deze twee factoren werden gelabeld als soldiering (offline en niet-werkgerelateerde acties van werknemers; bijvoorbeeld lange pauzes nemen of lange niet-werkgerelateerde gesprekken voeren) en cyberslacking (online

betrokken zijn bij niet-werkgerelateerde acties; denk aan online berichten sturen of gebruik maken van sociale media voor niet-werkdoeleinden).

Deze bevindingen tonen aan dat uitstelgedrag op het werk door middel van twee verschillende soorten gedragspatronen onderzocht kan worden. Bovendien toonden de resultaten van een confirmatieve factoranalyse aan dat de items van de PAWS empirisch konden worden onderscheiden van die van conceptueel gerelateerde concepten zoals algemeen uitstelgedrag, verveling en contraproductief werkgedrag. Dit laat zien dat uitstelgedrag moet worden beschouwd als een concept dat verschilt van dergelijke gelijksoortige werkgedragingen. Hoofdstuk 2 onderstreepte daarmee het unieke karakter van uitstelgedrag op de werkplek, en daarmee ook de relevantie van het bestuderen van uitstelgedrag met een domeinspecifieke benadering (Klingsiek, 2013). Deze bevindingen bevestigden de eerste hypothese uit Hoofdstuk 1 van dit proefschrift, namelijk dat uitstelgedrag op de werkplek betrouwbaar en met een acceptabele validiteit kan worden gemeten met de PAWS.

Kenmerken van het werk die samenhangen met uitstelgedrag

Hoofdstuk 2 presenteerde bovendien bevindingen over de samenhang tussen de kenmerken van het werk en uitstelgedrag op het werk. Met het Job Demand-Resources (JD-R) Model (Bakker & Demerouti, 2007) als theoretisch kader, werden de situationele en gedragskenmerken die samenhangen met uitstelgedrag op het werk onderzocht in een Nederlandse (N = 200) en een Turkse (N = 243) groep. In de Nederlandse steekproef toonde covariantiestructuur-analyse aan dat zowel lage niveaus van taakeisen (“demands”, zoals werkdruk) als lage niveaus van energiebronnen (“resources”, zoals sociale steun en autonomie) indirect samenhangen met uitstelgedrag op het werk, via verveling. In de Turkse steekproef waren alleen lage niveaus van energiebronnen via verveling gerelateerd aan uitstelgedrag. Bovendien was in

beide steekproeven uitstelgedrag positief gerelateerd aan contraproductief werkgedrag (CWB). Deze resultaten kunnen worden gezien als ondersteuning voor de nadelige aard van uitstelgedrag op het werk (Van Eerde, 2015). Voortbouwend op de bevindingen van Reijseger en collega's (2012) suggereren deze resultaten dat een werkomgeving die een gevoel van uitdaging oproept, individuen kan stimuleren en hun verveling kan verminderen. Dit kan weer uitstelgedrag en CWB verminderen. Deze bevindingen toonden aan dat het denkbaar is dat uitstelgedrag een gevolg is van een passieve, weinig uitdagende werkomgeving.

Hoofdstuk 3 gaf verder ondersteuning voor de interculturele validiteit van de PAWS. De meetinvariantie van de PAWS werd onderzocht door in zeven landen te onderzoeken in hoeverre de factorladingen en de factorstructuur van de PAWS vergelijkbaar waren in een aantal steekproeven met verschillende kenmerken (Cheung & Rensvold, 2002). De steekproeven werden verkregen uit Kroatië (N = 153), Tsjechië (N = 152), Finland (N = 150), Slovenië (N = 168), Turkije (N = 150), Oekraïne (N = 126) en het Verenigd Koninkrijk (N = 129). Een multigroep-factoranalyse toonde aan dat de 12-item tweefactorstructuur van de PAWS invariant was over deze steekproeven. Bovendien leken de itemladingen invariant in de steekproeven. Dit hoofdstuk liet ook zien dat de twee subdimensies van de PAWS, soldiering en cyberslacking, op verschillende manieren samenhangen met bevlogenheid en prestatie. Soldiering correleerde negatief met bevlogenheid en taakprestatie (met uitzondering van de Tsjechische en Oekraïense steekproeven); alleen in de Turkse steekproef was cyberslacking negatief gerelateerd aan bevlogenheid en taakuitvoering. Deze bevindingen suggereren dat hoewel soldiering en cyberslacking twee soorten uitstelgedrag op het werk vertegenwoordigen, ze afhankelijk kunnen zijn van verschillende werkfactoren en culturen. Dit hoofdstuk bood ondersteuning voor de validiteit en interculturele meetinvariantie van de PAWS, wat verdere ondersteuning biedt voor hypothese 1 dat uitstelgedrag op de werkplek kan

worden gemeten met de PAWS. Bovendien benadrukken de bevindingen met betrekking tot bevlogenheid en prestaties als negatieve correlaten van uitstelgedrag op de werkplek de relevantie van het bestuderen van dit gedrag. Derhalve bevestigen de bevindingen uit Hoofdstukken 2 en 3 Hypothese 2 (zie Hoofdstuk 1), die stelt dat uitstelgedrag op het werk verband houdt met een onder-stimulerende werkomgeving en verminderde prestaties.

Uitstelgedrag en welbevinden op het werk

Hoewel Hoofdstukken 2 en 3 de conceptualisatie, de meting en de correlaten van uitstelgedrag op de werkplek in kaart brachten, leverden ze geen volledig overzicht op van de werkomgeving waarin uitstelgedrag waarschijnlijk is. Met name de werkfactoren die bijdragen aan een goede fit tussen medewerkers en hun werkomgeving, zijn nog weinig onderzocht in relatie tot uitstelgedrag. In hoofdstuk 4 is de relatie tussen authenticiteit op het werk en job crafting (als indicatoren van een goede fit tussen medewerkers en hun werkomgeving) enerzijds en bevlogenheid, uitstelgedrag en prestatie (als indicatoren voor het functioneren van werknemers) anderzijds onderzocht onder 380 Nederlandse werknemers. De resultaten lieten zien dat zowel job crafting als authenticiteit op het werk positief gerelateerd waren aan bevlogenheid. Bovendien was werkbevlogenheid gerelateerd aan betere prestaties en minder uitstelgedrag. Tot slot medieerde bevlogenheid de relatie tussen job crafting en authenticiteit enerzijds en prestatie anderzijds. Deze resultaten suggereren dat het hebben (of creëren) van een werkomgeving die in lijn is met iemands waarden, overtuigingen en voorkeuren, kan helpen om uitstelgedrag te verminderen door de werkbevlogenheid te vergroten. Samengevat rapporteren werknemers die goed passen bij hun werk, hetzij door hun ware zelf te ervaren, hetzij door proactief de werkomstandigheden aan te passen voor een betere afstemming, betere prestaties (Bakker, Tims, & Derks, 2012; Harju & Hakkanen, 2016).

Vandaar dat hypothese 3 in Hoofdstuk 1, waarin wordt gesteld dat een goede fit tussen een persoon en zijn/haar werk (die wordt geïndiceerd door job crafting en authenticiteit) indirect gerelateerd is aan betere prestaties en minder uitstelgedrag via bevolegenheid, werd ondersteund.

Correlaten van authenticiteit op het werk

Na het vinden van ondersteuning voor het idee dat een hoog niveau van authenticiteit op het werk verband houdt met hogere prestatieniveaus en lagere niveaus van uitstelgedrag, hebben we ten slotte de mogelijke antecedenten en gevolgen van authenticiteit op het werk verder onderzocht door voort te bouwen op het JD-R-model (Demerouti & Bakker, 2007).

In hoofdstuk 5 werden de relaties tussen energiebronnen (zoals autonomie, leer- en ontwikkelingsmogelijkheden, ondersteuning door leidinggevenden en ondersteuning van collega's), taakeisen (zoals emotionele eisen, mentale eisen en werkdruk) en authenticiteit op het werk onderzocht. Daarnaast werden de relaties tussen authenticiteit en verschillende positieve werkuitkomsten zoals werktevredenheid, werkbevolegenheid en prestaties onderzocht. Er zijn gegevens verzameld van 680 Nederlandse kantoormedewerkers. De resultaten toonden aan dat alleen energiebronnen significant en positief gerelateerd waren aan authenticiteit op het werk. Bovendien medieerde authenticiteit op het werk de relatie tussen energiebronnen aan de ene kant en positieve werkuitkomsten (zoals bevolegenheid, arbeidstevredenheid en subjectieve werkprestaties) aan de andere kant. Er bestond echter geen significant verband tussen taakeisen en authenticiteit. Het zou kunnen dat de beschikbaarheid van energiebronnen functioneel is voor een meer authentieke staat door een gevoel van intrinsieke motivatie mogelijk te maken, vergelijkbaar met hoe deze de bevolegenheid bij het werk beïnvloeden (Ryan & Deci, 2000). In een werkomgeving waar

energiebronnen overvloedig beschikbaar zijn, zullen werknemers waarschijnlijk in hun basisbehoeften worden voorzien en dit kan het ervaren van een positieve staat, zoals bevlogenheid en authenticiteit, vergemakkelijken (Schaufeli & Taris, 2014).

Voor taakeisen kan de relatie met authenticiteit complexer zijn. Hoewel buitensporig hoge taakeisen over het algemeen als stressvol worden ervaren en tot burn-out kunnen leiden, kan een minder extreem niveau van hoge taakeisen voor stimulatie en uitdaging zorgen (Schaufeli & Taris, 2014). Daarom kunnen taakeisen tot op zekere hoogte een gevoel van uitdaging en stimulering bevorderen (Schaufeli, 2017). Uitdagende taakeisen in combinatie met energiebronnen kunnen de toewijding aan de taken bevorderen (Bakker & Demerouti, 2007), terwijl belemmerende taakeisen het welzijn van werknemers kunnen bedreigen.

Kortom, het bestuderen van het type taakeisen (uitdagend versus belemmerend) en de beschikbaarheid van energiebronnen kan een bruikbare benadering zijn om de relatie tussen taakeisen en authenticiteit beter te begrijpen. Dit hoofdstuk geeft daarmee informatie over onze vierde en laatste hypothese die in hoofdstuk 1 werd vermeld, te weten: Hoge niveaus van energiebronnen en lage niveaus van taakeisen zijn gerelateerd aan werktevredenheid, bevlogenheid en werkprestaties; en authenticiteit op het werk medieert deze samenhang. Deze relatie wordt gedeeltelijk bevestigd omdat we alleen een significante relatie vonden tussen energiebronnen, authenticiteit en werksuitkomsten.

Conclusie

Het is verleidelijk om te denken dat uitstellers lui zijn, bang zijn om te falen of dat ze hun werk niet leuk vinden. Deze en vele andere gedachten over de aard van uitstelgedrag zijn onvolledig in het beschrijven van het cognitieve

mechanisme van dit concept. Uitstelgedrag komt vaak voor en vooral in de werkcontext leidt dit naar schatting tot grote financiële kosten. Hoewel er al sinds het begin van de 20e eeuw pogingen zijn gedaan om het mechanisme van uitstelgedrag te begrijpen (bijvoorbeeld Taylor, 1911), zijn er nog steeds veel vragen onbeantwoord. Dit was de hoofdgedachte achter dit proefschrift. In een reeks empirische studies wilden we het begrip van uitstelgedrag op het werk verbeteren door een overkoepelende conceptualisatie voor te stellen en een context-specifieke maat te ontwikkelen om uitstelgedrag te meten.

Net als voor uitstelgedrag, leverde dit proefschrift veelbelovende inzichten op over het begrip authenticiteit op het werk. Door voort te bouwen op het eerdere werk van Van den Bosch en Taris (2014) was ons doel om te onderzoeken of authenticiteit kan worden beschouwd als een relevante en nuttige toestand om uitstelgedrag te verminderen en positieve werkresultaten te verbeteren. Vanuit dit perspectief is dit proefschrift een van de eerste die de positieve relatie tussen authenticiteit en verbeterd functioneren van medewerkers bevestigt.

Onze bevindingen tonen aan dat uitstelgedrag kan worden gezien als een gevolg van een weinig stimulerende werkomgeving. Door de energiebronnen in het werk te verbeteren en een werkomgeving te creëren waarin werknemers meer in overeenstemming kunnen zijn met hun ware zelf, kunnen uitstelgedrag en de bijbehorende kosten worden verminderd. We hopen dat dit proefschrift bijdraagt aan de literatuur door een nieuwe kijk op uitstelgedrag op het werk te bieden door de bestaande kennis over het meten, de voorspellers van en de mogelijke gevolgen van uitstelgedrag te verbeteren.

Acknowledgments

Finishing this thesis took 3 US Presidents, several public uprisings, a #hashtag revolution, 4 Microsoft Office releases, 8 SPSS version releases, Toronto Raptors becoming the NBA champion, and a global pandemic. So before anyone else goes, let me roast myself first: how can you be an expert in procrastination if you didn't do it yourself?

This journey was certainly the hardest challenge I took on in my life. I have had many learnings along the way, both academical and practical. But I have also seen great benefits of these learnings, even in my current job where I aim to carry out research in the most meticulous and useful way I can. This is why I am so incredibly happy that I flew all the way from Istanbul 10 years ago and started a path that significantly shaped the person who I am right now. Clearly, there have been numerous people who made this journey so much easier for me and in this section, I want to thank them.

First and foremost, I would like to thank to my dearest supervisors, Toon and Maria for their excellent guidance. I still remember our very first meeting where I pitched my research ideas to you and we decided to work together. It was the happiest day of my academic life. Although those research ideas changed drastically, my joy to work with you never did. Guys, I am privileged to complete this study with you. You were always available for answering my questions, sharing your insights, and showing directions. I learned so much from you and I consider myself to be very lucky for writing this thesis under your supervision. I must emphasize that it always amazed me how clearly you can explain very complicated matters. This is something I still have to improve. Especially because “explain more clearly” has always been the most common feedback I received from you until my very last submission :) You challenged me to become the best version of myself and I will always be thankful for this.

En büyük teşekkür tabii ki güzel anneme, aslan babama, ve canımın içi Emel'e. Siz olmasaydınız bırak bu tezi bitirmeyi buralara gelemezdim. Sadece bu başarımda değil, burada yaşamaya başlayıp hayatımdaki en büyük hayalimi gerçekleştirmemdeki en büyük pay sizin.

Anneciğim, sana ne kadar teşekkür etsem az. Bu süreçte hep yanımdaydım, hep destek oldun, veri toplamaktan kapak tasarımına her şeye yardım ettin. Bugün bu başarımda her başarımda olduğu gibi çok büyük emeğin var. Sen olmasaydın kesinlikle başaramayacağım pek çok şey var ama bu ünvan da bunlardan biri. Seni çok seviyorum.

Canım babacığım ve Emel. Sabrınız, desteğiniz ve inancın için teşekkür ederim. Emelciğim, herkese bir doktor Metin'in arkasındaki başarılı kadın olmak nasip olmaz, sen iki doktor Metin'i destekledin. Ve babacığım, malesef ikimizin bu konudaki zamanlaması uyuşmadı ama umarım benimle gurur duyuyorsundur. Bugün burada değilsin ama tekrar birleştiğimizde bir bardak rakı tokuşturup bugünü gülerek kutlayacağız.

Aart, from the first day I started to this journey until this very day, there hasn't been a day that I didn't feel your support (double negative). Rookworst in De Uithof, beers in Kafé België, music at Pothuys, pizza at Westerkade, Baran Kebab at Rijnlaan ... You helped me so much with all the PhD related things and the whole "Introduction to Dutch Life" experience. You were my spiritual mentor and a great support. Now I am learning from you more about how to become a great dad, how to build a home and how to be a fantastic husband (I am sure here the main kudos goes to Maria). Thank you, my friend, buddy, motivational guidance.

İnan, kariyerimiz beraber ilerlerken sen tuttun benden 3 sene önce bitirdin abi. Geceler boyu NBA, futbol, eksperimental yemek denemelerimiz, gym buddy oluşumuz, ama hepsinden ötesi Alevilik kültürünü yeniden tarif edişimiz. İyi ki tanıdım seni ve iyi ki hep yanımda oldun. Seni gözüm arkada

kalmadan Gözde'ye emanet ettim. Şimdi bakıyorum da evler alıyoruz, işlerimizde başarılıyız, arabalarla Avrupa gezmeli tatiller düşünüyoruz... Biz olduk galiba, ama daha nicelerine dostum :)

Volkan, nam-ı diğer Supa. Rhein Nehri'nin öteki yanındaki gülen yüzüm. Defalarca ziyaret ettik birbirimizi, dertleştik uzun uzun, destek olduk birbirimize. Asla kolay değildi ikimizin seçimi de. Dürüst olmak gerekirse gül bahçesi bıraktık ülkemizde buradaki dikenli yollardan yürümek için. İkimizin de içinden geçtiği sıkıntıları en iyi birbirimiz biliriz. Ama sonuçta sen kendi yolunda ben de kendi yolumda istediğimiz yerlere ulaştık sayılır. Hem sana hem de yani başında her konuda desteğini eksik etmeyen Gökçen'e bir kocaman teşekkür.

Atilla, Arcan, Taylan, Didem, Sezer, Gulsah, Onur, Busra, ve tabi ki Eser. Hepiniz bu yolculuğun ilk durağından son durağına kadar yeri geldi destek oldunuz, yeri geldi veri toplamama yardımcı oldunuz, yeri geldi dalga geçtiniz :) Birlikte büyüdük, birlikte hayatımızı şekillendirdik. Hepinizin bu başarımda emin olun ki desteği oldu. Hepinize teşekkürler.

Another big shoutout comes to all my Utrecht mates. Emma, Ahmed, Andre, Paul, Ines, Luis, Rebeca, Evelien, Steph, and Hande. You've been by my side from Rijnlaan to Celebesstraat and supported me throughout this journey. And of course, Hasan, Jurjen, Nienke. You have always been and always will be in a special place in my life. Chiel and Ozlem, thanks for your support and being there for every important moment of my life. Throughout this journey some of you bought houses, some of you had babies, some of you travelled the world and some of you moved cities or countries. Feels like we all grew together.

Not sure whether to thank them or not but they deserve an acknowledgment. The Czech-gang! Ivo, Monicka, Bobul, Mika, Jarda, Misha and the rest! From Utrecht to Prague, from Celleno to Balaton! What a journey has it been with you guys. Stories for generations! Thanks for all the kebab,

Pothuys, boat sinkings, canal visitings, house movings, ice-hockey shoutings!
KDO NESKÁČE, NENÍ ČECH!

Dear Inga. I am so happy to know you and feel your support throughout this journey. Picnics, dinners, house parties, borrels... You have always been there for any invitation and have been super fun to hang out with. Keep your happy and free spirit alive. To many more amazing days. Danke!

I would like to thank all SHOP colleagues I worked together with for their kindness and support throughout the whole process. As you know it's been some time since I started my PhD so this will be a long list. Sit back and enjoy. Ilona, Melissa, Samantha, Lianne, Tessa, Onur, Anneloes, Chris, Peikai, and many other SHOPpers. Thanks for your inspiration, friendliness, and support. Also, a big shoutout comes to the friends whom I shared the room with. Dear Tomas, Jasper, Catharina, Qiao, Katha, Mike, Sosja, Tina, Tracy, Laurens, and Jan-Fekke. It's been a pleasure to share the room with you all. Thank you all for the sweet talks, lunches together, even dinners on certain occasions.

All the knowledge I gained from Utrecht University I could practice in the best employer of the Netherlands, Effactory. Zorg, Commerce, Concept, Team Analytics, People Analytics and now Product. Effactory evolved, so did I. I must say I learned a lot regarding how to perform my skills and transfer the academic knowledge into field. Merel, Pien, Linnea, Lieke, Manuela, Hubert, Anne-Maartje, Wouter, Eddy, Ronald, Adriaan, and Don. Thanks for giving me this opportunity.

Finally, dear Beaudine, how timely and nicely you entered in my life. We spend the most bizarre year ever together almost every day. Although you have witnessed the ending of this long PhD process, your support has been precious. Thank you for being by my side, being my motivating power, and my happiness provider. And with this sentence, I rest my nose.

Curriculum Vitae

Baran Metin (1984) was born and raised in Istanbul, Turkey. He completed his bachelor's degree at the Istanbul University Psychology Department. In 2007 he started his research master's in Industrial and Organizational Psychology program at the Middle East Technical University in Ankara. In 2011, he started his PhD study in the Utrecht University Social, Health, and Organizational Psychology Department under the supervision of Prof. Dr. Toon Taris and Prof. Dr. Maria Peeters. During his study years, he supervised bachelor and master's thesis projects, and presented research at international congresses. Next to that, Baran was an active member of European Federation of Psychology Students' Association working committee for more than ten years, where he worked in different roles such as board of management member, event organizer, and research group supervisor.

Baran is currently working at Effectory B.V. Amsterdam as a senior data scientist and people analytics researcher since 2016. In this company, he presents data-driven results to more than a hundred workplaces per year to improve their employees' well-being. Besides, he produces research output for marketing materials and organizes internal seminars and workshops for theoretical questions.

Journal Publications

Göncü Köse, A., & Metin, U. B. (2018). Linking leadership style and workplace procrastination: The role of organizational citizenship behavior and turnover intention. *Journal of Prevention & Intervention in the Community*, 46, 245-262.

- Göncü Köse, A., & Metin, U. B. (2019). How Which Leader Helps to Stay in the Organization? The Tool Role of Multi-Dimensional Work Motivation. *Turk Psikoloji Dergisi* 34, 46-67.
- Metin, U. B. (2018). Introduction: Towards a wider understanding of workplace procrastination. *Journal of Prevention & Intervention in the Community*, 46, 213-214.
- Metin, U. B., Peeters, M. C. W., & Taris, T. W. (2018). Correlates of procrastination and performance at work: The role of having “good fit”. *Journal of Prevention & Intervention in the Community*, 46, 228-244.
- Metin, U. B., Taris, T. W., & Peeters, M. C. W. (2016). Measuring procrastination at work and its associated workplace aspects. *Personality and Individual Differences*, 101, 254-263.
- Metin, U. B., Taris, T. W., Peeters, M. C. W., Korpinen, M., Smrke, U., Razum, J., Kolářová, M., Baykova, R., & Gaioshko, D. (2020). Validation of the Procrastination at Work Scale: A seven-language study. *European Journal of Psychological Assessment*, 36, 767-776.
- Metin, U. B., Taris, T. W., Peeters, M. C., van Beek, I., & Van den Bosch, R. (2016). Authenticity at work—a job-demands resources perspective. *Journal of Managerial Psychology*, 31, 483-499.
- Toepoel, V., Vermeeren, B., & Metin, B. (2019). Smileys, stars, hearts, buttons, tiles or grids: influence of response format on substantive response, questionnaire experience and response time. *Bulletin of Sociological Methodology/Bulletin de Méthodologie Sociologique*, 142, 57-74.

Guest Editor

- Metin, U. B (Eds., 2018). Procrastination in the Workplace. *Journal of prevention & intervention in the community*, 46 (3).

