The Fun and Frustration of Modern Working Life

THE FUN AND FRUSTRATION OF MODERN WORKING LIFE

CONTRIBUTIONS FROM AN OCCUPATIONAL HEALTH PSYCHOLOGY PERSPECTIVE

FESTSCHRIFT FOR PROF. DR. WILMAR SCHAUFELI

TOON TARIS, MARIA PEETERS & HANS DE WITTE (EDS.)

ASSISTANT EDITOR: MIRIAM HOVDEN

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Contributors

Arnold Bakker. Full professor of Work and Organizational Psychology, Erasmus University Rotterdam, Center of Excellence for Positive Organizational Psychology, Rotterdam, the Netherlands. Email: bakker@essb.eur.nl.

Cristian Balducci. Associate professor, Department of Psychology, University of Bologna, Bologna, Italy. Email: cristian.balducci3@unibo.it.

Roland Blonk. Full professor of Labor Expertise and Inclusive Innovation of Labor. Department of Human Resource Studies, Tilburg University, Tilburg, the Netherlands, and Principal Scientist at TNO, Leiden, the Netherlands.
Email: roland.blonk@tno.nl.

Kimberley Breevaart. Assistant professor, Erasmus University Rotterdam, Center of Excellence for Positive Organizational Psychology, Rotterdam, the Netherlands.
Email: breevaart@essb.eur.nl.

Veerle Brenninkmeijer. Assistant professor, Utrecht University, Department of Social, Health & Organisational Psychology, Utrecht, the Netherlands.
Email: v.brenninkmeijer@uu.nl.

Abraham (Bram) Buunk. Honorary academy professor Evolutionary Social Psychology, University of Groningen, Groningen, the Netherlands, and Associate Researcher, Netherlands Interdisciplinary Demographic Institute (NIDI), The Hague, the Netherlands. Email: a.p.buunk@rug.nl.

Kevin Daniels. Full professor in Organizational Behavior, Employment systems and Institutions group, Norwich Business School, University of East Anglia, United Kingdom. Email: kevin.daniels@uea.ac.uk.

Nele De Cuyper. Associate professor of Work Psychology, Research Group Work, Organizational and Personnel Psychology, KU Leuven, Leuven, Belgium.
Email: nele.decuyper@kuleuven.be.

Hans De Witte. Full professor of Work Psychology, Research Group Work, Organizational and Personnel Psychology, KU Leuven, Leuven, Belgium, and Optentia, North West University, South Africa. Email: hans.dewitte@kuleuven.be.

Evangelia (Eva) Demerouti. Full professor of Work & Organizational Psychology, Human Performance Management Group, Eindhoven University of Technology (TU/e), Eindhoven, the Netherlands. Email: e.demerouti@tue.nl.

Steffie Desart. Researcher in Work Psychology until September 2019, Research Group Work, Organizational and Personnel Psychology, KU Leuven, Leuven, Belgium. Email: steffie.desart@kuleuven.be.

Martin Euwema. Full professor of Organizational Psychology, Research Group Work, Organizational and Personnel Psychology, KU Leuven, Leuven, Belgium. Email: martin.euwema@kuleuven.be.

Sabine Geurts. Full professor of Work and Organizational Psychology, Department of Work and Organizational Psychology, Radboud University, Nijmegen, the Netherlands. Email: s.geurts@psych.ru.nl.

David Guest. Emeritus professor in Organisational Psychology and HRM, King's College, London, UK. Email: david.guest@kcl.ac.uk.

Jari Hakanen. Research professor at the Finnish Institute of Occupational Health, Helsinki, Finland. Email: jari.hakanen@ttl.fi.

Lotta Harju. Assistant professor at Lyon Business School, Lyon, France. Email: harju@em-lyon.com.

Miriam Hovden. MA-student Work & Organizational Psychology at Utrecht University, Utrecht, the Netherlands. Email: miriamhovden@outlook.com.

Michiel Kompier. Full professor of Work and Organizational Psychology, Department of Work & Organizational Psychology, Radboud University, Nijmegen the Netherlands. Email: m.kompier@psych.ru.nl.

Suzanne Lagerveld. Consultant Research on Social Security and Labor Market, Instituut Gak, Hilversum, the Netherlands. Email: lagerveld@instituutgak.nl.

Pascale Le Blanc. Associate professor at the Human Performance Management Group of Eindhoven University of Technology (TU/e), Eindhoven, the Netherlands. Email: p.m.leblanc@tue.nl.

Michael Leiter. Full professor of Industrial and Organisational Psychology, Deakin University, Melbourne, Australia. Email: michael.leiter@deakin.edu.au.

Susana Llorens. Associate professor of Work Psychology at Jaume I University, Castellón, Spain. Email: llorgum@uji.es.

Isabel Martinez. Associate professor of Work Psychology at Jaume I University, Castellón, Spain. Email: isabel.martinez@uji.es.

Christina Maslach. Emeritus professor of Psychology, University of California, Berkeley, USA. Email: maslach@berkeley.edu.

Isabella Meneghel. Postdoctoral researcher in Work and Organizational Psychology and Human Resources, Jaume I University, Castellón, Spain. Email: meneghel@uji.es.

Henny Mulders. Advisor inclusive work organizations, at UWV Amsterdam and Centre for Inclusive Organizations, Maastricht University.
Email: henny.mulders@inclusievearbeidsorganisatie.org.

Maria Peeters. Full professor at the Human Performance Management Group of Eindhoven University of Technology, Eindhoven, the Netherlands, and associate professor of Work & Organizational Psychology, Department of Social, Health & Organizational Psychology, Utrecht University, Utrecht, the Netherlands.
Email: m.peeters@uu.nl.

Paraskevas (Paris) Petrou. Assistant professor of Work & Organizational Psychology, Department of Psychology, Erasmus University Rotterdam, Rotterdam, the Netherlands. Email: petrou@essb.eur.nl.

Marisa Salanova. Full professor of Work and Organizational Psychology, Jaume I University, Castellón, Spain. Email: salanova@uji.es.

Elco Schaufeli. Organizational consultant and partner of Triple i Human Capital. Email: elco.schaufeli@3ihc.nl.

Eva Selenko. Senior Lecturer at the HRM/OB group of Loughborough University, School of Business and Economics. Email: e.selenko@lboro.ac.uk.

Norbert Semmer. Professor Emeritus for the Psychology of Work and Organizations, University of Bern, Bern, Switzerland. Email: norbert.semmer@psy.unibe.ch.

Akihito Shimazu. Full professor, Faculty of Policy Management, Keio University, Endo, Fujisawa-shi, Kanagawa, Japan. Email: ashimazu-tky@umin.ac.jp.

Sabine Sonnentag. Full professor of Work & Organizational Psychology, Department of Psychology, School of Social Sciences, University of Mannheim, Mannheim, Germany. Email: sonnentag@uni-mannheim.de.

Toon Taris. Full professor of Work & Organizational Psychology, Department of Social, Health and Organizational Psychology, Utrecht University, Utrecht, the Netherlands. Email: t.taris@uu.nl.

Ilona van Beek. Behavioral scientist, Police Academy, Apeldoorn, the Netherlands. Email: ilona.van.beek@politieacademie.nl.

Anja Van den Broeck. Associate professor, Research Center of Work and Organization Studies, KU Leuven, Belgium, and Optentia, North West University, South Africa. Email: anja.vandenbroeck@kuleuven.be.

Machteld (Maggie) van den Heuvel. Assistant professor of Work & Organizational Psychology at the University of Amsterdam, Amsterdam, the Netherlands, and trainer/coach at Art of Work, Utrecht, the Netherlands.
Email: m.vandenheuvel2@uva.nl.

Jac van der Klink. Full professor of Mental Health at Work and Sustainable Employability, Tilburg School of Social and Behavioral Sciences, Tilburg University, Tilburg, the Netherlands. Email: j.j.l.vdrklink@tilburguniversity.edu.

Dirk van Dierendonck. Full professor of Human Resource Management, Department of Organisation and Personnel Management, Rotterdam School of Management, Erasmus University Rotterdam, Rotterdam, the Netherlands.
Email: dvandierendonck@rsm.nl.

Madelon van Hooff. Assistant professor, Department of Work and Organizational Psychology, Radboud University, Nijmegen, the Netherlands.
Email: m.vanhooff@psych.ru.nl.

Willem van Rhenen. Full professor of Engagement & Productivity, Nyenrode Business University, Breukelen, the Netherlands. Email: w.vrhenen@nyenrode.nl.

Peter Warr. Emeritus professor of Psychology, Institute of Work Psychology, Sheffield University Management School, Sheffield UK. Email: p.warr@sheffield.ac.uk.

Despoina Xanthopoulou. Assistant professor of Social and Organizational Psychology, Department of Social and Clinical Psychology, Aristotle University, Thessaloniki, Greece. Email: dxanthopoulou@psy.auth.gr.

Dieter Zapf. Full professor of Work & Organizational Psychology, Department of Work & Organizational Psychology, Goethe Universität, Frankfurt am Main, Germany. Email: d.zapf@psych.uni-frankfurt.de.

Fred Zijlstra. Full professor of Work & Organizational Psychology, Section of Work & Organizational Psychology, Maastricht University and Scientific Director of the Centre for Inclusive Organizations, Maastricht University.
Email: fred.zijlstra@maastrichtuniversity.nl.

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Introduction

Maria Peeters, Hans De Witte, & Toon Taris

Coming up with an appropriate title for a volume like this is not easy. Ultimately we opted for *"The fun and frustration of modern working life: Contributions from an occupational health psychology perspective"*. Perhaps this is not the most hilarious title one could think of. However, it contains four important issues that we want to highlight with this volume.

Let's start positive: Work is fun! Or should we say: Work *can be* fun? Or perhaps: Work *should be* fun? No matter what verb in what tense we put between the words "work" and "fun", the point is that there is a connection between work and fun. For example, in the eighties of the previous century Marie Jahoda (1982) already pointed at some important functions of work. Specifically, she argued that work does not only provide us with an income needed to satisfy our basic material and social needs. Rather, it also provides structure, allows us to develop social contacts outside the family, offers prestige, status, and the opportunity for meaningful activity, leading to personal development and the experience to make a social contribution. This allows us to contribute to society, meaning that work is a key factor for social integration and participation. Being close to the twenties of the current century, we are gradually using different terms reflecting the subtly shifting expectations we nowadays have of the functions of work. We now strive for happiness at work. Work should be fun. New occupations arise. Many of today's organizations even have *Chief Happiness Officers* (CHOs), who watch over the happiness of their employees. Since 2013, we have been celebrating International Happiness Day on 20 March. Originally, this day was set up by the United Nations to underline the equivalence of social, economic and environmental well-being. Nowadays many companies celebrate this day to "scrum" their workers into being happy.

But does the quest for worker happiness also have a downside? How frustrating is it when one does not reach the state of happiness at work? And who is responsible if happiness stays behind? Sonja Lyubomirsky (2010) states that happiness is already for 50% determined at birth, 10% is determined by circumstances and 40% by

deliberate actions. This leaves enough space for blaming (wrongfully) those who feel frustrated at work. The *frustration of modern work* is therefore the second issue that we address in this volume. Given the number of hours a worker typically spends each week on the job, it is troubling to learn just how many of us are frustrated or unhappy at their work. It might be that jobs are unfulfilling or too demanding (both physically, mentally and cognitively), that we have co-workers, leaders or clients with whom we have difficulty getting along with, or that demanding organizational structures or annoying red tape practices strip us of our time and suffocate our passion and creativity. As a possible consequence, burnout is on the rise. Are we currently experiencing a burnout epidemic? And if so, to what extent is the individual employee to blame? Schaufeli (2018) demonstrated in this respect that it also matters in which European country one lives when it comes to burnout. The level of burnout is higher (a) in countries where work is considered more important and more highly valued; (b) in poorly-governed countries with a weak democracy, corruption, high gender inequality, and little integrity; (c) in less individualistic, hierarchical countries where people feel uncomfortable with uncertainty. These insights ask for a sound and contemporary analysis of the fun and frustrations of modern working life from an interdisciplinary and international perspective. Consequently, we have invited a number of highly esteemed international experts in the area of occupational health psychology (OHP) to shed light on the theme of this volume.

The third feature of the current volume is therefore that it is about Occupational Health Psychology. OHP concerns the application of psychology to improve the quality of work life and to protect and promote the safety, health and well-being of workers (cf. NIOSH, 2019). It has a rich and long history and has matured into an interdisciplinary field of research and practice with a solid scientific infrastructure that integrates and extends insights from other disciplines such as work and organisational psychology, occupational medicine, epidemiology, ergonomics, safety science, labour market sociology and clinical psychology. It is the perfect discipline to analyse the fun and frustration of modern working life.

The final distinctive feature of the present volume is that it is a Festschrift for Professor dr. Wilmar Schaufeli, one of the most eminent scholars active in occupational health psychology since the 1990s. In academia, a *Festschrift* (borrowed from German and literally meaning "celebration writing") is a book honouring a respected person, especially an academic, and presented during his/her lifetime. It usually is an edited volume containing contributions from the honouree's colleagues, his or her former pupils, and friends. And this is exactly what this volume is. The authors of the chapters are all highly esteemed international experts who have played a significant role in Professor Schaufeli's professional career – and vice versa. The volume provides the readers with the latest psychological insights in the fun and frustration of modern working life. As such, it presents a timely, broad and accessible overview

of the main findings and insights in the area of occupational health psychology. In conjunction this volume is a tribute to the intellectual heritage of Wilmar Schaufeli.

Content of this Volume

To set the scene for a book like this, one needs an introduction of the field of occupational health psychology and its evolution. Toon Taris, Maria Peeters, Hans De Witte and Miriam Hovden sketch the history of occupational health psychology from past to present in chapter 2, in which they highlight the ideas, theories and findings that helped shape this scientific discipline. They complement their overview with an analysis of the 23 most cited papers in two major occupational health psychology journals. This gives us an idea of the research foci and topics covered (and *not* covered) during the last decades.

The core of this Festschrift consists of three larger sections. Occupational health psychology has often focused on the possible *antecedents* of workers well-being, mostly framed in terms of job characteristics. An overview of recent findings and contemporary theories on job characteristics is offered in the first section: *The music box: Perspectives on the effects of working and unemployment*. Next, job characteristics are expected to have important *consequences* for the well-being of workers. They often determine the amount of fun and frustration workers can experience at work. These consequences are discussed in the second section: *Bewitched, bothered, and bewildered: The many faces of well-being at work*. As occupational health psychology does not only aim to scientifically describe and analyse, but also to *influence* practice, the logical third section focuses on *interventions* to increase health and well-being, and to decrease stress: *Damsels in distress, meet dirty Harry: Addressing stress, improving well-being*.

The music box: Perspectives on the effects of working and unemployment

Our *music box* contains six chapters. Chapter 3 by Hans De Witte, Eva Selenko and Nele De Cuyper takes a step back, and discusses unemployment – thus the consequences of "*not*-working". The authors contrast the findings on risk groups, consequences and moderators of the experience of unemployment with those of job insecurity, and suggest that both phenomena have much in common. The authors even conclude that both appear to be "identical twins". The following five chapters offer a comprehensive overview of recent findings and theories regarding the characteristics of jobs that prove relevant for workers' well-being, productivity and motivation. Kevin Daniels and Pascale Le Blanc revisit part of the history of occupational health psychology in chapter 4, by sketching continuity and change

in job design research. They focus on findings related to the content of job design as well as the processes involved. They conclude that the core principles of psychological approaches to job design have stayed more or less constant, with a focus on psychological states – especially motivation and well-being – as the goal of well-designed jobs. Peter Warr's "Vitamin Model" is discussed in chapter 5. Warr presents an updated overview of the three main components of his model, with a specific emphasis on the role of personal resources (i.c. longer-term personal characteristics and situation-specific processes of emotional regulation). Rather than discussing a general model, chapter 6 by Norbert Semmer and Dieter Zapf focuses on the meaning of the core concepts of job stress theories: can demands be equated with stressors? They integrate notions of person-environment fit theory, and emphasize the importance of culturally-shaped appraisals of both job demands and job resources, arguing that these job characteristics have to a much larger degree a social meaning than is usually acknowledged. Work-related demands and resources are the main building blocks of the Job Demands-Resources model, discussed in chapter 7 by Eva Demerouti, Arnold Bakker and Despoina Xanthopoulou. After presenting the main features of the JD-R model, the authors continue by highlighting the individual behavioural and cognitive strategies that workers can use to deal with the (favourable or unfavourable) effects of job characteristics. The final chapter in this section (chapter 8) enlarges the scope by focusing on leadership. In this chapter, Dirk van Dierendonck and Martin Euwema discuss the concept of engaging leadership introduced by Wilmar Schaufeli, and link this new view on leadership with the JD-R model, the underlying principles of basic psychological need satisfaction, and compare the concept with that of servant leadership.

Bewitched, bothered, and bewildered: The many faces of well-being at work

Occupational health psychology is not limited to the analysis of job characteristics, but also developed a strong interest in the *consequences* thereof for health and well-being. These aspects lie at the core of the 7 chapters in this section, and relate to ways in which one can operationalize *fun* versus *frustration*. Since burnout occupies an important place in this scientific field, no less than three chapters are devoted to this topic. Michael Leiter and Christina Maslach, two of the founders of the burnout concept, discuss the origins and history of burnout research in chapter 9. They additionally address its measurement via the Maslach Burnout Inventory, and its relationship with work engagement. Abraham Buunk complements their views in chapter 10 by highlighting the importance of social psychological processes like social comparison and social exchange, and expectations of equity and reciprocity as factors leading to burnout. Steffie Desart and Hans De Witte finally report on a recent reconceptualization of the burnout concept in chapter 11, a study that was

conducted in collaboration with Wilmar Schaufeli. In their study, the authors redefine burnout and compare their concept with other conceptualizations.

Burnout is not the only relevant type of well-being to discuss, and has often been contrasted with other aspects, such as work engagement, boredom and workaholism. Thus it is relevant to also cover these well-being operationalisations in this volume. Arnold Bakker and Jari Hakanen discuss the measurement, antecedents and consequences of work engagement in chapter 12. They additionally extend their focus by investigating the effects of age in presenting a model of "engaging aging", and discuss some relevant age-focused HR practices to energize employees. Workaholism comes next in chapter 13 by Akihito Shimazu, Cristian Balducci and Toon Taris, in which the authors discuss the conceptualization, antecedents, consequences and prevention of workaholism. In chapter 14, Anja Van den Broeck and Ilona van Beek highlight the importance of controlled versus autonomous motivation in the work domain. They demonstrate that motivation helps to explain the differences between burnout and work engagement. Chapter 15 by Lotta Harju and Jari Hakanen completes this section of the volume by presenting a typology of four types of boredom at work and their association with contextual factors.

Damsels in distress, meet dirty Harry: Addressing stress, improving well-being

Occupational health psychology also aims to advance *practice*. The third section of this volume therefore explores ways in which health and well-being at work can be improved. This section contains no less than eight chapters, roughly divided into two groups. A first set of chapters focuses on interventions to reduce stress and increase health and well-being (chapters 16 to 20). Some interventions are centered around the way proactive individuals can take the initiative to change their working conditions ("*Dirty Harry*"), whereas others emphasize the role of the organisation in developing better-quality workplaces (treating their employees as "*Damsels in distress*"). Many chapters combine both perspectives. In chapter 16, Machteld van den Heuvel, Paris Petrou, Eva Demerouti and Maria Peeters focus on job crafting as a way for individual employees to improve their work situation and optimize work outcomes. They offer a recent overview of findings and additionally discuss job crafting interventions and new perspectives, like leisure crafting. Chapter 17 by Marisa Salanova, Susana Llorens, Isabel Martínez and Isabella Meneghel, introduces the Healthy and Resilient Organisation (HERO) model, in which the positive side of occupational health psychology is emphasized. They present a state-of-the-art report of positive organizational interventions, and additionally discuss results of evaluations based on their model. The contrasting concepts of burnout and work engagement are discussed in two chapters. In chapter 18, Veerle Brenninkmeijer, Suzanne Lagerveld,

Michiel Kompier and Roland Blonk present a review of insights of how organisations can address burnout. They focus on the effectiveness of these interventions, and analyse whether organisations make sufficient use of the available knowledge in the field. Chapter 19, by Kimberley Breevaart, Arnold Bakker and Willem van Rhenen, specifically focuses on the promotion of work engagement. They review both top-down (e.g., HRM) as well as bottom-up strategies (e.g., job crafting), and combinations of both. Recovery from work is a process that is commonly analysed in the context of burnout prevention. However, in chapter 20, Sabine Sonnentag, Sabine Geurts and Madelon van Hooff change this focus by analysing the role of recovery from work as a facilitator and consequence of work engagement.

In a second set of chapters of this section some broader discussions are developed related to occupational health psychology. In chapter 21, David Guest compares the perspectives of occupational health psychology and human resources management, and argues that both have much in common. He concludes that both fields could actually be integrated. In chapter 22 Fred Zijlstra and Henny Mulders hold a plea for inclusive organisations. They state that W&O psychologists have largely ignored that for many workers, the main issue is being able to get work and/or keep work in a suitable job: job demands have become so high that they exceed many a worker's capacity. Job redesign by the organization may be a solution here. In the last chapter (chapter 23), Jac van der Klink and Elco Schaufeli discuss two shifts of perspectives in occupational health psychology: from "negative" to "positive" psychology, and from "generating new insights" to "practical application of knowledge". In doing so, they emphasize the importance of becoming a scientist-practitioner, and illustrate their view on the basis of insights from the JD-R model and the Capability Model for Work.

The volume ends with a reflection on "The shape of things to come" by Toon Taris, Hans De Witte, Maria Peeters and Miriam Hovden (chapter 24). Rather than to summarize the various findings from the previous chapters, the authors develop some ideas about future developments in occupational health psychology. Building on the technological and economic evolution in our society, they develop four scenarios for the future. They additionally present the results of a small-scale survey among the authors of this volume to explore the relevance and likelihood of these visions for the future.

In the appendix of this volume, we end where it all started: with Prof. dr. Wilmar Schaufeli. After a short overview of his rich and fruitful career, many of the contributors of this volume wrote a *personal memory* in which they document how they personally and professionally relate to Wilmar, and what they have learned from him. This is a testimony that also occupational health psychology is a very personal and relational field, and witnesses that science is a social and human activity: humans

make science, and Wilmar Schaufeli has without doubt inspired his fellow scholars to develop and extend their scientific thoughts.

In hindsight the title of this volume was perhaps not so bad at all because it also applies to the professional career of Wilmar Schaufeli with whom it was *fun* to work with. It will be *frustrating* for the field of occupational health psychology to have to miss such an engaged and widely respected expert.

The editors
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2

Occupational Health Psychology: From Past to Present

Toon Taris, Maria Peeters, Hans De Witte, & Miriam Hovden

Working has been at the core of human existence since the emergence of mankind (De Witte, 2018). Work will initially have involved activities that were directly related to survival, such as hunting, gathering and farming. *Fast forward:* many centuries later these activities were complemented with jobs as irrelevant to immediate subsistence as greeting visitors to stores selling cheap Swedish furniture ("greeters") or putting vlogs on YouTube ("influencers"). Anthropologist David Graeber (2018) even felt that about three-quarters of the work that is currently done in Western society is meaningless – nothing more than "bullshit jobs" that do not add real value to society.

Whether Graeber's analysis holds water or not, work – even if it concerns a bullshit job – can formally be defined as a set of coordinated and goal-directed activities that require mental and/or physical effort and that are primarily conducted in order to sustain a living (cf. Peeters, Taris & De Jonge, 2014). While working may be indispensable for survival, it is not necessarily fun. Therefore, efforts to understand the nature of work, to make it easier, more efficient and more productive, have emerged early in history. These efforts often concerned technological, societal and organisational innovations: think of the invention of the wheel, the use of wind and hydropower, and the division of labour (Taris, 2018). However, systematic thinking about what might be called the "human" aspects of work – addressing issues like worker safety behaviour, motivation, health and well-being – emerged relatively late. Although the scientific study of work, worker health and well-being can be traced back to the 1500-1600s when Georg Bauer (better known as Agricola) and Bernardino Ramazzini published their seminal works on the typical diseases encountered by workers in various occupations, little attention was paid to what we would now call the *psychology* of working.

This changed during and after the industrial revolution of the 1750-1850s. Production processes were to an increasing degree mechanised and industrialised,

changing from artisanal piece-by-piece manufacturing to mass production using modern technology such as machine tools and steam power. Large factories were built in which hundreds, sometimes thousands of workers found employment. However, working conditions were harsh; working days were long and pay was low. Tasks were characterised by a high degree of division of labour and were mostly simple and repetitive, requiring few skills. The main advantage of doing so was a steep increase in productivity, wealth and income (Crafts, 1985), but even economist Adam Smith – that great advocate of the division of labour – asserted in his *Wealth of Nations* (1776) that

> *The man whose whole life is spent in performing a few simple operations, of which the effects are perhaps always the same… has no occasion to exert his understanding or to exercise his invention in finding out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgement concerning many even of the ordinary duties of private life.* (p. 782)

In this respect he sided with Karl Marx and Friedrich Engels, who argued in their 1848 *Communist Manifesto* that

> *Owing to the extensive use of machinery, and to the division of labour, the work of the proletarians* [i.e. workers] *has lost all individual character, and, consequently, all charm for the workman… It is only the most simple, most monotonous, and most easily acquired knack, that is required of him.* (p. 18)

No wonder that at the time many workers were susceptible to communist rhetoric, and that one important question for factory owners in this era was how workers could be motivated to work diligently and productively (Taris, 2018). But these quotes also point to other consequences of this way of working: boredom, loss of skills, loss of creativity and initiative, and even loss of mental health. Indeed, where Smith talks about the "torpor" of a worker's mind and the associated incapability of "conceiving any generous, noble or tender sentiment", nowadays we might use terms like "clinical depression" and "burnout".

At this point in history – the middle of the 1800s – to an increasing degree thought was given to the best way of designing work and workplaces, and their effects on workers. Until then this had mainly been a matter of technological and economic advances, but towards the end of the 19th century psychological considerations became important as well. Much later, this would lead to the discipline that

is currently known as work and organisational psychology, of which occupational health psychology – the discipline that studies the psychological processes linking work, worker health, behaviour and well-being – has become a major part. In this chapter we discuss the history of occupational health psychology (OHP) as an interdisciplinary area of research and practice that integrates and extends insights from other disciplines such as work and organisational psychology, occupational medicine, epidemiology, ergonomics, safety science, labour market sociology and clinical psychology. The remainder of this chapter consists of two parts. We first address the historical context in which OHP emerged, starting in the beginning of the 20th century. We then discuss the most important and influential ideas and findings generated in OHP since its inception, by presenting the most-cited papers that have been published in two leading international journals in OHP: *Work & Stress* (established in 1987) and the *Journal of Occupational Health Psychology* (as of 1996).

The Development of OHP, 1900-to date

The early 1900s were the heydays of classical scientific management, with Frederick Winslow Taylor as its main proponent and several devoted disciples (including Henry Gantt, Carl Barth and initially also Frank and Lillian Gilbreth) spreading the gospel. Taylor based his approach on two basic assumptions, namely that many workers were basically both lazy and stupid. Under scientific management, the laziness issue was addressed by devising complicated pay-for-performance systems, with workers being paid more with increasing productivity. This provided workers with a strong incentive to work hard, leading to higher productivity and higher overall pay – but only for the highly productive "first-rate workers": others ended up earning less than before, and were advised to seek a job elsewhere (Kanigel, 2005).

The stupidity issue was addressed by having experts (such as Taylor himself) analyse the tasks to be conducted carefully and "scientifically" (e.g., using stopwatches). These tasks were typically subdivided in many smaller and simpler tasks for which the "one best way" of doing them was established. For these tasks workers were hired that were capable of doing the job well: e.g., workers hired to handle pig iron should be physically strong as well as mentally sluggish; intelligent men would be unable to stand the "grinding monotony of work of this character" (Taylor, 1911, p. 28). These workers were subsequently trained for their simple and repetitive tasks until they were able to conduct their tasks faultlessly, even when conducted at a high speed. Finally, there should be a division of responsibility between the workman and the management. Under scientific management, a strict separation was made between the planning of tasks and their execution. Taylor insisted that the management was responsible for the planning of tasks and that workers (being stupid and mentally

sluggish) should concentrate on the execution of these. Moreover, both parties should realise that this was the best way to optimise the production process – higher production would lead to higher earnings for the workmen and higher profits for the factory owner, i.e. their true interests were the same and they should cooperate, rather than to assume that their interests were different as assumed by communism (Hoopes, 2003).

Although the success of scientific management has been questioned (e.g., see Kanigel, 2005), it cannot be denied that this approach to management became hugely popular, both in the US and abroad. Taylor was an active consultant, his papers were read at meetings of important scientific societies, and his main work (*The Principles of Scientific Management,* 1911) was translated into Chinese, Dutch, German, French, Italian and Russian – even Vladimir Lenin thought for a while that Taylor's system – elements of which would clearly have been detested by Marx and Engels – could be conducive to the success of the Russian revolution (Scoville, 2002). After Taylor's untimely death in 1915, the so-called *Taylor society* (with 800 members in 1925, later rebranded as the currently still active *Society for the Advancement of Management*) continued to propagate his ideas.

The worker as a human

Yet, even within Taylor's own circle of friends and close colleagues, his ideas were sometimes criticised. Most importantly, Lillian Gilbreth – initially one of Taylor's faithful disciples, together with her husband Frank Gilbreth – called attention for the adverse consequences of scientific management for worker well-being. She published *The Psychology of Management* in 1914, being the first book to address the psychological aspects of scientific management. In this book she presented her own views on this approach, building on the "recognition of the individual, not only as an economic unit but as a personality" and stressing the need to include the human element in management, including the effects of scientific management on the physical, mental and moral "welfare" of workers, their motivation (called "will to do"), plus a number of improvements of the scientific management approach. Most importantly, she extended Taylor's time study method – in which worker's actions were timed using a chronograph – with *filming* a worker's motions and actions with a film camera, with the chronometer placed within the camera's field of vision. In this way a visual record of a task was obtained, showing how the work was done, which movements were essential (and which were superfluous), and how the execution of a task could be optimised. Gilbreth was convinced that the successful implementation of scientific management required hard work by both management and psychologists (or consultants), and that classical scientific management fell short when it came to managing the human element on the shop floor.

Taylor was largely uninterested in these innovations and believed that Lillian Gilbreth's focus on the needs, personality and welfare of workers was irrelevant; instead, he held on to his view that worker motivation was solely a matter of pay-for-performance. In 1914 Taylor and the Gilbreths broke, after which Lillian Gilbreth continued to market her version of scientific management as being more humane than Taylor's approach. She completed a PhD in 1915, after which she published a series of papers in which she argued that her variant of motion study aimed to accurately determine the fatigue resulting from a job, after which this fatigue could be reduced by (a) eliminating whatever motions were unnecessary, (b) designing convenient workplaces, benches, chairs and tools, and (c) providing opportunities for rest and recovery. In this way, motion studies increased efficiency while having tangible non-financial benefits for workers as well. Further, by performing a "fatigue survey" on first entering a company she could provide quick fixes for fatigue-inducing activities such as standing and stretching, and she held open meetings to discuss the reorganisation process, which increased the chances of acceptance of scientific management methods.

All this was certainly successful: next to being an active consultant, Lillian Gilbreth was advisor to the Hoover, Eisenhower and Truman administrations, was appointed professor of Management at Purdue University in 1935, and she received more than 20 honorary degrees. She is credited with the invention of the foot pedal trash can and the shelves on the inside of the doors of today's refrigerators, and is considered the founder of the fields of both ergonomics and management science. She passed away in 1972 at age 93. Ultimate recognition followed in February 1984, when the U.S. Postal Service issued a 40-cents commemorative stamp featuring Gilbreth – the first and to date only person holding a PhD in psychology to receive that honour (Benjamin, 2009).

Happy-productive workers, social relations and subjective perceptions

While Lillian Gilbreth may have been among the first to focus on worker well-being, she was not the only person systematically considering the way we work in relation to worker well-being. Well-known are the classic Hawthorne studies, conducted in the 1920-1930s in Western Electric's Hawthorne plant, that aimed to examine the effects of working conditions (e.g., lighting, wage incentives, rest breaks and working hours) on worker productivity. The results of these studies were profoundly flawed and impossible to interpret due to methodological fallacies (e.g., Kompier, 2006) – but not to Elton Mayo, the academic leader of these studies, who argued that these studies demonstrated that working conditions were relatively unimportant to worker functioning. Rather, he decided that these studies had shown that mental attitudes, proper supervision, informal social relationships experienced in a group

and worker involvement in the decisions taken at work were key to improvements in productivity and job satisfaction.

The Hawthorne experiments transformed the way we look at workers and the organisations they work for, constituting the beginning of what is now known as the *human relations movement*. Rather than providing insights into human functioning at work, the Hawthorne studies generated new ideas, questions and hypotheses on the relationships between work motivation, supervision, social relations and decision making at work in general, and on the association between job satisfaction on the one hand and performance on the other in particular (Sonnenveld, 1985). This reasoning is now known as the "happy-productive worker hypothesis", holding that satisfied, happy, or even engaged workers are more productive than others – one of the core assumptions (and to some even the *raison d'être*) of today's occupational health psychology (cf. Bowling, 2014; Taris & Schaufeli, 2015).

In Europe, the attention for social relations in the work context increased as well. During the Second World War, a number of psychiatrists of the London-based Tavistock clinic had been asked to join the Directorate of Army Psychiatry in order to shed light on pressing psychological issues experienced by the army, including the selection of officers for the British army, the helping of British army servicemen return to civilian life, and the establishment of morale and productive relationships in cadet training teams. The group was heavily influenced by the psychodynamic and psychoanalytic theories of Freud, Jung, Adler and their likes, at the time constituting a scientifically well-accepted body of findings and ideas. Rather than to remain in base hospitals, these psychiatrists would go out in the field to find out what commanding officers saw as their most pressing problems, they would listen to their troubled military clients "as an analyst would listen to a patient", hoping that their "real" problems would surface after trust had been established (Trist & Murray, 1993).

When the war had ended, the group believed that their insights would be valuable in the non-war context as well. The Tavistock clinic was incorporated in the National Health Service and upon receiving a large grant from the Rockefeller Foundation, what was termed "Operation Phoenix" took off (Trist & Murray, 1993). This involved the creation of the *Tavistock Institute of Human Relations* in 1947, a charity focusing on contract-based consultancy, action research, and interventions in organizations like Shell, Unilever, and most famously the National Coal Board. Projects on the interaction between workers and technology led to the development of the socio-technical approach, involving a method of work design that attempts to achieve both excellence in technical performance as well as quality in people's work lives – i.e., their health and well-being. The scope of their activities has widened considerably since the institute was created, and at present the institute is still alive and well.

A final important school of thought in the pre-1970s era drew on the work of Robert L. Kahn and colleagues (Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964) from

the Institute for Social Research of the University of Michigan. Their Michigan model assumes that objective characteristics of the work environment are interpreted subjectively by the workers (usually measured in terms of unclarity regarding what is expected from the worker – i.e. role ambiguity and role conflict). In turn, this could lead to stress and ill health. These associations are assumed to be moderated by personality (e.g., Type-A behaviour, cf. chapter 13) and social support. Although the model has been superseded by later models, its basic approach, its distinction between the objective work environment and the subjective perception of this environment, and its emphasis on stress and ill health, have proved to be a lasting inspiration for current models in occupational health psychology.

1976-2001: Modern work stress models, worker health and well-being

By the middle of the 1970s, researchers began to focus increasingly on characteristics of the work environment as possible antecedents of worker motivation, functioning, well-being and performance. 1976, specifically, proved to be a turning point for research on work characteristics, stress, health and performance, since in this year two major new models were published – models that can be considered the start of modern occupational health psychology. The first was Richard Hackman and Greg Oldham's (1976) *Job characteristics model,* proposing that the degree to which workers' jobs possess a number of core characteristics (such as variety and autonomy) affects various "psychological states" (including the degree to which a worker feels that the job is meaningful and experiences responsibility for work outcomes). In turn, these lead to personal and job outcomes such as satisfaction, sickness absence, turnover, motivation and work effectiveness (or performance). Theoretically this model was much more sophisticated than earlier research on the happy-productive worker hypothesis, strongly focusing on the psychological processes that linked specific work characteristics to work outcomes – not just performance, but also satisfaction and motivation.

The year 1976 also saw the birth of a second influential model for the relations between work characteristics and work outcomes, when young Robert Karasek submitted his PhD thesis to the examination committee of the Massachusetts Institute of Technology. In his thesis, Karasek attempted to integrate two different sets of ideas. In sociology the associations between social and psychological demands at work on the one hand and stress and illness on the other hand had been studied, without paying attention to the effects of having autonomy over one's work (i.e. having a say over what one does at work as well as when and how this is done). Conversely, the job satisfaction/job enrichment literature had been concerned with autonomy (e.g., Hackman & Oldham, 1976), but had neglected the possible effects of job demands. Karasek integrated both perspectives in his brilliantly simple Job Demands-Control model, arguing that job demands (such as time pressure, conflicting demands, and

amount and pace of work) and job control jointly influence levels of worker stress and strain, as well as the opportunities for learning and development in the job. The combination of control and demands would lead to various types of jobs, each with its own consequences for the levels of strain, health, acquisition of skills, motivation, boredom and productivity of the worker. The Karasek model has dominated research in occupational health psychology until the middle of the 2000s and is still popular in related disciplines such as labour market sociology and occupational medicine, generating a wealth of research on the effects of job characteristics on worker well-being (stress, strain, illness) and, to a lesser degree, motivation (Kain & Jex, 2010).

A third work stress model worth mentioning is Johannes Siegrist's (1996) Effort-Reward Imbalance model. Building on the idea that people seek equity in what they do, he proposed that workers strive to maintain a balance between what they "put into" (effort) and what they "get back" (rewards) from their jobs. "Effort" refers to the demands of the job, similar to the demands concept in Karasek's demand-control model. "Rewards" are distributed by the employer, e.g., money, esteem, job security, and career opportunities. Workers will feel that a situation in which they receive more than they invest is fine. However, when the effort invested exceeds the rewards received, workers will experience strong negative emotions and high levels of strain. Chronically high levels of stress will ultimately have adverse consequences for health and well-being, such as cardiovascular complaints (Siegrist, 1996, 2008).

A final important work stress model is Peter Warr's (1987) Vitamin Model, holding that the effects of the characteristics of a job on worker performance and well-being are comparable to those of vitamins on health (see chapter 5). At low intake, vitamin deficiencies lead to physiological impairment and ill health. However, after the recommended daily dose has been reached, there is no benefit from taking additional quantities; indeed, high doses of some vitamins may even have harmful consequences. Similarly, the absence of particular important job characteristics always leads to unhappiness, but beyond a certain level their presence will not further increase happiness (e.g., salary) or may even be harmful (e.g., overly high doses of control, job demands and variety). Thus, rather than to assume that more is always better (like the models by Karasek and Hackman and Oldham did), the Vitamin Model assumes that the effects of job characteristics on well-being and performance can be non-linear – at low levels more is better, but at higher levels effects may decrease or reverse.

Together with more general models such as Stevan Hobfoll's (1989) Conservation of Resources theory and Deci and Ryan's (1985) Self-Determination theory, these four models have guided much research on the associations between work characteristics and worker health, performance and well-being. They have in common that they focus on a limited set of important work characteristics (such as job control, job demands, variety, effort and rewards) and assume that these characteristics affect outcomes such as stress, motivation and performance. In other respects they complement each other,

focusing on the combination of particular job characteristics (e.g., demands and control [Karasek, 1976], or effort and reward [Siegrist, 1996]) or the shape of the association between job characteristics and outcomes (Warr, 1987). Together they constituted the conceptual basis for the then-emerging discipline of occupational health psychology.

What is worker well-being?

Another interesting development in the psychology of the late 20th century was the focus on well-being: what do we talk about when we talk about well-being? General and context-free conceptualizations of well-being, such as James Russell's well-known (1980) circumplex model of affect with "arousal" and "valence" as its two principal dimensions, had by the end of the 20th century received much acclaim. Extending Russell's conceptualization, Carol Ryff and her co-workers (1989, 1995) developed a six-dimensional context-free conceptualization of well-being, building on Aristotle's notion that life is not (only) about feeling good, but (also) about living virtuously. Her model contained factors such as having a positive attitude towards oneself, having a purpose in life, being independent from others, maintaining meaningful relations with these others, personal growth, and being in control regarding one's environment. This "positive" conceptualization of well-being fitted well with the then-emerging positive psychology movement that aimed to make life "more fulfilling" by "understanding and building of the most positive qualities of an individual: optimism, courage, work ethic, future-mindedness, interpersonal skill, the capacity for pleasure and insight, and social responsibility" (Seligman, 1999).

As regards well-being in the work context, Peter Warr (1987, 1990) developed a work-specific version of Russell's (1980) circumplex model of affect, focusing on the dimensions of activation (or arousal) and valence (or pleasure), and extending this model with other aspects of mental health such as competence and aspiration (see chapter 5). Building on the models by Ryff and Warr (1987, 1990), Joan van Horn, Toon Taris, Wilmar Schaufeli and Paul Scheurs (2004) developed a five-dimensional model of job-specific well-being, distinguishing among the affective, cognitive, professional, social and psychosomatic dimensions of well-being. They showed that this model covered many of the focal outcome measures used in occupational health psychology, such as job satisfaction, Warr's measure of affective well-being, organisational commitment, contacts with colleagues, cognitive functioning and the absence of psychosomatic complaints.

Van Horn et al.'s (2004) approach to measuring job-specific well-being also included the three dimensions of the burnout concept: emotional exhaustion (feeling fatigued, representing *affective* well-being), depersonalisation (having a distant attitude to work and the people one works with, tapping *social* well-being), and personal accomplishment (the feeling that one can deal effectively with the