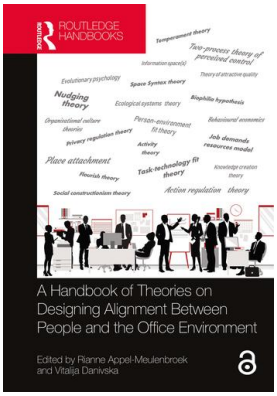

A Handbook of Theories on Designing Alignment between People and the Office Environment

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Gathering Theories to Explain Employee-Workplace Alignment from an Interdisciplinary Viewpoint

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GATHERING THEORIES TO EXPLAIN EMPLOYEE-WORKPLACE ALIGNMENT FROM AN INTERDISCIPLINARY VIEWPOINT

Rianne Appel-Meulenbroek and Vitalija Danivska*

1 Introduction

In a way, the field of office workplace management was born with the first introduction in society of dedicated buildings to perform work away from the home environment. Nonetheless, for centuries the attention on physical workplaces was purely focused on providing shelter from outside forces, without thinking much of how this work environment fitted people's needs, preferences and activities. Much later, large companies started to assign the task of workplace management to dedicated managers, and it became a profession. However, the background training of these early workplace managers was often not in real estate but in the core business of the company, and their focus remained on efficiency and timely provision of square metres, rather than on optimally supporting the people that had to use the office. During the '90s of the 20th century this changed, when workplace management started to become a topic of academic and practice-based research. It became clear that corporate real estate management (CREM), facility management (FM) and other workplace-related management professions needed to improve their ad hoc and operational way of working towards a more strategic and context-specific approach. Also, real estate programs started to appear at universities on bachelor and master levels, although for a long time these also focused mostly on the financial management of real estate, instead of the real estate users (Epley, 2006). Training on the users' experience of work environments was 'confined' to different, much older traditions such as psychology and sociology. It was not until the past decade that knowledge from such disciplines started to slowly penetrate the workplace management profession, partly by increased joint approaches to the work environment with human resource management (HRM) and other departments, as well as interdisciplinary research projects by academics.

Since the '90s, much has been written on workplace design and management and how this supports or hinders employees, by researchers from many different disciplinary backgrounds. Both field studies and experiments and controlled laboratory experiments have shown that people are affected by their work environment in many ways (see Appel-Meulenbroek, Clippard, &

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Pfnür, 2018 for a scoping review of evidence), and thus it is important to align the workplace to the employee's needs. Also, more and more proof came forward that designing a more optimal fit between employees and their work environment could increase not only their comfort and satisfaction, but also task performance, health and commitment to the company.

So far, the term alignment in the context of workplace design and management research has been used largely on the strategic organisational and corporate real estate portfolio level (e.g. Heywood & Arkesteijn, 2017), departing from theories in the field of strategic management. Alignment between a person and the environment on the individual level is generally called 'fit', referring to person–environment (PE) fit theories (see Chapter 2) stemming from psychology. But judging from the definition of alignment in the MacMillan dictionary, "the organization of activities or systems so that they match or fit well together", the terms alignment and fit are closely related. For this book, the editors have therefore chosen for the term *employee-workplace alignment* (EWA) instead of PE-fit, to emphasise the focus on the physical work environment, thus following other recent works in the workplace field that have done so (e.g. Roskams & Haynes, 2019). As Roskams and Haynes (p. 282) put it, "a workplace environment which is perfectly aligned to the occupants is one which is free of demands and abundant in resources." The importance of PE-fit, generally focused on the psychosocial work environment, has been proven across many different contexts, by researchers from many different disciplinary backgrounds. Although only a few studies explicitly apply PE-fit theory to the physical work environment (e.g. Hoendervanger, Van Yperen, Mobach, & Albers, 2019), it would seem that EWA is thus also important.

For sure, nowadays many organisations and their workplace managers are looking for evidence on how to align office design solutions to their workforce more optimally, so they believe in the importance of EWA. Their end goal is happy, healthy, productive and engaged employees; also called thriving (Kleine, Rudolph, & Zacher, 2019). But here they often run into problems. Workplace research is quite fragmented and spread across multiple disciplines in academia, each having their own focus on parts of the mechanisms behind the P–E fit equation (Appel-Meulenbroek et al., 2018). Because of this fragmentation, a lot of knowledge is lost between disciplines and many insights do not reach workplace managers in practice. Psychologists present their workplace-related research at psychology conferences and in psychology journals and business magazines, while real estate academics stick to real estate conferences and outlets, ergonomists to the ergonomic counterparts, etc. This causes a lack of integration of knowledge into an overall theoretical framework.

1.1 A complex problem

Traditionally, an academic discipline is an area of study with its own vocabulary, theories, strategy and techniques for replication and validity (Donald, 2002). However, workplace design is typically a field of 'complex problems' that needs input from many different disciplines. Like other complex systems, a key property is "that the whole is greater than the sum of all the parts" (Bernstein, 2015). Looking from one discipline only will never capture the whole picture. For example, Zhang and Shen (2015) showed that when dealing with complex, real-world problems that require knowledge from multiple disciplines, students may suffer from isolated knowledge and discipline-specific reasoning and problem-solving. The same is likely to be true for more advanced researchers. Because of the fragmentation of knowledge, workplace researchers are not aware of all the angles from which workplaces are studied, nor can they oversee all the theories and methodologies that are used by other disciplines on the same complex problem.

An optimal EWA can probably even be considered a so-called wicked problem, because as Kreuter, De Rosa, Howze, and Baldwin (2004) describe wicked problems, they are difficult to

pin down and influenced by a constellation of complex social and political factors that change over time. Especially regarding environmental health, they sum up four characteristics that make problems wicked, and all four clearly apply to reaching EWA:

1 The nature of the problem is viewed differently depending on the perspectives and biases of those with a stake in the problem.
2 Multiple stakeholders are involved which disagree about the problem and the optimal solution.
3 It is unclear when the problem is actually solved.
4 What works in one context does not necessarily work in another similar context.

While several other books and journals are dedicated to workplace design and management, only very few open up a theoretical discussion across multiple theories from different disciplines. Also, no overall interdisciplinary framework ties such theories together and as such gives a more holistic view of improving EWA. Therefore, closing that research gap is the goal of this book. It will provide the necessary insights into the (potential) application of 21 theories from multiple disciplinary fields to optimise alignment between people and their work environment. Each chapter will address one theory (or a set of related theories) in the context of better, human-focused workplace design. It will explain the theory's assumptions, its implications for the workplace field, relevant research methodologies to study this further, and the theory's relevance for workplace managers in practice. To start an interdisciplinary integration of all these theoretical assumptions, the last chapter ties the 21 theories together into an overall interdisciplinary framework as a first step towards a grand theory on EWA. The setup of this framework is based on an empirical concept-mapping study, involving the authors of the different chapters as respondents (see Chapter 23 for more details).

The next sections of this introductory chapter will now explain the concept of inter- and transdisciplinarity, plus the different disciplines that are represented in some way in this book. It also discusses the logic of the chapter order in the book. This is followed by a brief discussion of terminologies, in order to prevent cross-disciplinary confusions on terms. First, this regards the differences between terms like a theory, model or framework. Then, terms from the workplace field itself are treated (e.g. workplace versus workspace), discussing their meaning and use. Last, the setup of the series and the broad disciplinary background of the 41 authors of this first volume are described.

2 Transdisciplinarity

Transdisciplinarity is proven to be effective in fields like architecture, where social, technical, and economic developments interact with elements of value and culture (Klein, 2004). Therefore, this is the essence of this book series and its books. It is a relatively young term, first coined by the Swiss philosopher and psychologist Jean Piaget (1896–1980) (Nicolescu, 2006). Piaget (1972, as cited in Nicolescu, 2006) described transdisciplinarity:

> Finally, we hope to see succeeding to the stage of interdisciplinary relations a superior stage, which should be 'transdisciplinary', i.e. which will not be limited to recognize the interactions and or reciprocities between the specialized researches, but which will locate these links inside a total system without stable boundaries between the disciplines.

Many mark the 1970 OECD Conference 'Interdisciplinarity: Problems of Teaching and Research in Universities' and the contribution by Erich Jantsch (1972a, 1972b) as the birth of the discourse

about transdisciplinarity (Jahn, Bergmann, & Keil, 2012). Another key date in its further development was the Charter of Transdisciplinarity (1994) which was adopted by the participants of the First World Congress of Transdisciplinarity in Portugal (Nicolescu, 2014). Although there is no real consensus on an exact definition of transdisciplinarity, two aspects of the term are essential to capture it:

1 "Transdisciplinarity, more than a new discipline or super-discipline is, actually, a different manner of seeing the world, more systemic and more holistic" Max-Neef (2005). It is said to be "a common system of axioms for a set of disciplines" and the science and art of discovering bridges between different areas of knowledge, both 'hard' and 'soft' sciences (Klein, 2004).
2 Transdisciplinarity involves both cooperation between various disciplines as well as cooperation between science and society, with a focus on demand-driven research of real-world problems (Jahn et al., 2012). Science for complex problems needs contextualisation, also called mode-2 knowledge production, including public debate (Nowotny, Scott, & Gibbons, 2001). Only then can the produced knowledge be really shared with practice, as there is a common process of making sense of it all. This is what distinguishes interdisciplinary from transdisciplinary (Jahn et al., 2012).

Max-Neef (2005) attempts to describe the continuum from a single discipline to transdisciplinary:

- Disciplinarity is about mono-discipline (specialisation in isolation).
- Multidisciplinarity approaches a problem from multiple disciplines without real integration or cooperation.
- Pluridisciplinarity implies cooperation between disciplines, without coordination.
- Interdisciplinarity adds coordination but only for different groups of disciplines on different levels.
- Transdisciplinarity is the result of coordination/integration between all hierarchical levels.

As he adds, this continuum is not intended to be a hierarchical order of value. Transdisciplinarity is meant to complement the disciplinary approaches, and all approaches are just as valuable.

As transdisciplinarity transcends disciplinary boundaries and develops shared conceptual and methodologic frameworks (Jahn et al., 2012), integration of knowledge is thus a very important term. Such synthesis cannot be achieved through combining different brains in joint teams but must occur inside each of the brains (Max-Neef, 2005). This is visible in several definitions of the term integration. Repko (2012, p. 263) defined it in the context of interdisciplinarity as "the cognitive process of critically evaluating disciplinary insights and creating common ground among them to construct a more comprehensive understanding". Jahn et al. (2012, p. 3) transformed this definition to the transdisciplinary context: "the cognitive operation that establishes a novel, hitherto non-existent connection between distinct entities of a given context". Precisely, this joint cognitive process of integration is what is attempted by the empirical research described in the last chapter of this book, towards an overall framework for creating EWA that integrates the different theories.

3 Selecting theories

This book aims to support academics and practitioners in getting a grip on the complexity of EWA and to inspire them with the many different concepts and theories that can be applied

towards more optimal workplace solutions. Many theories have been identified as relevant for P–E fit, of which extensive overviews have been made (e.g. Edwards, 2008). However, most theories discussed in such reviews are focused on the organisational, psychosocial environment (e.g. personnel recruitment, training-task fit, job satisfaction). On the contrary, this book has collected theories that could help explain EWA from a physical work environment point of view. It thus identifies a very different list of theories that might contribute to workplace management in practice and academic research.

When thinking of designing better alignment of the physical workplace to the workforce, several disciplines from the social sciences and humanities field come forward as potentially relevant to this complex, wicked problem, such as psychology,[1] sociology[2] and anthropology.[3] The theories in this book mainly stem from psychology and sociology, but they also include some theories from more quaint fields. Because of the interdisciplinary nature of workplace research, this book does not dare claim to be exhaustive in its selection of theories, as the nature of the EWA 'problem' and its boundaries are endless, and neither can the editors oversee all potential theories that could contribute. Therefore, the selection of theories happened in an uncontrolled, open manner; namely, the editors solicited suggestions for theories and accompanying authors from their networks and on social media (e.g. LinkedIn). The proposed contributions present an interesting first selection of theories from several relevant fields:

- Psychology
    - Environmental psychology (Chapters 2 and 16).
    - Work and organisational psychology (Chapters 3, 5, 12 and 22).
    - Social psychology (Chapters 6 and 20).
    - Personality psychology (Chapter 10).
    - Behavioural psychology (Chapters 11, 18 and 19).
    - Positive psychology (Chapter 14).
    - Evolutionary psychology (Chapters 15 and 17).
- Sociology:
    - Information space theory (Chapters 7, 8 and 9).
- Other disciplines:
    - Information systems (Chapter 4).
    - Quality management (Chapter 13).
    - Human geography (Chapter 21).

Although the chaotic spread of the chapter numbers in this bullet list may suggest otherwise, there is of course a logical reading order in the book. On purpose, the (sub)disciplines were not used to group the chapters, but instead the chapters were ordered based on a logical flow of their contents. The book starts by presenting *person–environment fit theory*, explaining how to interpret the degree to which individual employees and their environmental characteristics need to match on several levels to prevent stressed and dissatisfied employees. Then, the *job demands-resources model* explores EWA further, through the assumption that, in general, strain is a response to imbalance between demands on the individual and the available (workplace and personal) resources to deal with those demands. Next, several chapters look at more specific aspects of alignment between people and their work environment. The *task-technology fit theory* chapter dives into how the functionality of technology and the tasks it aims to support should

match with the individual abilities of users, in order to achieve EWA and prevent so-called technostress. *Action regulation theory* and *privacy regulation theory* show, respectively, how more general and more specific regulation problems at work lead to undesired outcomes of a misfit, such as stress, lower satisfaction and decreased productivity. The *information space theory* adds the additional challenges that need to be faced because of rising digitalisation, adding virtual workspace and placelessness.

As emphasised in P–E fit theory, the perception of the workplace is just as important as the quality of the place itself in determining how employees experience their work environment. The next set of theories in the book therefore dives more deeply into this subjective experience of the workplace. The *social constructionism theory* chapter discusses how people attach meaning to places. The *ecological systems theory* chapter adds that the fit of a workplace can best be understood in nested systems beyond the single setting to which individuals are subject. This is followed by a chapter on *temperament theory*, showing how personality can influence the experience and use of the workplace, and a chapter on the *two-process theory of perceived control*, which shows that the national cultural setting can also influence expectations and how people attempt to gain control of the alignment of their workplace with their preferences. The chapter on *organisational culture theories* discusses alignment between workplaces and organisational culture on a higher, organisational level.

Next follows a set of theories that help to identify important aspects for providing a high-quality, supportive workplace. First, the chapter on the *theory of attractive quality* explains the Kano model on how support of specific user preferences might or might not increase employee satisfaction, with a focus on indoor environmental quality (IEQ). The next chapter on *flourish theory* introduces the flourish model to go beyond more traditional views of IEQ and comfort. Then, one of the aspects in this model that has only more recently gained attention in workplaces is addressed more in depth in the chapter on the *biophilia hypothesis*. The last chapter of this section, on *place attachment theory*, discusses the temporal dimension of workplace quality, explaining how an emotional bond grows between people and their environment and that feelings of loss can be experienced in times of workplace changes.

Finally, several theories provide important insights into why employees behave in workplaces in the way they do, as this can also help or hinder EWA. The first chapter, on *evolutionary psychology theory*, starts by looking at our brains as they developed in our ancestral environment as hunter-gatherers, because this still determines certain behaviours at the office. Next, *behavioural economics theory* further explains why we do not always make rational choices when we are at the office. The *nudging theory* chapter shows how workplace managers might try to influence these decisions without impairing autonomous decision-making or changing financial incentives. And last, the chapter on *activity theory* provides further insights into the overall system of purposeful interactions between employees and their workplace. This behavioural section ends with two theories that discus how certain employee behaviours at the office are connected to spatial configuration and design. The chapter on *space syntax theory* shows why certain spatial configurations trigger certain types of behaviours in general, while the chapter on *knowledge creation theory* specifically addresses how space and services can support different forms of knowledge-sharing behaviour.

Despite this flow throughout the book, there is no need to read the book from front to end. It is just as interesting to pick a theory at random that catches your attention and start reading there. As you will see, many chapters link to other chapters in the book, so in the end you will likely have read all the chapters this way as well. Or you could start with the last chapter, to read first about the overarching framework across the theories, and then pick individual theories that specifically interest you. However, know that especially those chapters that do not draw your

attention at first might be the most inspiring in the end. The next two sections of this chapter dive into academic discussions of definitions of some terms used in this book. If you are not interested in that, you can go straight to Section 5, to find out how the chapters in this book are set up and who wrote them.

4 What is a theory, model or framework?

The first volumes in this new book series provide an interdisciplinary overview of theories that are (or could be) applied to workplace research. However, theoretical models are also included. The discussion on what a theory really is has been present for ages and, unfortunately, there is no uniform agreement in the scholarly world. Three common classifications of theories from the philosophy of science are the syntactic, semantic and pragmatic views (Winter, 2016). According to the syntactic view of the logical positivists, theories are a logical and related set of axioms, presented by clear logical languages from metamathematics only. The semantic view, on the other hand, sees theories as a collection of models representing empirical generalisations (see e.g. Reynolds, 2015). The pragmatic view holds that mathematics are not necessary or sufficient to characterise a theory and that there is no one-size-fits-all structure of scientific theories (Winter, 2016). The first two views have received criticism, the first for concentrating too much on the language and technicalities (see e.g. Van Fraassen, 1980) and the second for being deformalised and imprecise (Halvorson, 2012). As the more recently developed pragmatic view appears to embrace internal pluralism and the importance of external contexts, it seems the most fitting interpretation for this book. Nevertheless, the editors of this book series are not philosophers of science and thus will leave further argumentation about the 'best' approach to the philosophers.

More generally, academics define theory as a way to describe a specific realm and explain how it works (e.g. Bunge, 2012; Kivunja, 2018; Lynham, 2002; Wacker, 1998). A theory should be able to help in predicting or examining why certain elements lead to certain outcomes. Edwards (2008, p. 171) stated,

> a theory should select and define constructs of interest, describe how the constructs relate to one another, explain why the focal constructs were chosen and why they relate as predicted by the theory, and specify boundaries that denote the conditions under which the predictions of the theory should hold.

The chapters in this book have tried to do all this on different levels of depth and in different ways. The final chapter provides an overall selection of constructs of interest and defines them, as a first step towards EWA theory development.

A theory can be assigned to multiple levels based on the level of abstraction, generalisability and role, namely meta-, grand, mid-range and micro- (Higgins & Moore, 2000). While metatheories represent more of a world view on the nature of knowledge and grand theories describe broad theoretical perspectives instead of a working theory, the mid-range theories are the ones social researchers usually understand as 'real' theories. They deal with specific aspects of human behaviour. Last, microtheories explain a certain phenomenon within a limited scope, often with a limited possibility to generalise. More often, such explanations are more likely to be considered as descriptions of a certain observation, which some academics argue are better called models. For example, Nilsen (2015) explains that the difference between a model and a theory might be very limited as these two are closely related. He states that models are theories with a more narrowly defined scope of explanation, which is descriptive and not as explanatory as a theory. Except for the meta- level, all other levels of theories can be found in this book.

Another closely related (and often misused) term is 'framework'. Frameworks are most often used to describe factors that might have an effect on the outcome, but they provide a more systematic overview of a phenomenon (Nilsen, 2015). They do not provide explanations but describe phenomena by fitting them into a set of categories. This is what is produced in the last chapter of this book as a first step towards a grand EWA theory.

5 Relevant terminologies

This book incorporates several terms that are commonly used by researchers who study issues related to the (physical) workplace, people and achieving alignment between them through strategic workplace management. Even though some of them have official definitions, the scope of the definition and the focus sometimes differ in various disciplines and countries and/or due to historical reasons. Without aiming to pick the 'best' definitions for each term, this section intends to provide a brief discussion of the most relevant terms and their interpretations to provide some context for the following chapters. But those chapters will use the terms as they see fit from their own disciplinary background and experience.

To begin, there is no one definition that is widely used for workplace management. In a report for IFMA (the International FM Association), workplace management is broadly defined as "the management of all resources needed to design & maintain appropriate, effective and economical workplace experiences that align to strategic business objectives and support people in doing their best work every day, wherever they are" (Jervis & Mawson, 2014, p. 10). Others give a similar definition for workplace strategy as

> the alignment of the organisation's workplace with the business strategy in order to optimise the effectiveness of its people and achieve its strategic business goals. It takes into account different dimensions of a company, its physical and virtual work environments, culture, business processes, technologies and other resources.
>
> *(Redlein, Höhenburger, & Turnbull, 2020, p. 179)*

In practice some see workplace management as the task of human resource management, others of facility management and again others of the corporate real estate management department. However, Redlein et al. (2020) correctly stress that workplace management needs a collaboration of HRM, FM and CREM, and also finance, marketing, IT, business unit leaders, employee advocates and the C-suite to be able to create a workplace that is effective, representative for the organisation and healthy for the employees. So, there seems to be agreement that workplace management is a collaborative task towards aligning the workplace with the organisation and the employees using it. For a discussion of definitions for CREM and FM and an overview of theories on how to manage physical workplaces, please refer to Volume 2 of this series, titled *A Handbook of Management Theories and Models for Office Environments and Services*.

The support of people as part of the overall alignment process of workplace management is the focus of the book you have started reading now. Chapter 2 extensively describes what is meant by alignment between a person and his/her work environment, so at this point only the essence of the description that the authors (Armitage and Amar) provide is repeated: the quality of 'fit' depends on the interaction between person and environment and thus should be assessed by comparing characteristics of both and determining whether there is a match. Workplace management has been portrayed as an input-throughput-output-outcome process model (Jensen, 2010). In light of EWA specifically, one could say that input, throughput and output show characteristics of the environment, while the people-based outcomes (and eventually thriving) show the success

of achieving true alignment. Appel-Meulenbroek et al. (2018) tried to provide classifications for inputs and for outcomes, but no overall agreement on distinctive categories exist for either side of the EWA mechanism. From their scoping review, they distinguished indoor environmental quality, office layout, design quality, accessibility, services and the psychosocial conditions created inside the building for the input side of EWA, while as potential outcomes they found studies on satisfaction, performance/productivity, health, emotional state, attitude, comfort, concentration, privacy and communication; with subcategories for most of these inputs and outcomes. The chapters in this book discuss detailed theories addressing many of these aspects.

From those chapters, it will become clear that there is another cross-disciplinary debate necessary on the meaning of the terms 'workplace' and 'workspace'. You will see that they are used differently, interchangeably and as definitions of different scale levels of the work environment. This might be a result of disciplinary differences in training or in basic theories, although there is no proof for such an assumption, as the debate is yet to start. A quick scan of literature shows that researchers in physical design (e.g. Wineman & Barnes, 2018) and also some dictionaries (e.g. Princeton's WordNet and the Oxford dictionary) define workplace as the overall place where work is done and workspace as the physical space allocated for the work to be done. So here, workspace appears to be the physical component of a workplace. This interpretation is expanded by literature on the digital work environment, which refer to online spaces as part of the workplace as well (e.g. Wang, 2010), thus letting go of the physical delineation but still seeing spaces as parts of a broader workplace term. Others see the workspace as a smaller subset within the physical building, where the physical workplace would be the entire office building (e.g. Roskams & Haynes, 2019), so both space and place are physical here. Nonetheless, all these researchers appear to see a place as created through human experiences with spaces (e.g. Seamon & Sowers, 2008). However, in the field of sociology, researchers seem to interpret both terms in a very different way. Some sociologists see place as a physical spot, which could be an entire office building but also a specific workstation within it, that exists through the meaning attached to it by people. As Gieryn (2000, p. 465) puts it, "place is space filled up by people, practices, objects, and representations" (see Chapter 8 Social Constructionism Theory). This still suggests that at least there is an ordering of space as a subset of place, but there is no distinction between a building and a smaller-scale space. And even more opposing to the previously discussed meanings of these terms, other sociologists (see Löw, 2008 for a discussion) have mentioned places to be a subset of space (so flipping the hierarchical order of both terms), and that space does not only contain a physical place (called materiality) but is constituted in interaction by its users (so flipping the terms in the sense of how people create one from the other). Some real estate researchers seem to follow a similar line of reasoning (e.g. Hills & Levy, 2014), where the term workspace is relating to the building and the social elements, while workplaces are used to indicate a smaller-scale level, where individual and group needs must be satisfied. Last, some even use both workplace and workspace interchangeably throughout their papers (e.g. McGregor, 2000). As this book contains authors from all mentioned disciplines, the editors did not want to force terminology definitions on them, so both terms are used in different ways across the different chapters. More general terms like work environment or workstation are also used.

6 Setup and authors of the chapters

Each of the following chapters in this book start with a brief explanation of the theory's origin (often born in a totally different field than workplace design or management) and essence in Section 1. Then the authors discuss its applicability to the physical workplace in Section 2. Sections 3 and 4 are particularly aimed at researchers, as they address relevant research methodologies and possible

limitations in this theory's application to workplace research. Section 5, on the other hand, discusses implications for practice. So, practitioners could skip Sections 3 and 4 and continue reading in Section 5 if they are not interested in research methods. All chapters end with some suggestions for further reading, in case you are so inspired that you would like to read more about this theory.

In Table 1.1 you can find an overview of all the researchers that contributed to this book, plus their current institution. Many authors work in Europe, but also in Australia, and USA-based authors have contributed as well. The authors represent 19 different universities and three practice-based organisations, in 11 different countries, and a vast number of different disciplinary fields.

Table 1.1 An overview of the different authors

Chapter	*Authors*	*Country*	*University/organisation*
1 Introduction	Rianne Appel-Meulenbroek	Netherlands	Eindhoven University of Technology
	Vitalija Danivska	Finland	Aalto University
2 Person–environment fit theory	Lynne Audrey Armitage	Australia	Bond University
	Johari Amar		
3 Job demands-resources model	Michael Roskams	UK	Sheffield Hallam University
	Eileen McNeely	USA	Harvard T.H. Chan School of Public Health
	Dorota Weziak-Bialowolska	USA	
	Piotr Bialowolski	USA	
4 Task-technology fit theory	Giulia Nardelli	Denmark	Technical University of Denmark
	Nelda Vendramin		
	Christine Ipsen		
5 Action regulation theory	Lukas Windlinger	Switzerland	Zurich University of Applied Sciences
6 Privacy regulation theory	Clara Weber	Switzerland	Zurich University of Applied Sciences
	Barbara Degenhardt	Switzerland	
	Birgitta Gatersleben	UK	University of Zurich
	Lukas Windlinger	Switzerland	University of Surrey
			Zurich University of Applied Sciences
7 Information space theory	Mascha Will-Zocholl	Germany	Hessian University of Police and Administration
8 Social constructionism theory	Kaisa Airo	Finland	Laurea University of Applied Sciences
9 Ecological systems theory	Eunhwa Yang	USA	Georgia Institute of Technology
	Bonnie Sanborn		DLR group
10 Temperament theory	Mel Bull	UK	University of Sheffield
11 Two-process theory of perceived control	Daibin Xie	UK	University College London
12 Organisational culture theories	Sara Wilkinson	Australia	University of Technology Sydney
	Kusal Nanayakkara		
13 Attractive quality theory	Quan Jin	Sweden	Chalmers University of Technology
	Holger Wallbaum	Sweden	
	Jungsoo Kim	Australia	University of Sydney
	Richard de Dear	Australia	

Chapter	*Authors*	*Country*	*University/organisation*
14 Flourish theory	Derek Clements-Croome	UK	University of Reading
15 Biophilia hypothesis	Sven Wolf Ostner	Sweden	ÅWL Arkitekter
16 Place attachment theory	Goksenin Inalhan	Turkey	Istanbul Technical University
	Eunhwa Yang	USA	
	Clara Weber	Switzerland	Georgia institute of technology
			Zurich University of Applied Sciences
17 Evolutionary psychology theory	Young Lee	USA & UK	Innovative Workplace Institute & University College London
18 Behavioural economics theory	Young Lee	USA &UK	Innovative Workplace Institute & University College London
19 Nudging theory	Tina Venema	Denmark	Aarhus University
	Laurens van Gestel	The Netherlands	Utrecht University
20 Activity theory	Maral Babapour	Sweden	Chalmers University of Technology
	MariAnne Karlsson		
	Antonio Cobaleda-Cordero		
21 Space syntax theory	Kerstin Sailer	UK	The Bartlett, University College London
	Petros Koutsolampros		
22 Knowledge creation theory	Mervi Huhtelin	Finland	University Properties of Finland
	Suvi Nenonen		Tampere University of Technology
23 Towards an interdisciplinary EWA theory	Rianne Appel-Meulenbroek	Netherlands	Eindhoven University of Technology
		Netherlands	
	Susanne Colenberg	Finland	Delft University of Technology
	Vitalija Danivska		Aalto University

The last chapter of the book is based on an empirical concept mapping analyses of all theories treated in this volume. With the help of the authors of the chapters, an interdisciplinary framework is created from the basic assumptions of the individual theories. It is a first attempt towards a more systemic and holistic approach to developing a grand EWA theory, that hopefully inspires more research on the topic. We hope you will be as inspired by the book as we were after receiving all the draft and final chapters.

Notes

1 According to Wikipedia: "the science of mind and behaviour. Psychology includes the study of conscious and unconscious phenomena, as well as feeling and thought."
2 According to Wikipedia: "the study of human behaviour. Sociology refers to social behaviour, society, patterns of social relationships, social interaction, and culture that surrounds everyday life."
3 According to Wikipedia: "the scientific study of humans, human behaviour and societies in the past and present."

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