

# 7 Worksite health promotion in European organizations

## Availability according to employers and employees

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### Introduction

Owing to the health implications of an aging workforce and sedentary work, a growing number of organizations invest in the health of their employees in the form of offering worksite health promotion (WHP) (Goetzel & Ozminkowski, 2008). For example, organizations can provide employees access to onsite fitness facilities, make financial contributions towards gym membership, and offer healthier catering options on the canteen menu. Previous studies suggest that employees benefit from WHP: they are more physically active (Conn, Hafdahl, Cooper, Brown, & Lusk, 2009) and have healthier diets (Maes et al., 2012), lower weight (Anderson et al., 2009) and better health in general (Rongen, Robroek, Van Lenthe, & Burdorf, 2013). Employers stand to benefit as well: WHP has been associated with increased productivity (Goetzel & Ozminkowski, 2008) and decreased absenteeism (Parks & Steelman, 2008). Furthermore, employers who offer WHP are seen to take social responsibility seriously by caring about their employees (Nöhammer, Stummer, & Schusterschitz, 2014). Finally, WHP has the potential to narrow existing socio-economic differences in health in Europe (Huijts et al., 2017; Mackenbach et al., 2017). People spend a large part of their lives at work, making it possible to involve less resourceful workers who participate little in society outside of work. However, if access to WHP is limited to higher echelons of the working population, it could also widen socio-economic differences.

The benefits of WHP can only be reaped when employees make use of WHP, but average participation hovers around 30–50 percent of employees and rates of WHP participation vary widely between workplaces; from almost zero to almost maximum participation (Bull, Gillette, Glasgow, & Estabrooks, 2003; Robroek, Van Lenthe, Van Empelen, & Burdorf, 2009). WHP participation depends on the extent to which employees know about WHP availability at their workplace and on the match between actual workplace implementation of WHP and the demands of employees. Employee perceptions are crucial for WHP participation (Grawitch, Gottschalk, & Munz, 2006). When employees do not know WHP is available or deem the offer to be inadequate, they will not make use of it; yet little is known about the factors that determine whether

employees perceive their organization to offer (adequate) WHP (Kilpatrick, Blizzard, Sanderson, Teale, & Venn, 2015). In our study we bridge this gap in the literature by studying both organizational reports of WHP provision and employee perceptions of availability.

We investigate both WHP availability according to organizational reports and employees' perceptions thereof using the European Sustainable Workforce Survey (ESWS). We first explore the European organizational landscape in terms of four WHP interventions: healthy nutrition, sports facilities, ergonomic facilities and health checks. These four types of WHP cover the broad spectrum of possible interventions by employers to improve employee health, as they differ in whether they directly prevent the onset of ill health or contribute to an earlier detection of potential health problems. Also, the extent of intrusion in employee day-to-day (work) lives differs between these forms of WHP, as does the timeframe of their (health) consequences (McEachan, Lawton, & Conner, 2010). Finally, healthy nutrition and ergonomic facilities can be considered as environmental strategies towards health promotion, meaning that employees do not need to consciously decide to make use of them and they are generally available across the organization as a whole (Engbers, Van Poppel, Chin, Paw, & Van Mechelen, 2005).

In the second part of this chapter, we study which organizational and employee factors contribute to employees' perceived availability of these four WHP interventions. We take both employee characteristics and the role of the organizational context into account. Most studies of WHP are limited to a single organization or a few organizations from one country and/or sector (Bull et al., 2003), which makes it hard to investigate the organizational context. Moreover, very little is known about European patterns in WHP availability as most studies have been carried out in the US (Fielding & Piserchia, 1989; Magnavita et al., 2017). Unlike in the US, universal health care is available in Europe and so WHP complements the provisions of the existing health-care system. European countries differ in health-related lifestyle issues such as smoking and obesity levels (Huijts et al., 2017) and health legislation (Eikemo, Bambra, Huijts, & Fitzgerald, 2017), which may affect whether companies implement WHP. The European context therefore offers ample variation in factors that may affect WHP availability and employee perceptions.

We first examine country and sectoral differences in organizational WHP provision. Little is known about WHP in Europe given that it is not a statutory requirement of occupational health and safety management (European Agency for Safety and Health at Work, 2015). To our knowledge there are no representative datasets of organizations in Europe that cover WHP. The European Working Condition surveys do contain information on health and safety standards and occupational hazards but do not inquire about the existence of organizational WHP (Eurofound, 2017c). The ESWS is not representative but it does include 259 organizations across 6 sectors in 9 countries and can thus give a first impression of the level and variation in WHP availability in these sectors. It should be noted that various sectors that face high health risks (such as retail

and hospitality) are unfortunately not covered by the ESWS, so we continue to lack information regarding WHP provision in these sectors. We map availability according to both human resource (HR) managers and employee perceptions. Various organizational studies have pointed to the discrepancy between organizational and employee reports in the availability of HR practices (McCleary et al., 2017; Wright & Nishii, 2007), and we show that this is also the case with regard to WHP.

Employees cannot benefit from WHP if they are not aware of its existence, but neither can organizations. In the second part of this chapter we examine employee perceptions of the availability of the four WHP arrangements in the subset of organizations that offer WHP. Perceptions of availability indicate employee awareness of certain policies, but they also indicate how successful the implementation of a certain health policy by organizations is. In cases where employees perceive that WHP is not available, the policy does not reach them and possible beneficial effects are called into question. So, it is important to take a detailed look at employee perspectives in organizations that claim to offer WHP.

We apply information theory and motivation theory to explain variations in employee perceptions of WHP availability. In line with research on other employee-friendly benefits such as pension plans (Mastin, 1998) and work–family policies (Prottas, Thompson, Kopelman, & Jahn, 2007), we argue that employees are more likely to report WHP to be available when the costs of acquiring this information are lower and the information is useful to them. In addition, employee perceptions may also signal the extent to which organizational policies and/or implementation of policies match employees' values (Rothbard, Phillips, & Dumas, 2005).

## **Background: worksite health promotion in Europe**

Within the European union, there is no statutory WHP requirement. Statutory requirements with regard to Occupational Health and Safety (OHS) exist, but this mainly concerns worker protection and the prevention of occupational risks (European Agency for Safety and Health at Work, 2015). Although health promotion is covered by OHS, organizations in European countries are not required or bound to implement health arrangements (Verra, Benzerga, Jiao, & Ruggeri, 2019). The few existing studies show that organizations mainly offer arrangements targeted towards nutrition and physical activity (European Agency for Safety and Health at Work, 2015) with some notable differences between European countries. Finnish establishments offer the most WHP (European Agency for Safety and Health at Work, 2015; European Network for Workplace Health Promotion, 2009), and Central and Eastern European organizations tend to invest less in WHP than Western European ones (Magnavita et al., 2017). Some countries have developed an extensive strategy for promoting employee health subsidized by the government (e.g., the Netherlands), while others have less funding available for health promotion (e.g., Bulgaria) as a result of the

economic crisis (Magnavita et al., 2017). In certain countries national governments have developed nationwide policies that require action from organizations to promote healthy lifestyles at work (e.g., the UK, Germany and the Nordic countries), but others (e.g., Portugal and Hungary) have not (Verra et al., 2019).

### **Employee perceptions of WHP availability: theory and hypotheses**

Beyond making WHP arrangements formally available, the extent to which employees perceive these arrangements to be available is crucial for the uptake and success of WHP for both employees and the organization. Employee perceptions of availability may also indicate how well WHP policies are implemented in the workplace, which remains hidden if one only analyzes the formal availability of policies.

Previous studies explaining employee perceptions of HR practices have used information theory and motivation theory (Prottas et al., 2007).

Information theory suggests that acquiring information is costly and individuals will seek information until the marginal cost of acquiring new information exceeds the benefits (Stigler, 1961). For some employees, the costs of gathering information on WHP outweigh the potential benefits, and therefore they will not actively seek out this information. The frequency of using and processing information at work plays an important role in the evaluation of the costs and benefits of acquiring information. The costs may be lower for those who frequently use information as a means to solve problems or enhance knowledge in their work (Tichenor, Donohue, & Olien, 1970).

The expectancy theory of motivation holds that people will make an effort to acquire information when they feel that it is useful to them (Vroom, 2005). This would mean that employees gather information on policies if they are interested in the content of these policies or if this is more salient to their daily life. For example, working parents are more likely to be aware of the existence of work–family policies within their organization because they combine paid work with caring for their children (Baird & Reynolds, 2004). We argue this also applies to WHP. For some employees, information about WHP is more relevant, and therefore they are more likely to actively search for information. For example, health conscious employees may seek information on how their organization contributes to their goal of a healthy lifestyle, for example, in the form of paying for their gym subscription.

Both workplace characteristics, including dispositions and actions of the manager, and the employee's own characteristics affect the costs of acquiring information and the salience of it. Based on the literature, we identified characteristics of organizations and employees that may affect employee perceptions of WHP availability, namely, aspects of the organizational context, the employee's human capital, working hours, tenure, contract type and health. We discuss each of these in turn below.

**Organizational context**

First, organizations differ in the emphasis on and attention paid to health and safety (Aldana et al., 2012). Employees might be more likely to perceive WHP to be available when they work in an organization where health is deemed important, and where this importance is clearly expressed. WHP may also be better implemented in such organizations. Organizations that provide employees with the resources needed to initiate or maintain healthy lifestyles are interested in ensuring their employees are aware of this (McCleary et al., 2017). There are several ways in which organizations can communicate about WHP availability, for example, through posts on the intranet, distributing flyers or hosting awareness events (European Network for Workplace Health Promotion, 2009; Grawitch et al., 2006). If information about WHP is readily available and employees can access it through several means, the costs of finding out about WHP availability are lower. Smaller organizations might lack the means necessary to implement a comprehensive WHP program and inform their employees about it (Goetzel & Ozminkowski, 2008; Linnan, Sorensen, Colditz, Klar, & Emmons, 2001; Williams & Snow, 2012). We therefore hypothesize that employees in larger organizations are more likely to perceive WHP to be available (*H1*).

Second, comprehensive WHP strategies target multiple aspects of health and well-being, given that a variety of arrangements is important to successfully improve the health and lifestyle of employees (European Network for Workplace Health Promotion, 2009; Kilpatrick et al., 2015). Employees might have different preferences with regard to WHP, but with more alternatives on offer the likelihood increases that they come into contact with WHP directly or are informed about it through their colleagues. This lowers the costs of finding out about WHP. Having a larger number of WHP offers also indicates that organizations have set aside more resources for WHP and may indicate a more extensive WHP implementation (Grawitch et al., 2006). In addition, an inclusive WHP strategy also signals that organizations are more concerned with employee health (Aldana et al., 2012). Employees might embrace these norms and also come to see the usefulness of targeting a healthy lifestyle at work (McCleary et al., 2017), making WHP more salient to them. For these reasons, we predict that employees who work in organizations with more extensive WHP will be more likely to report WHP to be available (*H2*).

A third element within the organizational context is the extent to which management embraces WHP (Passey, Brown, Hammerback, Harris, & Hannon, 2018). Without management support, WHP cannot be successful (Hammer, Liebherr, Kersten, & Haas, 2015). Managers can contribute to employee perceptions of WHP by endorsing WHP and allocating resources, for example, providing employees with time during work for WHP (Passey et al., 2018), but also by simply telling employees that there are health arrangements they are entitled to use (Dejoy et al., 2011). This also lowers the costs of finding out about the existence of WHP. Team managers are especially important in supporting employees' healthy lifestyles (Linnan, Weiner, Graham, & Emmons, 2007;

McCleary et al., 2017; Olson & Chaney, 2009). Team managers' awareness of WHP is a key aspect of its implementation and forms a precondition for managers to promote it to their employees. We therefore predict that team managers' perceptions of WHP availability positively influence employee perceptions of WHP availability (H3).

### ***Employee characteristics***

#### *Human capital*

There are two mechanisms for how human capital influences employee perceptions of WHP: the costs of acquiring information and the importance attached to health-related information (Mastin, 1998). For employees with more human capital, reflected in their educational or job-skill level, the costs of acquiring information about WHP are lower because they are more used to dealing with information in their jobs. Previous studies have shown that higher educated employees are more often aware of information regarding pension plans (Mastin, 1998; Mitchell, 1988) and work-life practices (Baird & Reynolds, 2004). Kilpatrick et al. (2015) found that this also applies to WHP: higher educated employees perceived more WHP activities to be available to them. In addition, employees with more human capital tend to have higher health literacy, the ability to obtain, process and understand health information (Nutbeam, 2008), which lowers the costs of acquiring information as well. Other research suggests that because those with greater human capital have invested more during their lifetime, exemplified by a higher level of human capital, they have more reason to invest in future longevity and thus have more to lose by behaving unhealthily (Cutler & Lleras-Muney, 2006). This means that knowing about WHP is more useful to them. We hypothesize that employees with more human capital are more likely to report WHP to be available (H4).

#### *Working hours, tenure, flexibility*

The extent to which employees are part and parcel of their organization, reflected in working hours, tenure and the flexibility of their contract, may increase perceptions of WHP availability. Employees who have been working for the organization for a longer period of time or spend more hours at work have had more exposure to organizational information through official and informal channels, such as discussing WHP with colleagues (Baird & Reynolds, 2004). Organizations might also make it easier for workers that are more bound to the organization to become aware of HR policies (Liao, Toya, Lepak, & Hong, 2009). Employees with flexible contracts may be less interested in WHP programs because they may not expect to stay with the organization for long (Wright & Nishii, 2007). Also, organizations do not necessarily need flexible workers to know about health promotion initiatives, as the organization will likely not reap the benefits from their investments. To our knowledge no studies

exist that examine whether these factors are related to WHP perceptions, but research on knowledge about work–family policies shows that employees with longer tenure (Prottas et al., 2007) and permanent employment (Kopelman et al., 2006) are more likely to know about the existence of these policies. We expect this also to be the case for perceptions of WHP availability and so we hypothesize that employees with more working hours (*H5a*), longer tenure (*H5b*) and those with a permanent contract (*H5c*) are more likely to perceive WHP to be available.

### *Health status*

There are conflicting expectations of how employee health affects the perception of WHP availability. On the one hand, WHP often includes prevention aimed at individuals who are at high risk because of an unhealthy lifestyle, for example, those who have poor nutrition and who engage little in physical activity (Goetzel & Ozminkowski, 2008). This may reduce the information costs for unhealthy employees. Some evidence suggests this to be the case, as those with more sedentary behaviors reported greater perceived availability of WHP (Kilpatrick et al., 2015). In addition, Meng et al. (2017) found that less healthy employees attached more value to learning about health-related information. On the other hand, research also shows that healthier people are more willing to take care of their health and thus may be more likely to actively seek out information regarding health promotion initiatives (Dutta-Bergman, 2004). It is important for WHP to be targeted at the needs and preferences of employees (Rongen et al., 2014b). Healthier employees may perceive the availability of, for example, fruit at work as part of an organization's WHP strategy because this is in line with their own values to eat healthily, and thus they are more likely to perceive health-related initiatives in the organization as WHP (Dailey & Zhu, 2017). Despite conflicting views regarding health and WHP perceptions, we think that the perception enhancing aspects dominate and therefore expect healthier employees to have increased perceived WHP availability (*H6*).

## **Methods**

### *Sample*

We present two analyses based on the first wave of the ESWS. The first descriptive analysis on the availability of four WHP arrangements (healthy nutrition, sports participation, ergonomic facilities and health checks) uses all organizations present in the ESWS that had valid reports from the HR manager with regard to the presence of these arrangements in the organization (for healthy nutrition, 10,636 employees/249 establishments; for sports participation, 10,673 employees/250 establishments; for ergonomic facilities, 10,673 employees/250 establishments; and for health checks, 10,710 employees/251 establishments).

The analysis of employee perception of WHP availability includes establishments that offered WHP. Only in these establishments can we test under which conditions employees know about availability. We selected establishments based on the reports of the HR managers assuming that they know best what kind of policies are offered. Establishments that did not offer any WHP arrangements were excluded ( $N=301$  employees in 8 establishments). We analyzed each WHP separately. Note that the sample size differs between WHP arrangements as not all establishments offered all four arrangements. We also excluded employees with missing values on any of the variables ( $N=2,799$ , mainly missing on team manager reports – see below for sensitivity checks). This resulted in a total sample of 7,911 employees in 695 teams across 242 establishments.

### **Variables**

We measured perception of WHP based on employee self-reports of whether four types of WHP (healthy nutrition, sports participation, ergonomic facilities and health checks) were available within their establishment. Employees could indicate that these were “available” (1), “not available” (0) or that they “did not know.” In the latter case, these were coded as not available (0). We performed additional analyses to evaluate whether the results were sensitive to our decision to combine the “not available” and “don’t know” categories (see section on sensitivity analysis).

To account for the influence of the team manager, we used that manager’s report on availability for each of the four types of WHP. Team managers’ reports were coded in a similar way to those of employees (1=available, 0=not available).

The two other measures of organizational context were the extent of WHP in the establishment and establishment size. For each type of WHP, we totaled the number of other WHP arrangements available within the establishment, as reported by the HR manager, to measure the extent of WHP. For example, in the case of healthy nutrition, this would mean that we totaled whether sports facilities, ergonomic facilities and health checks were available. Size was based on the number of employees working within the establishment. Small establishments employed up to 100 employees, medium establishments between 100 and 249 and large establishments over 250.

To measure the influence of human capital, we included the highest completed level of education and skill level of the job. Education was measured as the highest level of completed education using the cross-country standardized International Standard Classification of Education (ISCED) coding scheme (Schneider & Kogan, 2008). Skill level of the job was based on occupation. Employees were asked to provide a full description of their occupation which was coded in native coding systems and mapped onto the International Standard Classification of Occupations (ISCO) 2008 (International Labour Office, 2012). Because some groups were very small, we combined these into

categories based on skill level in the job (Tijdens, 2012). We distinguished between highly skilled (professional, ISCO = 2); skilled (managers, technicians and associate professional, ISCO = 1 or 3); and semi-skilled or unskilled workers (ISCO = 4 to 9).

Employees without a permanent contract (e.g., on call or on a trainee contract or doing seasonal work) were dummy-coded as having a non-permanent contract. The number of working hours was assessed by asking how many hours employees actually worked per week. When employees did not answer this question, they were assigned the value of their contracted hours if available. For employees who reported to be working more than 90 hours, the variable was top-coded at 90 hours (this did not influence the results). Tenure was measured by employee self-reports of how many years they had been working for their organization. Both working hours and tenure were standardized.

To measure health, we used self-rated health. Self-rated health was measured by asking employees how they rated their health on a 5-point scale ranging from “very good” to “very poor.” Those who indicated their health to be “very good” or “good” were dummy-coded as having good health (versus fair/poor health).

We controlled for gender (female = 1), age in years, economic sector and country. Descriptive statistics of all variables can be found in Table 7.1.

### ***Analytical approach***

First, we examined availability per type of WHP based on HR manager reports and compared this to average employee reports of availability. Employee reports were based on average perceptions of employees per establishment (i.e., the proportion of employees that reported a WHP arrangement to be available). We then examined WHP availability per country and sector based on HR manager reports.

The second part examines employee perceptions of WHP availability using multilevel models in the subset of establishments that offer WHP. Employees are nested in teams which are nested in establishments, and the outcome variables are dichotomous, so we employed multilevel logistic regression models. Without this multilevel structure we cannot account for the clustering of employees, resulting in an underestimation of the standard errors of parameters (Hox, 2010). We estimated models for each type of WHP separately. Results are shown as average marginal effects. Given that we have four different dichotomous outcome variables, average marginal effects allow for the comparison between models (Mood, 2010). The average marginal effects show how the average probability that an employee reports that a particular type of WHP is available changes as the independent variable increases by one unit, keeping everything else constant.

Table 7.1 Descriptive statistics

	Mean	s.d.	Min	Max
<i>WHP availability according to HR manager</i>				
Healthy nutrition	0.45		0	1
Sports facilities	0.54		0	1
Ergonomic facilities	0.86		0	1
Health checks	0.64		0	1
<i>WHP availability according to team manager</i>				
Healthy nutrition	0.38		0	1
Sports facilities	0.45		0	1
Ergonomic facilities	0.80		0	1
Health checks	0.66		0	1
<i>WHP availability according to employee</i>				
Healthy nutrition	0.38		0	1
Sports facilities	0.40		0	1
Ergonomic facilities	0.64		0	1
Health checks	0.53		0	1
<i>Employee characteristics</i>				
Highest completed education	5.39	1.41	1	8
<i>Skill level of job</i>				
Highly skilled job	0.32		0	1
Skilled job	0.35		0	1
Semi-skilled or unskilled job	0.33		0	1
<i>Contract type</i>				
Permanent contract	0.89		0	1
Non-permanent contract	0.11		0	1
Working hours	39.42	9.47	0	90
Tenure	10.70	9.84	0.08	52
<i>Health</i>				
Poor/fair health	0.28		0	1
Good health	0.72		0	1
Age	42.02	10.99	16	74
<i>Sex</i>				
Male	0.43		0	1
Female	0.57		0	1
<i>Organisation characteristics</i>				
<i>Extent of other WHP</i>				
Healthy nutrition	2.04	0.88	0	3
Sports facilities	1.95	0.86	0	3
Ergonomic facilities	1.63	0.99	0	3
Health checks	1.85	0.92	0	3
<i>Size</i>				
Small	0.23		0	1
Medium	0.29		0	1
Large	0.48		0	1

Note

N (employees) = 7,911.

## Results

### *WHP availability in Europe*

We first show the overall availability of four types of WHP within the ESWS according to the HR managers and employee reports averaged per establishment. Figure 7.1 shows that 42 percent of the establishments have healthy nutrition arrangements available according to the HR manager; sports facilities are present in 52 percent; ergonomic facilities are available in 88 percent; and health checks can be found in 69 percent of the establishments. The figure also shows employee reports of availability of each type of WHP based on the average levels of employees that report that WHP is available: 35 percent of employees report healthy nutrition is offered in their establishment; 40 percent report sports facilities; 63 percent report ergonomic facilities; and 53 percent report that their establishment offers health checks. The figure also shows that (perceptions of) availability of WHP are similarly high or low for both the HR manager and employees, but overall employees report lower availability than HR managers.

We next examine the availability of WHP per country and sector based on HR manager reports. Figure 7.2 shows country differences in WHP availability. In line with previous findings (European Network for Workplace Health Promotion, 2009), Finland is among the countries that offer the most WHP for each type, while in Bulgarian establishments the least WHP is generally available. All Spanish establishments offer ergonomic facilities and health checks, as a focus on the prevention of health risks is compulsory by law (Anaya, Ayuso,

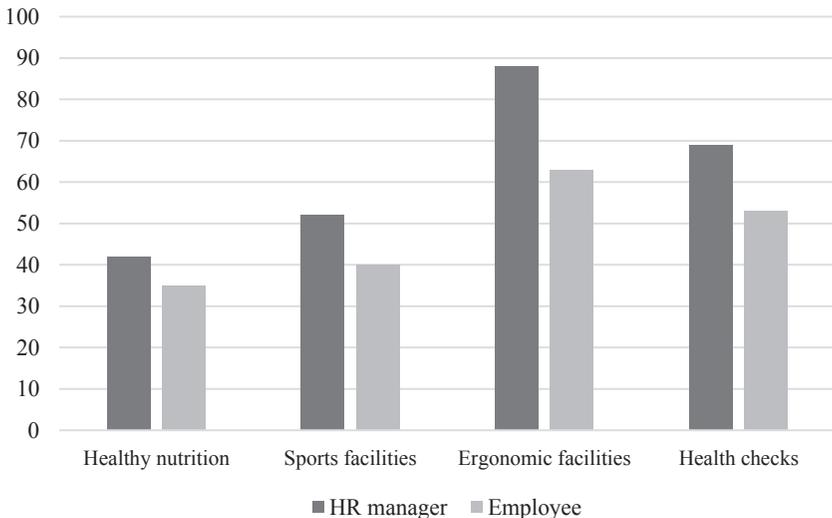


Figure 7.1 Availability of Worksite Health Promotion (WHP) according to HR managers and employee reports.

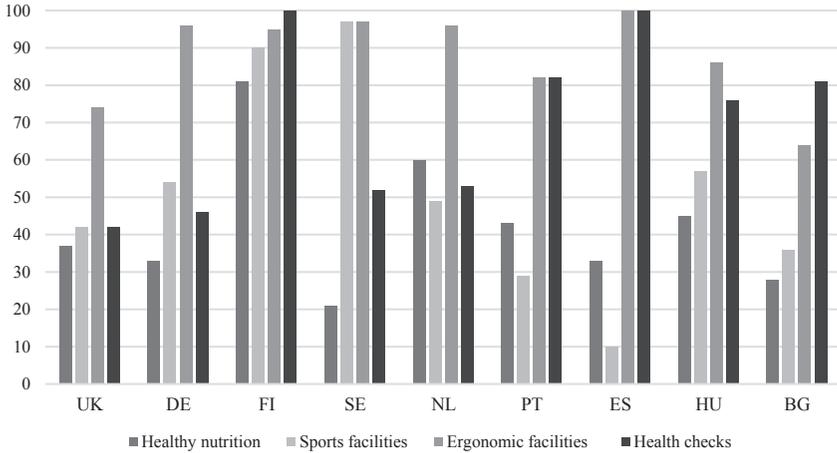


Figure 7.2 Worksite Health Promotion (WHP) availability by country according to HR managers.

Note

UK – United Kingdom; DE – Germany; FI – Finland; SE – Sweden; NL – Netherlands; PT – Portugal; ES – Spain; HU – Hungary; BG – Bulgaria.

& Fries-Tersch, 2015). However, the availability of healthy nutrition arrangements (33 percent) and sports facilities (10 percent) is low compared to other countries. Some other patterns are also discernible. For example, sports facilities are offered most often in the Nordic countries. Ergonomic facilities are available to a large extent in most countries, but less so in Eastern European countries – for example, only 64 percent of Bulgarian establishments offer this arrangement. With the exception of Finland, health checks are most often present in Southern and Eastern European countries.

Finally, we turn to differences between sectors, as shown in Figure 7.3. At first glance the higher education sector appears to offer the most WHP: 60 percent have healthy nutrition arrangements, 71 percent have sports facilities and 95 percent have ergonomic facilities. However, health checks are offered more often in the manufacturing and banking sectors. Compared to other sectors the transport sector seems to lag behind in availability: only 28 percent of organizations have healthy nutrition, 33 percent have sports facilities and 59 percent have health checks. Overall, the patterns are less clear than for country differences.

**Employee perceptions**

Although in the previous paragraphs we took the HR manager’s perspective, Figure 7.1 clearly shows that there are discrepancies between reports made by the HR managers and by employees. We therefore investigate employee perceptions

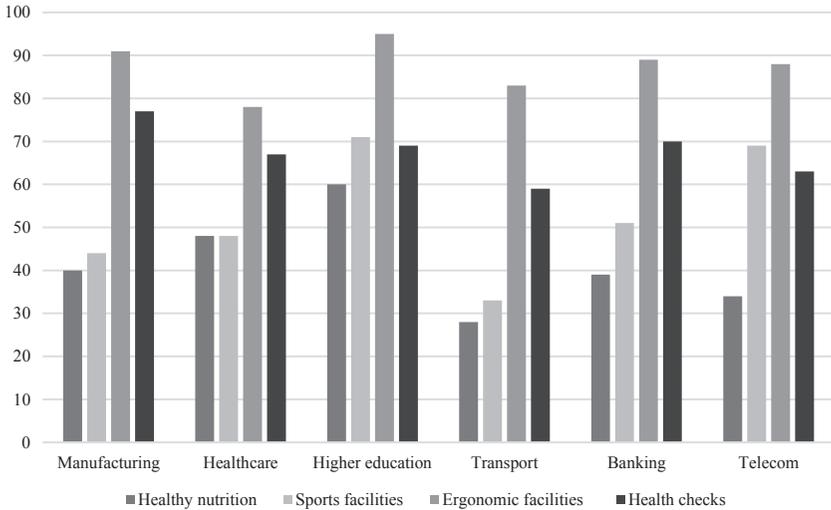


Figure 7.3 Worksite Health Promotion (WHP) availability by sector according to HR managers.

in more detail. Table 7.2 shows the results of multilevel logistic regression models of employee perceptions of WHP availability for the subset of organizations that offer WHP according to the HR manager. The top panel of Table 7.2 shows that mean availability hovers between 38 percent and 64 percent, which indicates that the employee perspective is very different from that of the HR manager.

Table 7.2 shows the average marginal effects predicting WHP availability according to employees for healthy nutrition, sports facilities, ergonomic facilities and health checks separately. We first turn to aspects of the organizational context (*H1* to *H3*). We find that the organizational context influences the extent to which employees report WHP availability, but not all aspects play a role and not all types of WHP were affected equally. Contrary to expectation, the size of an establishment (*H1*) only increased perceptions of availability of ergonomic facilities: employees in small establishments were 7 percentage points less likely to report availability and employees in medium establishments 6 percentage points less likely. For other WHP arrangements, organization size did not matter. *H2*, which predicted that perceptions of availability increased in establishments that offer more arrangements, turns out to hold for all but one type of WHP. Employees in establishments that offer more WHP were more likely to report healthy nutrition arrangements, ergonomic facilities and health checks, but not sports facilities. *H3*, which examined the role of the team manager, received the most support of the three relating to organizational context. In cases where the team manager reports that a specific WHP is available, this increases the likelihood of employees reporting WHP for all types: 7 percentage points for healthy

Table 7.2 Average marginal effects from multilevel logistic regressions predicting employee perception of WHP availability

	Healthy nutrition	Sports facilities	Ergonomic facilities	Health checks
	38%	40%	64%	53%
Availability according to employees				
<i>Organizational context</i>				
Establishment size (ref. = large)				
Small	-0.04	-0.06	-0.07*	-0.03
Medium	0.04	-0.05	-0.06*	0.00
Availability of other WHP	0.08***	0.04	0.05***	0.05*
WHP available according to team manager	0.07*	0.10**	0.10***	0.14***
<i>Employee characteristics</i>				
Highest completed education (std.)	-0.02	0.01†	0.02**	-0.01
Skill-level job (ref. = semi/unskilled)				
Highly skilled	0.05*	0.01	-0.01	-0.01
Skilled	0.002	0.05***	0.04*	0.002
Non-permanent contract (ref. = permanent)	0.04	-0.08***	-0.01	-0.05**
Working hours (std.)	0.01	-0.01	-0.00	0.00
Tenure (std.)	0.02†	0.02*	0.03***	0.03***
Good health (ref. = poor/fair health)	0.07***	0.04**	0.06***	0.03**
<i>Control variables</i>				
Female (ref. = male)	0.06***	0.01	0.02	-0.01
Age (std.)	-0.01	-0.02**	-0.01	0.01
<i>Sector (ref. = healthcare)</i>				
Manufacturing	0.03	-0.05	0.01	0.01
Higher education	-0.09	0.01	0.01	-0.04
Transport	0.09	0.08	0.02	0.12*
Banking	-0.01	0.04	0.09*	-0.01
Telecommunications	0.19**	0.17**	0.15***	-0.03
<i>Country (ref. = Netherlands)</i>				
UK	0.01	0.07	-0.05	0.10
Germany	0.06	0.20*	-0.06	0.11
Finland	0.16**	0.28***	0.04	0.44***
Sweden	-0.23**	0.34***	0.08*	0.26**
Portugal	-0.04	-0.15	-0.26***	0.36***
Spain	-0.41***	-0.08	-0.13*	0.55***
Hungary	-0.07	-0.13	-0.05	0.31***
Bulgaria	-0.20**	-0.11	-0.24***	0.41***
N employees	3,586	4,238	6,800	5,073
N teams	282	344	610	466
N organizations	101	126	212	167

Notes

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$ .

Sample differs between WHPs because the analyses were limited to organizations that offer a specific WHP according to the HR manager's report.

nutrition, 10 percentage points for both sports and ergonomic facilities and 14 percentage points for health checks.

Next, we move to the individual characteristics of employees. We found some support for the positive role of human capital (*H4*). Higher educated employees reported ergonomic facilities more often, but no significant differences were found for the other arrangements. Highly skilled employees were more likely to report healthy nutrition arrangements than semi-skilled or unskilled employees, while skilled employees were more likely to report sports participation and ergonomic facilities compared to those who were semi-skilled or unskilled.

A mixed view emerges with respect to job characteristics (*H5a–c* on type of contract, working hours and tenure). We find that employees with a non-permanent contract were less likely to report sports participation and health checks, but contract permanency did not affect the reporting of healthy nutrition arrangements or ergonomic facilities. Working hours appear to play no role at all. We find tenure to be related to awareness of each type of WHP but effects were minor: for every standard deviation increase in tenure, employees were 2 percentage points more likely to report nutrition arrangements and sports participation, and 3 percentage points more likely to report ergonomic facilities and health checks.

Finally, as expected by *H6* we find that healthier employees more often reported each type of WHP to be available in their establishment.

### ***Sensitivity analysis***

Here we describe the results of two sensitivity analyses. First, our analytical sample consisted of all employees who had a valid team manager report for the availability of WHP. Excluding cases for which the team manager's report was not available resulted in a large deduction of sample size; we therefore also ran the analyses without the team manager's report. The results were very similar. Only in respect of healthy nutrition did the perception differences by employee skill level disappear.

Second, the analyses contrasted employees who reported WHP to be "available" versus "not available" or "don't know." It could be that reports of "don't know" are driven by substantially different processes than reports of "not available." We therefore reran the analysis contrasting "available" versus "not available" and excluded the "don't know" answers. The results of this sensitivity analysis were very similar to the presented results (not shown, but available upon request).<sup>1</sup> We find differences with regard to the contract and tenure indicators for three of the four WHP indicators (all but healthy nutrition). The main analyses showed that employees on a non-permanent contract were less likely, and longer tenure workers more likely, to report WHP availability. These effects disappeared in the sensitivity analyses, which fits with our theoretical reasoning that these findings were driven by non-permanent and shorter tenure workers reporting "don't know" more often. The substantial interpretation was

therefore not affected by our decision to collapse the “not available” and “don’t know” answer categories.

## **Discussion**

The aim of this chapter was twofold: first, to offer an impression of the availability of WHP in European organizations where there has been no previous research; and second, to study WHP availability from the point of view of employees. The multilevel design of the ESWS allowed us to compare the availability of WHP as indicated by the organization and by employees.

First, our results show that there are large differences between countries and economic sectors in WHP availability. We find that, overall, ergonomic facilities are available in 86 percent of establishments and offered the most, while healthy nutrition arrangements were least reported (45 percent). Compared to the US where the availability of these arrangements hovers around 30 percent, European establishments more frequently offer WHP (Fielding & Piserchia, 1989; Linnan et al., 2008). Our results show that, in general, employers in Northern Europe offer more WHP and those in Eastern European the least, which is in line with previous findings (Magnavita et al., 2017). We also find differences between economic sectors in terms of WHP availability, with most WHP available for employees in higher education and the least in the transport sector. In summary, the substantial difference to the US and variation across European countries in WHP provision justify our claim that a distinct European perspective is needed in WHP research.

The second aim of our study was to examine employee perceptions of WHP availability. In line with research on other HR practices (McCleary et al., 2017; Wright & Nishii, 2007), we find large discrepancies between organizational WHP and employee perceptions of its availability. The second part of our study therefore focused on which employee and organizational characteristics contribute to employee perceptions. To our knowledge, we are among the first to study this question. We argue that the costs of acquiring information and its salience influences the perceptions employees hold of WHP.

WHP is not just a health activity but also an organizational activity (Sloan & Gruman, 1988). We find that when organizations offer a more comprehensive WHP plan, employees are more likely to perceive WHP to be available. Organizations would thus do better to offer more forms of WHP rather than just one, in order to increase the salience of the policies. Organizations might communicate information about WHP centrally, but these initiatives may not reach all parts of the organization equally (Robroek et al., 2009). We find that when the team manager reports WHP to be available, employees are more likely to report WHP to be available too. Our results imply that managers are crucial when it comes to informing employees about WHP. Alternatively, it could also be the case that differences between team managers indicate that WHP was rolled out differently across an organization. Furthermore, organizational size was hardly related to the reported availability of WHP. Smaller organizations

are less likely to offer WHP (Williams & Snow, 2012), but once the arrangements are in place employees are not less likely to report that health policies are available. Given that most people work in small or medium-sized organizations and this will continue to be the case (Guazzi et al., 2014), efforts should be made to ensure that all employees have access to WHP equally.

Our results show that also characteristics of employees themselves affect whether they perceive WHP to be available, both in terms of lowering the costs of seeking information about WHP as well as the evaluation of the usefulness of this information. We expected that human capital would be related to both, but find that generally human capital only plays a modest role in the perception of WHP availability. Previous studies have shown that human capital is related to knowledge about health (Pampel, Krueger, & Denney, 2010), but our results show that this might not necessarily be the case in the workplace. This could have implications for the relationship between WHP and health inequalities because the lack of a social gradient in awareness of WHP increases the importance of the formal provision of WHP to reduce inequalities in health. There are, of course, large differences between sectors and organizations in the composition of the workforce (Nabe-Nielsen, Garde, Clausen, & Jørgensen, 2015); this might have implications for existing inequalities in health, especially if those with unhealthy lifestyles more often work in organizations with less WHP available.

The type of contract and employment history of employees also played a role, but the number of working hours did not. Employees with a non-permanent contract report less WHP compared to employees with a permanent contract. We found longer tenure to increase awareness of each type of WHP. This suggests that organizations should bring WHP to the attention of employees when they start a job so as to create awareness among new employees as well.

Finally, our results indicate that healthier employees are more likely to be aware of WHP. Because we used cross-sectional data, we cannot rule out the possibility that healthier employees are more likely to be aware of WHP because they more often make use of it; so knowing about WHP is a precondition to its use and possible better health. However, earlier research has shown that healthier individuals have higher self-efficacy with regard to health (Rongen, Robroek, & Burdorf, 2014a). Knowledge about healthy lifestyle opportunities (including what the organization offers in the form of WHP) is closely attached to, if not a prerequisite for, having control over one's own health. We leave it to future studies to examine the relationship between awareness, use and effect of WHP on employee health.

Other limitations of our study should also be noted. Our theoretical discussion relied on information and motivation theories, but we did not empirically distinguish the different underlying mechanisms. Studies on perception of other HR practices (see, for example, Prottas et al., 2007 for a discussion on work-life policies) do not typically investigate these mechanisms in detail either. However, understanding which underlying mechanisms are at play in bringing about employee awareness helps organizations to decide how to target

employees. For example, is it sufficient to provide information about WHP or is it also necessary to emphasize and embrace shared responsibility (organization and employee) for health and well-being in communications about WHP (Aldana et al., 2012)? Future research should pay attention to this.

Another limitation is that although we tried to map the availability of WHP within European organizations, we could only do so for nine countries across six sectors. Although this is a much-needed first step, we suggest that future studies build upon our findings by offering a more comprehensive overview.

Our results show that organizational characteristics matter for employee perceptions of WHP availability. Focusing on formal characteristics, we did not explicitly address the impact of workforce composition. Part of the variation at the organizational level may be due to employee composition effects rather than contextual effects. It should be noted that this problem also applies, in part, to the effects of individual employee characteristics, which may reflect organizational compositional aspects (e.g., higher educated people working at universities where most other employees are also highly educated). We partly account for this by including both employee characteristics and economic sector in our analyses, as well as restricting our sample to organizations that offer WHP.

Finally, we assumed employee perceptions of availability to be a reflection of the extent to which employees know about the WHP offered in their organizations. However, perceptions are not completely neutral, as they also reflect the extent to which employees evaluate the implementation of WHP. Organizations may offer WHP, but if employees do not conceive what is on offer as useful or as part of HR practices, they may not report WHP to be available. We unfortunately did not have detailed information on WHP implementation in organizations. However, the strong effects of organizational context indicate that perceived WHP closely links to WHP implementation. For instance, the positive effect on WHP of team managers' knowledge could indicate that implementation and communication about WHP differs across teams within the organization.

This chapter shows that characteristics of both organizations and employees impact employee perceptions of WHP. Our findings show that employee awareness of WHP is not bestowed merely by implementing the programs. Organizations that experience under-utilization of their WHP programs may find our findings useful in respect of targeting employees who are less aware of WHP. A healthy workforce contributes to a sustainable workforce, but without awareness of how to tackle unhealthy behavior in the work environment, both employees and organizations miss out on the advantages WHP may bring to the workplace.

## Note

1 Full results are available on request from the first author: a.c.vanderput@uu.nl.