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Worksite Health Promotion and Work Performance

Both Awareness and Use Matter

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Objective: This work aimed to study whether being aware of the existence of worksite health promotion (WHP), using it, or both are related to employees' task and contextual performance. **Methods:** Multilevel cross-sectional data came from the European Sustainable Workforce Survey, with data from more than 11,000 employees in 259 organizations. Generalized structural equation modeling was used to examine two types of WHP: healthy menus and sports facilities. **Results:** Awareness of healthy menus and sports facilities was positively associated with task and contextual performance. Healthy menus use was related to both higher task and contextual performance, whereas sports facilities use was only associated with contextual performance. The relation of WHP use was stronger for contextual than for task performance. **Conclusions:** Organizations should ensure that employees are aware of the availability of WHP as well as stimulate employees to make use of it.

Keywords: worksite health promotion, task performance, contextual performance, organizational support theory, social exchange theory

LEARNING OUTCOMES

- Readers are expected to explain how WHP awareness and use relate to employee performance.
- Readers are expected to compare the differences between healthy menus and sports facilities and their relations to employee performance.
- Readers are expected to compare the difference between task and contextual performance and how these are related to WHP.

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The workplace is a promising environment for preventive health activities because many adults spend the majority of their waking day at work. Worksite health promotion (WHP), such as healthy food in the worksite cafeteria or on-site fitness facilities, has the potential to reach many employees and has repeatedly been found to improve health when employees make use of the WHP their organization offers.¹⁻⁴ Not all organizations, however, offer WHP, and some employees see employee health mainly as something for the private domain.⁵⁻⁷ However, WHP is also positively associated with work-related outcomes, such as lower absenteeism,⁸⁻¹² lower presenteeism,^{8,10,13} higher job satisfaction,^{11,14} higher work ability,^{9,15} and higher job performance.^{16,17} The effects of WHP on performance outcomes may even be larger than those on health-related outcomes,¹⁰ showing the importance of studying performance in relation to WHP.

Most studies on WHP and work-related outcomes, such as performance, focus on use of WHP. However, not all employees use WHP, even though they may know their organization offers it. On average, only 33% of employees who have access to WHP make use of it and may thus—possibly—benefit from improved performance.^{3,18,19} However, research on other employee benefits, such as supplemental family leave provision and flexible work schedules, found that awareness alone is also positively related to employee performance.^{20,21} This could also be the case for WHP.

Previous research investigating WHP for work-related outcomes is mostly of experimental nature. In these studies, all employees in a work unit or organization participate in WHP, making it very difficult to separate awareness from use. However, the ways in which awareness and use affect performance may differ.^{20,22} Employees who are aware of the availability of WHP in their organization may perceive this to signal that their organization is concerned with their health and well-being, which can strengthen employees' organizational commitment and make them reciprocate this concern by performing better.²³ This may be especially the case for employees who use WHP, not only because they directly benefit from their employers' concern for their well-being but also because using WHP may improve health, which allows employees to do better in their jobs.²⁴ In this article, we therefore examine whether WHP awareness, use, or both relate to performance.

One of the alleged benefits of WHP is increased performance, yet previous studies mostly examined other outcomes that are focused on WHP use, such as absenteeism (but see Refs.^{16,17} for exceptions). We focus on employee performance. Specifically, we examine task and contextual performance, which, together, measure relevant aspects of performance and can be used across sectors and occupations.²⁵ Task performance can be defined as the proficiency with which employees perform the tasks central to their job, whereas contextual performance (also known as extrarole performance or organizational citizenship behavior) can be defined as a behavior that supports the organizational, social, and psychological environment in which the technical core must function, and thus consists of behavior that goes beyond what is normally expected of employees.²⁶ It could be the case that these different aspects of performance relate differently to WHP use and awareness. Studying both may provide more insight into the relation between WHP and performance.

We use unique multilevel data from the European Sustainable Workforce Survey,²⁷ which contains information on more than 11,000 employees in 259 organizations in nine European countries. Existing

studies on WHP rely on data from one or a few organizations,¹⁸ making it difficult to study differences in WHP awareness and use. Our multi-level data warrant us to look at both: in some organizations, employees may know that there are healthy menus in the cafeteria, but their job does not allow them to use these, whereas in others, all employees eat together during lunch. The data also allow us to study the associations of performance with policies that are actually implemented in organizations rather than interventions in a research context. Although such studies provide important insights regarding causal relationships, WHP that works well in one organization may not necessarily be effective in another. Our approach may offer increased external validity by better reflecting the real-life experiences of WHP across diverse organizations.²⁸

Furthermore, we examine two types of WHP: healthy menus and sports facilities. Healthy menus take the form of cafeteria food that is high in nutrients and low in sugar, salt, and fats, whereas sports facilities can be both onsite, such as a gym, and financial contributions toward a sports activity. These are among the most prevalent types of WHP implemented in organizations.^{29,30} Both these types of WHP can be used by all employees, meaning that they have the potential to improve performance for all.⁶ However, not all organizations offer their employees access to healthy menus and sports facilities, and there is also variation in the extent to which employees are aware of their existence.³¹ In addition, both types of WHP differ in the extent to which they are visible to employees as being benefits put in place for them and the demand they make on the working day, affecting how often they will be used. Studying both may provide more insight into how employee and employers can benefit from investments in WHP.

To improve the business case for WHP, it is important for organizations to know how their investments in WHP benefit employees, so they can direct organizational resources to where these are most effective. Several studies on WHP highlight communication as a key prerequisite to ensure that employees are aware of the existence of WHP in their organization.^{32–34} If our results indicate that awareness relates to performance, employers should communicate that WHP is available. Increased awareness through communication also precedes use, and if the results show use matters, then organizations need to consider how to stimulate their employees to make use of WHP on offer. Our study provides this insight, which helps build a business case for WHP and increase investments.³⁵

Theory

Not all employees know that their organization offers WHP, and among those who do, not all make use of it.^{19,31} In this study, we focus on both awareness and use of WHP, and the relation to performance.

WHP Awareness

To explain how WHP awareness relates to performance, we draw on organizational support and signaling theories. Organizational support theory assumes employees form general beliefs concerning how much the organization values their contributions and cares about their well-being.³⁶ Organizational support for employees' health and well-being is not directly observable, meaning that employees have less information about this than their employer. Signaling theory³⁷ posits that, in such a situation, employees look for observable actions to derive this information from. WHP may be such a sign, as implementing programs to promote employee health and well-being is costly. By providing WHP, organizations signal to employees that they are concerned with employee health and well-being.²⁴ Previous studies found that employees who knew about the existence of WHP in the organization they worked for, perceived this as a sign that the organization cared about their health.^{34,38}

Past research suggests that perceived organizational support for employees contributes to positive employee attitudes and behaviors toward the organization.^{11,23} Offering WHP can be seen as being part of a social exchange relationship: the employer shows they care about employees' health, and to appreciate this gesture, employees reciprocate

by helping the organization do well.^{39,40} Although, to date, no studies have directly linked WHP awareness to employee performance, some evidence suggests that knowing that WHP is provided by one's organization may elicit positive employee behaviors. For example, employees who knew WHP was offered were less likely to intend to leave their jobs,²² and when perceived workplace support for a healthy lifestyle was higher, presenteeism was lower.⁴¹ In addition, employees may feel more committed to their organization when they know they are offered WHP.⁴² As a result of this increased organizational commitment, employees may want their organization to do well and may perform better to achieve this.^{20,43}

Whether knowing that WHP is available is associated with employees' performance may depend on the way in which employees perceive the signal of WHP by the organization. Employees differ in the way in which they perceive organizational policies and practices.⁴⁴ Some employees may see their organization's offer of WHP as a way to curtail business costs by reducing absenteeism, or as an interference in their personal lives.⁴⁵ In these cases, WHP does not signal that the organization cares about employee health and well-being and is unlikely to elicit positive responses in employees. However, WHP is typically a discretionary practice, meaning that its availability implies an organizations' voluntary investment rather than a response to legal requirements.^{33,46} Most employees are found to support this positive view of WHP availability and feel it is offered out of concern with their well-being.³⁸ In addition, in organizations with more WHP policies and programs, which denotes a higher investment by the organization, employees are more likely to view their employer as committed to their health.⁴⁷ Based on these arguments, we expect that employees who are aware about the existence of WHP score higher on job performance (H1).

WHP Use

Organizations do not only make WHP available to employees to signal care for their well-being but also want employees to use it, so these can improve their health. When employees use WHP, this implies that they are aware of its existence, but in addition to that, WHP use may also relate to performance via two other ways. First, WHP use may affect how employees perceive the signal WHP allegedly sends.²⁰ In line with self-interest theory, WHP is found to enhance commitment to the organization when employees find it personally useful.²¹ Employees who use WHP may have more positive beliefs about the value of WHP in their attempts to live a healthy lifestyle, see it as more important, and have a higher sense that the organization supports their health and well-being.³³ The signal WHP sends is thus stronger for them. WHP use has been found to increase organizational commitment and positive beliefs about the value WHP brings.^{33,38,42} Given that users personally gain benefits from WHP, these employees may feel more gratitude toward their employer and have a stronger obligation to reciprocate, and could thus be expected to perform better.^{23,24}

Second, WHP use can lead to better health and well-being, which is associated with better performance. Several studies have shown that WHP can improve employee health and healthy lifestyle such as eating and physical activity behaviors, although the effects depend on the type of WHP and context in which they have been implemented.^{1–4} Consuming healthy menus in the worksite cafeteria may enhance performance, as having a healthy diet is related to better cognitive functioning, less energy fluctuations, and better mood, which may make employees more motivated.^{8,48,49} Using sports facilities at or outside work may increase performance through lower stress, improved concentration resulting from mental detachment from work demands, and increased self-efficacy.^{50,51} In a qualitative study, employees reported viewing WHP as a mental break, which helps them to regain focus and have a clearer mind and thus actually perform better.⁵² Employees who ate healthier, were more physically active, and reported better health have been found to perform better at work.^{25,50,53,54}

Some studies note that healthy employees are most likely to make use of^{55,56} and also perform better at work. Maybe these employees are

attracted to organizations that offer WHP because this helps them to integrate their healthy lifestyle more easily into their working day, for example, by being allowed to go to the gym during their lunch break. For many employers, the possibility that making WHP available will attract and retain highly valuable employees is an important reason to do so in the first place.^{6,57,58} If this is indeed the case, employees with valuable knowledge and skills who perform well may self-select into organizations that provide WHP because they value this offer. However, also employees with suboptimal health are attracted to using WHP, and the possibility to improve health and through that performance is potentially bigger among this group.^{4,59,60} Although some studies found limited, conditional, or no effects,^{3,15,17,61} several studies found WHP use to increase employee performance, regardless of the health status of those employees.^{16,33,62} We thus hypothesize that employees who use WHP score higher on job performance (H2).

Contextual and Task Performance

This study examines two complementary aspects of job performance, namely, task and contextual performance. Task performance is the ability with which employees perform the tasks central to their job, whereas contextual performance (also known as extrarole performance or organizational citizenship behavior) consists of behavior that goes beyond what is normally expected of employees.²⁶ Although we expect WHP awareness and use to relate to both, we argue that the relation may be stronger for contextual performance. Because being aware of WHP is expected to elicit reciprocal behavior on the employees' part, this may be particularly relevant in the case of doing additional tasks.²⁵ When using WHP, employees may feel this even more. WHP use may help employees feel more energetic, which could be translated into higher task performance, but it could also be that this additional energy is fueled into doing additional tasks, as the main tasks of the job need to be done regardless of the effects WHP use may have.⁴⁸ Furthermore, task performance may be affected more by experience and skills, which is not necessarily improved by WHP awareness or use.⁶³ Meta-analytic evidence shows that organizational support is more strongly related to contextual performance.^{23,43} We thus expect that WHP awareness (H3a) and WHP use (H3b) relate stronger to contextual performance than to task performance.

Different Types of WHP

In this study, we focus on two types of WHP: healthy menus and sports facilities. These are among the most often available types of WHP in the workplace.^{29,30} Both can potentially be used by all employees and may thus affect the performance of all employees. However, there are also differences, for example, in the extent to which these WHPs are visible to employees as benefits put in place for them. Having fruits freely and abundantly available in the office could be seen as being part of the work environment rather than a special concern from the employer, which may be more likely the case for sports facilities. In addition, not all WHP may be used equally often. An employee needs to eat daily and may rely on the healthy worksite cafeteria for that, whereas using sports facilities may only happen once or several times a week. In this respect, the health- and performance-enhancing effects of healthy menus may be larger. Little research examined differences before. We therefore take an explorative approach to see whether there are differences in the associations between awareness and use and performance for healthy menus and sports facilities.

METHODS

Data

To test our hypotheses, we used cross-sectional data from the European Sustainable Workforce Survey collected in 2015 to 2016.²⁷ These data were collected among human resource (HR) managers,

team managers, and employees of many organizations in nine European countries (the United Kingdom, Germany, Finland, Sweden, the Netherlands, Portugal, Spain, Hungary, and Bulgaria). Organizations were contacted using a stratified random sampling approach based on sector (manufacturing, health care, higher education, transport, financial services, and telecommunication) and size (up to 100, 101–249, or 250 or more employees). When an organization agreed to join the study, HR managers, team managers and employees were contacted at work to fill in a questionnaire in their own language. The study protocol was approved by the Faculty Ethics Review Board. The STROBE cross-sectional reporting guidelines⁶⁴ have been used (see Appendix 1, <http://links.lww.com/JOM/B381>). Before participating, respondents provided written informed consent. The response rate was 98% among HR managers, 81% among team managers, and 61% among employees, resulting in a total sample of 11,011 employees and 256 HR managers in 869 teams in 259 organizations.

In our analyses, we made use of the responses provided by the HR manager and the employees, as these reported on the variables necessary for our study. We excluded employees who worked in organizations for which the HR manager did not complete the survey or report on the availability of WHP, which differed by type of WHP: for healthy menus, 375 employees in 10 organizations were excluded, and for sports facilities, 338 employees in 9 organizations were excluded. We used listwise deletion of missing values on any of the other included variables. For both samples, a majority of missing values were for the dependent variables task performance ($n = 505$) and contextual performance ($n = 526$). The final sample sizes differed by type of WHP and consisted of 9278 employees in 249 organizations for healthy menus and 9322 employees in 250 organizations for sports facilities.

Measures

Our dependent variables, task and contextual performance, were measured with an abbreviated version of the Individual Work Performance Questionnaire.²⁶ The Individual Work Performance Questionnaire can be used by employees in all types of occupations and sectors and has been shown to have good construct validity.²⁵ Both task and contextual performance were measured using five items (Table 1), and respondents could indicate how often these situations occurred in their job on a five-point Likert scale ranging from (1) always to (5) seldom. Scores were reversed so that higher scores indicated better performance. We conducted a confirmatory factor analysis to assess if the items measured distinct concepts as intended and found this to be the case. The factor loadings shown in Table 1 confirm that task and contextual performance could be distinguished. For each dependent variable, we averaged the scores on the five items. Internal consistency was good (task performance: Cronbach $\alpha = 0.85$, contextual performance: Cronbach $\alpha = 0.80$).

WHP awareness was measured by asking employees for each of two types of WHP whether these were available in their organization: catering or cafeteria menus based specifically on healthy nutrition, and sports facilities at work or a financial contribution toward a sports activity. Employees could indicate that these WHP provisions were available or not available, or that they did not know. We grouped the employees who answered “not available” and “do not know” together, reflecting that these employees were not aware of the existence of such WHP programs. We created separate measures for awareness of healthy menus and sports facilities.

WHP use was assessed asking employees to indicate whether they had used each type during the past 12 months (no, 0; yes, 1), if they were aware it was available in their organization. Employees were considered as not using a type of WHP if they indicated it to be unavailable or did not know if it was available. We again created separate measures for healthy menus and sports facilities.

We controlled for several sociodemographic characteristics, namely, sex (female, 1), years of education, occupational status reflected

TABLE 1. Rotated Factor Loadings and Unique Variances of Items Assessing Task and Contextual Performance

Component	Item	Factor 1	Factor 2	Uniqueness
Task performance	I was able to plan my work so that I finished on time.	0.69	-0.09	0.55
	I kept in mind the work results I needed to achieve.	0.63	0.13	0.53
	I was able to set priorities.	0.71	0.10	0.44
	I was able to do my work efficiently.	0.80	-0.03	0.37
	I managed my time well.	0.78	-0.03	0.41
Contextual performance	Without being told, I started new tasks after finishing up my work.	0.04	0.63	0.59
	I took on challenging new tasks when they were available.	-0.01	0.82	0.33
	I worked on keeping my work skills up-to-date.	0.17	0.53	0.63
	I took on extra responsibilities.	-0.04	0.74	0.47
	I actively participated in meetings and/or consultations.	-0.02	0.56	0.70
Eigenvalue		3.01	2.64	
Cronbach α		0.85	0.80	

N = 10,267. Oblique rotation with oblimin criterion. Items in bold denote to which factor they belong.

as International Socio-Economic Index of Occupational Status code, and age, as these may relate to knowing about the existence of WHP and using it.^{3,4,31} We also added work-related controls. Employees who worked more hours and more often at their workplace may have more exposure to organizational information through official and informal channels, meaning that they would be more likely to know about WHP.⁶⁵ As they spent more time at work, they may also be more likely to use it. We thus controlled for working hours (top coded at 80 hours) and extent of working from home (ranging from 1 [almost never] to 7 [4–5 days a week]). Employees who worked for an organization longer and who had a permanent contract may be more likely to know about the existence of organizational policies,³¹ which may also apply to WHP. We thus added tenure in years and whether an employee had a permanent contract as controls. We also controlled for physical work demands, which was measured by how often employees' duties involved standing, walking, or other physical activities. At the organizational level, we controlled for actual availability of WHP, as reported by the HR manager. We furthermore controlled for organizational size (small, up to 100 employees; medium, 101–249 employees; large, 250 or more employees), sector, and country.

Data Analyses

Because employees who work in the same organization may share certain attributes and are thus not independent, we applied a multilevel structure to allow for this nesting of the data. When not accounting for the clustering of employees within organizations, the standard errors of the parameters may be underestimated, leading to biased results.⁶⁶ The intraclass correlations are 0.07 for task performance and 0.10 for contextual performance. This indicates that there is a significant variation of 7% and 10% between organizations for task and contextual performance, respectively, and warrants the use of multilevel models.

Specifically, we fitted multilevel generalized structural equation models.⁶⁷ We simultaneously modeled both outcomes of task performance and contextual performance, as these were moderately correlated ($r = 0.33$). By simultaneously modeling both outcomes, we could also test whether the relation between each outcome and awareness and use of WHP differs, to examine hypotheses 3a and 3b. For this, we used Wald tests. As a sensitivity check, we ran regular multilevel regression analyses, so without simultaneously predicting both outcomes, which yielded similar results.

We ran separate models for each type of WHP because not all organizations offered both types of WHP, and employees cannot be aware of WHP or use it when it is not there. In addition, we ran separate models for awareness and use of both healthy menus and sports facilities because of the way the questions were asked (a respondent was not shown the use question if they reported it to be unavailable). Because of this, awareness and use were highly correlated ($r = 0.84$

for healthy menus and $r = 0.56$ for sports facilities). Because we ran our models separately for healthy menus and sports facilities, it was not possible to perform a formal test to assess if awareness (and use) of healthy menus and sports facilities relates to task and contextual performance differently. We therefore plotted the coefficients and confidence intervals and visually inspected whether there were any differences.

TABLE 2. Descriptive Statistics

	Healthy Menus		Sport Facilities		Range
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Task performance	3.78	0.77	3.78	0.77	1–5
Contextual performance	3.27	0.93	3.27	0.93	1–5
WHP awareness	0.38	—	0.41	—	0–1
WHP use	0.30	—	0.17	—	0–1
Female	0.56	—	0.56	—	0–1
Age, yr	42.06	10.98	42.04	10.97	16–77
Education, yr	13.73	3.10	13.72	3.09	3–21
ISEI: occupational status	56.84	18.59	56.83	18.57	11.74–88.70
Working hours per week	39.47	9.55	39.48	9.53	0–80
Working from home	1.72	1.38	1.72	1.38	1–7
Tenure, yr	10.62	9.83	10.57	9.81	0.08–52
Permanent contract	0.89	—	0.89	—	0–1
Physical work demands	2.94	1.49	2.94	1.49	1–5
Formal availability	0.45	—	0.54	—	0–1
Organization size					
Small	0.24	—	0.24	—	0–1
Medium	0.29	—	0.30	—	0–1
Large	0.46	—	0.46	—	0–1
Sector					
Manufacturing	0.23	—	0.23	—	0–1
Health care	0.24	—	0.24	—	0–1
Higher education	0.17	—	0.17	—	0–1
Transport	0.13	—	0.13	—	0–1
Financial services	0.13	—	0.13	—	0–1
Telecommunication	0.10	—	0.10	—	0–1
Country					
United Kingdom	0.07	—	0.07	—	0–1
Germany	0.09	—	0.09	—	0–1
Finland	0.08	—	0.08	—	0–1
Sweden	0.10	—	0.10	—	0–1
The Netherlands	0.24	—	0.24	—	0–1
Portugal	0.11	—	0.11	—	0–1
Spain	0.07	—	0.07	—	0–1
Hungary	0.12	—	0.12	—	0–1
Bulgaria	0.13	—	0.13	—	0–1
<i>N</i> employees	9,278		9,322		
<i>N</i> organizations	249		250		

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RESULTS

The descriptive statistics are shown in Table 2. Because we ran our analyses separately for each type of WHP, we also displayed the descriptive statistics separately for each subsample of participants for whom data on the specific type of WHP were available. We found no significant differences between the subsamples for any of the variables included. Fifty-six percent of the participants were female. They were, on average, 42 years old; received 13.7 years of education; and worked 39.5 hours per week.

On average, employees scored higher on task performance than on contextual performance. Employees were less aware of the availability of healthy menus (38%) than sports facilities (41%) in their organizations. Conversely, healthy menus were used more: 30% of employees reported having used these, whereas 17% had used sports facilities.

Table 3 displays the results of multilevel structural equation models focusing on WHP awareness. Our first hypothesis, which posited that employees who were aware of the existence of WHP scored higher on task and contextual performance, was supported by the data. Awareness of the availability of healthy menus in their organization was positively associated with both employees' task performance ($B = 0.12, P < 0.001$) and contextual performance ($B = 0.14, P < 0.001$). Similarly, awareness of the available sports facilities in their organization was also positively associated with employees' task

performance ($B = 0.06, P = 0.005$) and contextual performance ($B = 0.10, P < 0.001$).

The results of the multilevel structural equation models concerning WHP use are displayed in Table 4. We expected that WHP use was positively associated with task and contextual performance (H2). This hypothesis was largely supported by our findings. Employees who used healthy menus scored higher on task performance ($B = 0.11, P < 0.001$) and contextual performance ($B = 0.16, P < 0.001$). For use of sports facilities, we only found a significant positive association with contextual performance ($B = 0.12, P < 0.001$) but not task performance ($B = 0.03, P = 0.22$).

We expected that the relation between WHP awareness was stronger for contextual performance than task performance (H3a). However, this hypothesis was not supported by our data, neither for healthy menus ($\chi^2 = 1.26 (1), P = 0.26$) nor for sports facilities ($\chi^2 = 2.55 (1), P = 0.11$). We furthermore expected that the relation with use of WHP would be stronger for contextual performance than task performance (H3b), which was supported by our data, both for use of healthy menus ($\chi^2 = 4.39 (1), P = 0.04$) and for use of sports facilities ($\chi^2 = 7.68 (1), P = 0.01$).

To examine whether the relation between awareness and use and performance differed between types of WHP (ie, healthy menus and sports facilities), we plotted the coefficients of the multilevel

TABLE 3. Results From Multilevel Generalized Structural Equation Models Simultaneously Assessing Task and Contextual Performance by WHP Awareness and Covariates

	Task Performance				Contextual Performance			
	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE
Awareness healthy menus	-0.12***	(0.02)			-0.14***	(0.02)		
Awareness sport facilities			-0.06**	(0.02)			-0.10***	(0.02)
Female	-0.04*	(0.02)	-0.05**	(0.02)	-0.05*	(0.02)	-0.05*	(0.02)
Age in years	-0.00	(0.00)	-0.00	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)
Years of education	-0.00	(0.00)	-0.00	(0.00)	-0.03***	(0.00)	-0.03***	(0.00)
ISEI: occupational status	-0.00	(0.00)	-0.00	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)
Working hours per week	-0.01***	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)
Working from home	-0.01*	(0.01)	-0.01*	(0.01)	-0.05***	(0.01)	-0.05***	(0.01)
Tenure in years	-0.00	(0.00)	-0.00	(0.00)	-0.00	(0.00)	-0.00	(0.00)
Permanent contract	-0.07*	(0.03)	-0.07*	(0.03)	-0.01	(0.03)	-0.02	(0.03)
Physical work demands	-0.01	(0.01)	-0.01	(0.01)	-0.03***	(0.01)	-0.04***	(0.01)
Formal availability	-0.09**	(0.03)	-0.03	(0.03)	-0.04	(0.02)	-0.06*	(0.02)
Size (reference = large)								
Small	-0.07*	(0.03)	-0.07*	(0.03)	-0.03	(0.02)	-0.04	(0.03)
Medium	-0.00	(0.03)	-0.01	(0.03)	-0.03	(0.02)	-0.04	(0.02)
Sector (reference = health care)								
Manufacturing	-0.05	(0.04)	-0.06	(0.04)	-0.04	(0.03)	-0.05	(0.03)
Higher education	-0.05	(0.05)	-0.04	(0.05)	-0.03	(0.03)	-0.01	(0.03)
Transport	-0.02	(0.05)	-0.03	(0.05)	-0.06	(0.04)	-0.06	(0.04)
Financial services	-0.05	(0.05)	-0.06	(0.05)	-0.13***	(0.04)	-0.13***	(0.04)
Telecommunication	-0.06	(0.05)	-0.07	(0.05)	-0.09*	(0.04)	-0.08*	(0.04)
Country (reference = NL)								
United Kingdom	-0.05	(0.06)	-0.05	(0.06)	-0.15***	(0.04)	-0.15***	(0.04)
Germany	-0.13*	(0.05)	-0.11*	(0.05)	-0.11**	(0.04)	-0.11**	(0.04)
Finland	-0.03	(0.05)	-0.03	(0.06)	-0.22***	(0.04)	-0.26***	(0.04)
Sweden	-0.22***	(0.05)	-0.24***	(0.05)	-0.08*	(0.04)	-0.01	(0.04)
Portugal	-0.05	(0.05)	-0.05	(0.05)	-0.06	(0.04)	-0.07*	(0.04)
Spain	-0.03	(0.06)	-0.04	(0.06)	-0.06	(0.04)	-0.07	(0.04)
Hungary	-0.25***	(0.05)	-0.26***	(0.05)	-0.29***	(0.04)	-0.30***	(0.03)
Bulgaria	-0.13**	(0.05)	-0.12**	(0.05)	-0.40***	(0.03)	-0.40***	(0.03)
Constant	-3.90***	(0.09)	-3.89***	(0.09)	-2.12***	(0.09)	-2.09***	(0.09)
Observations	9278		9322		9278		9322	
Variance organization level	-0.02		-0.02		-0.02		-0.02	
Variance employee level	-0.55		-0.55		-0.77		-0.77	
Covariance task and contextual performance	-0.25***		-0.25***					

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

ISEI, International Socio-Economic Index of Occupational Status; NL, the Netherlands; WHP, worksite health promotion.

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TABLE 4. Results From Multilevel Generalized Structural Equation Models Simultaneously Assessing Task and Contextual Performance by WHP Use and Covariates

	Task Performance		Contextual Performance		Task Performance		Contextual Performance	
	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE
Use healthy menus	-0.11***	(0.02)			-0.16***	(0.02)		
Use sport facilities			-0.03	(0.03)			-0.12***	(0.03)
Female	-0.04*	(0.02)	-0.05**	(0.02)	-0.05*	(0.02)	-0.05*	(0.02)
Age in years	-0.00	(0.00)	-0.00	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)
Years of education	-0.00	(0.00)	-0.00	(0.00)	-0.03***	(0.00)	-0.03***	(0.00)
ISEI: occupational status	-0.00	(0.00)	-0.00	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)
Working hours per week	-0.01***	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)	-0.01***	(0.00)
Working from home	-0.01*	(0.01)	-0.01*	(0.01)	-0.05***	(0.01)	-0.05***	(0.01)
Tenure in years	-0.00	(0.00)	-0.00	(0.00)	-0.00	(0.00)	-0.00	(0.00)
Permanent contract	-0.06*	(0.03)	-0.07*	(0.03)	-0.01	(0.03)	-0.02	(0.03)
Physical work demands	-0.01	(0.01)	-0.01	(0.01)	-0.03***	(0.01)	-0.04***	(0.01)
Formal availability	-0.08*	(0.03)	-0.01	(0.03)	-0.03	(0.02)	-0.08**	(0.02)
Size (reference = large)								
Small	-0.06*	(0.03)	-0.07*	(0.03)	-0.03	(0.02)	-0.04	(0.03)
Medium	-0.01	(0.03)	-0.00	(0.03)	-0.03	(0.02)	-0.04	(0.02)
Sector (reference = health care)								
Manufacturing	-0.05	(0.04)	-0.06	(0.04)	-0.04	(0.03)	-0.05	(0.03)
Higher education	-0.05	(0.05)	-0.04	(0.05)	-0.02	(0.03)	-0.00	(0.03)
Transport	-0.02	(0.05)	-0.03	(0.04)	-0.07	(0.04)	-0.06	(0.04)
Financial services	-0.05	(0.05)	-0.06	(0.05)	-0.12***	(0.04)	-0.13***	(0.04)
Telecommunication	-0.06	(0.05)	-0.08	(0.05)	-0.09*	(0.04)	-0.08	(0.04)
Country (reference = NL)								
United Kingdom	-0.06	(0.05)	-0.05	(0.06)	-0.16***	(0.04)	-0.15***	(0.04)
Germany	-0.12*	(0.05)	-0.11*	(0.05)	-0.11**	(0.04)	-0.12**	(0.04)
Finland	-0.03	(0.05)	-0.04	(0.06)	-0.23***	(0.04)	-0.28***	(0.04)
Sweden	-0.22***	(0.05)	-0.23***	(0.05)	-0.09*	(0.04)	-0.03	(0.04)
Portugal	-0.06	(0.05)	-0.06	(0.05)	-0.06	(0.04)	-0.06	(0.04)
Spain	-0.03	(0.06)	-0.05	(0.06)	-0.06	(0.04)	-0.06	(0.04)
Hungary	-0.25***	(0.05)	-0.25***	(0.05)	-0.29***	(0.04)	-0.31***	(0.03)
Bulgaria	-0.12**	(0.05)	-0.12*	(0.05)	-0.40***	(0.03)	-0.42***	(0.03)
Constant	-3.91***	(0.09)	-3.89***	(0.09)	-2.14***	(0.09)	-2.11***	(0.09)
Observations	9278		9322		9278		9322	
Variance organization level	-0.02		-0.02		-0.02		-0.02	
Variance employee level	-0.55		-0.55		-0.77		-0.77	
Covariance task and contextual performance	-0.25***		-0.25***					

P* < 0.05; *P* < 0.01; ****P* < 0.001.

ISEI, International Socio-Economic Index of Occupational Status; NL, the Netherlands; WHP, worksite health promotion.

structural equation models and their confidence intervals relating to both task and contextual performance in Figure 1. Visual inspection shows that there were no significant differences between healthy menus and sports facilities for any of the associations. Effects

appeared to be larger for healthy menus, but in each case, coefficients were similar in size and the confidence intervals overlap, suggesting that there was no significant difference between healthy menus and sports facilities.

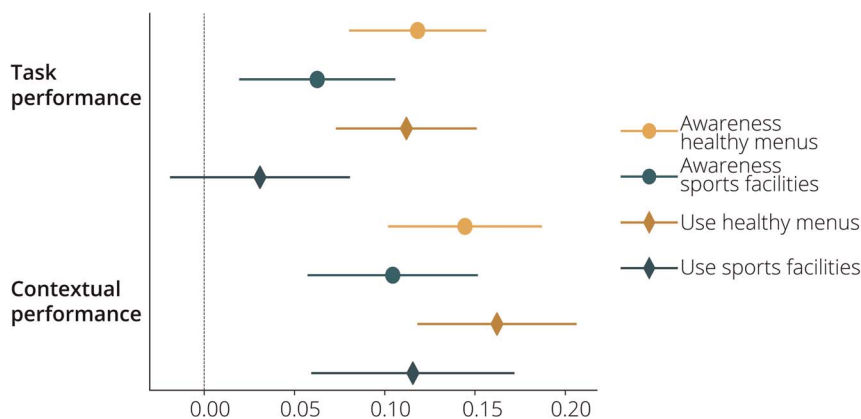


FIGURE 1. Coefficients of multilevel structural equation models relating awareness and use of both types of WHP to task and contextual performance. WHP, worksite health promotion.

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Sensitivity Analyses

We performed several sensitivity analyses to check the robustness of our findings. First, we included healthy menus and sports facilities simultaneously in one model. In this analysis, the association between awareness of sports facilities and task performance became marginally significant ($P = 0.05$), and we no longer found that use of healthy menus was more strongly related to contextual than to task performance ($P = 0.11$).

Second, we fitted our models only for employees who worked in organizations where WHP was formally available, as reported by the HR manager, who allegedly is the most reliable source concerning availability of policies.⁶⁸ According to 12% of employees, healthy menus were available in their organization, whereas these were not available according to the HR manager. Five percent of employees reported the availability of sports facilities, whereas the HR manager did not. Results were similar to those of the main analyses, except for the association between awareness of sports facilities and contextual performance, which became marginally significant ($P = 0.08$), and the finding that using healthy menus was no longer more strongly related to contextual performance ($P = 0.28$).

Third, instead of running analyses in separate subsamples of participants who provided data regarding either healthy menus and sports facilities, we reran our analysis using a single, smaller sample of participants who had provided data for both ($N = 9256$). The results were nevertheless robust for all hypothesized associations.

Fourth, for the analyses of WHP use, we examined whether results would differ if we conducted our analyses only among employees who reported WHP to be available (given that employees cannot use it if they do not know of its existence). Use of healthy menus was only marginally more strongly related to contextual performance ($P = 0.05$). We also examined WHP use if we excluded employees who reported not to know whether it was available in the organization. Again the results were mostly robust, apart from the strength of the association between using healthy menus and task and contextual performance ($P = 0.05$).

Fifth, it could be the case that WHP is a proxy for the attractiveness of the employer, in the sense that organizations that offer WHP also do other things that attract well-performing employees. We therefore added awareness and use of other organizational policies—specifically flexible working times, working from home, training opportunities, and extended leave policies—to our models, as such policies may also attract reciprocated responses from employees or allow them to do better in their job. As in the other analyses, the results were robust, except the finding that healthy menus was more strongly related to contextual performance ($P = 0.10$).

Finally, to examine if our results were influenced by sector or country differences, we performed jack-knife analyses, excluding one sector or country at a time.⁶⁹ All associations between WHP and performance were robust, with some exceptions. When excluding the health care sector, we found a marginally significant relation between awareness of sports facilities and task performance ($P = 0.07$). Also, when excluding some sectors (manufacturing, health care, and financial services) and some countries (the United Kingdom and Hungary), we found using healthy menus no longer to be more strongly related to contextual performance than to task performance (H3b).

DISCUSSION

This article examined whether employees' awareness and use of WHP activities are related to their performance. Most studies on WHP and work-related outcomes focus on use only, but on average, only 33% of employees make use of WHP.³ Studies on other organizational arrangements suggest that awareness alone may be positively related to work performance.²⁰ It is thus critical to study the effects of both awareness and use of WHP. We made use of unique multilevel data on more than 11,000 employees in 259 organizations²⁷ to study

whether the awareness and use of both healthy menus and sports facilities are related to employees' task and contextual performance.

We found that, as expected, employees who are aware of the existence of healthy menus and sports facilities in their workplace score higher on task and contextual performance than employees who did not know about the existence of these arrangements. For sports facilities, some results of the sensitivity analyses we performed suggested that this effect was marginally significant, which could indicate that this mostly applies to healthy menus. To our knowledge, no other studies have demonstrated the link between awareness of WHP and performance before. This relationship is nevertheless in line with previous research that reported that employees who were given access to WHP view this as a sign of concern with their well-being on behalf of the organization.^{34,38} This perceived concern was, in turn, associated with more commitment to the organization.⁴⁷ Organizational support theory²³ and social exchange theory³⁹ support the hypothesis that WHP may be a signal that the organization cares for the well-being of its employees, and in return, employees reciprocate by performing well. Our results seem to support this view.

Our findings also showed that the use of healthy menus is associated with both task and contextual performance. There may be two possible explanations for this association. On the one hand, employees who make use of healthy menus experience the organizations' concern for their well-being first hand, making them reciprocate by performing well more than nonusers.^{33,42} On the other hand, eating healthily during working hours may be associated with having less fluctuations in energy levels and better mood, which allows employees to do their job well and also provide them with the energy to help their colleagues.⁴⁸ Although our study cannot illuminate how the use of healthy menus is associated with higher performance, results suggest that employers are well advised to enable their employees to eat healthily during working hours.

We found the use of sports facilities to be only related to contextual performance and not to task performance. Sports facilities may be used less often than healthy menus or be used outside of working hours, so that these have less of an effect on task performance. It could also be that providing sports facilities is seen as a discretionary arrangement on the employers' part, something that is voluntary rather than a legal requirement.⁴⁶ This may elicit a wish to reciprocate among employees who use this arrangement, by performing additional tasks that benefit the organization and result in higher contextual performance.

We expected overall WHP awareness and use to be more strongly related to contextual performance than task performance, and found that this was only the case for using WHP. Moreover, several of the sensitivity analyses suggested that this was only the case for use of sports facilities and not healthy menus, which could be related to sports facilities being seen as discretionary to a larger extent than healthy menus. It could be that, when employees experience the benefits of WHP, they will reciprocate even more than when they feel the concern but do not personally profit.^{21,33} Benefitting directly may increase motivation, which is directed more toward contextual performance.⁶³ Furthermore, the additional energy and better mood employees may experience after using WHP could be fueled into performing additional tasks such as helping colleagues rather than doing the main tasks, which need doing anyways.⁴⁸

Although we only studied association, we still feel that our results have practical implications for employers. Our article suggests that there may be an association between awareness of WHP and performance, so organizations could take action to ensure that employees are aware of the existence of WHP.³⁸ For example, employers could frequently raise attention to the WHP they are offering, for example, by email campaigns or through intranet.^{32,34} This does not mean that employers should not prioritize use. Our results show that signs of organizational support may be powerful to elicit higher performance among the workforce, be it through social exchange or self-selection into using the policies. There are several ways in which employers

can help their employees in using WHP, for example, by allowing them autonomy over their working hours, so that they can fit a visit to the gym into their working day.⁷⁰ In addition, the workplace culture is also important, so that making healthy choices and using WHP becomes the normal choice. Colleagues can be each other's role models here, which could be highlighted in communication about WHP.⁷¹ Finally, it is important that the WHP offerings match the needs employees have.⁷² It may be less effective to set up an extensive cafeteria in a truck company where employees spend most of their time on the road. Rather, healthy lunch packages may be more suited here. In these ways, both employees and employers may benefit from WHP.

We want to note several limitations of our study. First, we used cross-sectional data, meaning that we measured performance and use and awareness at the same moment. Because of this, we cannot separate cause and effect but only study association. It could be the case that well-performing employees make time to use WHP, whereas employees who are performing less well do not take the time to visit the worksite cafeteria for lunch but rather eat behind their desks instead. Although our results are in line with studies that warrant performance to be the outcome rather than the explanatory variable, longitudinal data would provide more insights into causal relationships between WHP and performance. Second, we used a self-reported measure of work performance, which may be subject to response bias.⁷³ A manager report may be more appropriate, although this often overlooks aspects of contextual performance.²⁰ Future research could make use of an assessment of work performance that combines employee and manager reports. Third, our indicator of WHP use may not fully capture what WHP consists of. This may result in an underestimation of its strength. Although other studies measured WHP use in a similar matter, a more detailed assessment of WHP is recommended. Fourth, it could be the case that organizations that offer WHP also provide other employee benefits that may be associated with increased performance. Perhaps WHP is a proxy for being an attractive employer or offering good working conditions. However, this does not negate the fact that employees still need to be aware and use those arrangements to benefit, and we showed that this is at least the case for WHP. Our sensitivity analyses showed that, alongside some other arrangements, namely, flexible working hours, working from home, training opportunities, and extended leave, there is an effect of WHP. It would nevertheless be good if future research studies WHP alongside other arrangements and conditions in more detail. Finally, we did not study the actual mechanisms that relate WHP awareness and use to performance. Future studies could examine these. In addition, such studies could also explore whether some mechanisms may be more relevant for some types of workers than for others. For example, employees with a different socioeconomic background or health status may differ in the extent to which they perceive WHP to be available or use it to a different extent.⁴ Knowing more about what works for whom helps employers and employees alike to reap potential benefits of WHP.

The strengths of our study include that we are, to our knowledge, the first to include assessments of both awareness and use of WHP in one study, which was due to our unique multilevel data. We furthermore examined policies that are actually implemented in organizations compared with experimental studies, so as to increase external validity by capturing the real-life benefits of WHP outside a research context.²⁸ In addition, we studied task and contextual performance rather than commonly used outcomes as absenteeism and presenteeism. Absenteeism can have many reasons (eg, having to care for a sick child or family member), whereas presenteeism mainly applies to people who experience health issues rather than the entire employed population.⁶¹ We thus believe that our study captures more relevant aspects of performance.

CONCLUSIONS

Organizations offer WHP to improve the health and lifestyle of their employees, but also because they may benefit from it themselves.

This article demonstrates that both awareness and use of healthy menus and sports facilities are positively associated with employees' work performance. It is important for employers to ensure that employees become aware of WHP's existence as well as stimulate them to use the policies available. Our results show that not only will employees perform better on their job-related tasks, they are also more likely to go beyond what is normally expected from them. In this way, both employees and employers benefit.

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We adhered to the STROBE guidelines.

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