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of office designs and telework
practices in the study of
flexwork effects on well-being
and performance

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Considering the combination of office designs and telework practices in the study of flexwork effects on well-being and performance

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Summary

In the managerial literature, flexwork arrangements are presented as beneficial for employees and employers in terms of well-being and performance, among other work-related outcomes. Recent meta-analysis and in-depth case studies introduced skepticism regarding such positive relationships. In an attempt to characterize the effects of such working arrangements on well-being and performance, we collected 843 questionnaires among individuals involved in flexwork arrangements, i.e. teleworking and/or working in open offices or shared offices, as well as in individual premises. Results show that while teleworking is positively correlated to intrinsic job satisfaction, work motivation and work environment for performance, shared offices are positively correlated to problems of concentration and negatively correlated to work environment for performance. Moreover, and while telework moderates the negative effects of shared offices on well-being and performance, it is only when combined to open-space that well-being and performance remain unimpacted or positively impacted. More surprisingly, people working in individual offices are also those feeling the most performant and healthy at work. Our discussion highlights the potential of shared offices in terms of work fragmentation and addresses some avenues for future research.

Keywords: Flexwork, teleworking, office design, well-being, performance, work degradation

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Introduction

Since the 1980s, the concept of flexible work practices has gained momentum and been widely discussed in journals like *New Technology, Work, and Employment*. A number of factors driving the growth of such flexible work arrangements over recent decades have been identified. They include the development of enabling technologies, the increased economic importance of service industries and knowledge work, a greater awareness of sustainability and mobility issues, increased cost and space pressures, and employees' aspiration to better balance private and professional duties (Peters *et al.*, 2014; sSewell and Taskin, 2015). A key element of the study of new technology, work and employment is the way in which flexible work arrangements affect traditional work-related outcomes like performance or well-being.

Early accounts of flexwork arrangements emphasized the potential beneficial organizational and individual outcomes of such practices, namely in terms of work-life balance, performance and intrinsic job satisfaction (e.g. Huws, 1984; Bélanger, 1999; Golden & Veiga, 2005). Detailed studies of flexwork practices (e.g., Brocklehurst 2001; Tietze & Musson, 2002) as well as meta-analyses (e.g. De Menezes & Kelliher, 2011; Martin & MacDonnell, 2012) quickly disabused us of such a simplistic view by showing their contrasted effects on such outcomes.

Flexwork traditionally refers to flexible working arrangements encompassing telework and office layouts such as open offices and shared offices (e.g. De Menezes and Kelliher, 2011). Until now the concept has been studied as a homogeneous set of practices (also labelled as flexible work designs by Hoeven & Zoonen, 2015). In this study, we propose to consider home-based telework, individual office, open office and shared office separately in a first step. As our sample is composed of organizations where the three arrangements are proposed, we try to understand the very specific influences of these practices on well-being and performance. In a second step, we investigate flexwork arrangements as a set of combined practices. To achieve this aim, we created six profiles of participants based on their practices (or not) of telework and the type of office layout they mainly use.

We collected 843 valid questionnaires within five large private and public Belgian companies involved in flexwork practices. Our results show, *inter alia*, that shared offices are negatively associated to well-being and performance, while teleworking has mainly positive associations with the same outcomes. The discussion of our results led us to consider that some configurations of flexwork practices may produce work degradation, where degradation refers to multiple and interrelated concepts like employee disqualification or work impoverishment (e.g. Friedmann, 1956; Braverman, 1974).

The contribution of this article is twofold. First, we present empirical evidence on the effects of teleworking and each office layout in terms of well-being and performance but also the effects of the combination of these flexwork practices in terms of well-being and performance. We contribute here to existing studies (mostly qualitative case studies) showing the dark side of flexible arrangements. Second, by showing the most deleterious effects of shared office and the erosion of the employment relationship through the feeling of being unable to perform a work in appropriate conditions for instance, we contribute to critical management studies having pointed out the 'fissured workplace' (Weil, 2014).

Flexwork and its outcomes for employees and employers

For several decades now, studies have pointed out that both work and organization structures have evolved. These changes were encouraged under pressures such as globalization and competition leading to financialization, the growing individualization of the employment relationship, the workers' increased demands for flexibility, as well as the continuous development of information and communication technologies uses (Castells *et al.*, 2007; Felstead *et al.*, 2005; Rifkin, 2000). Regarding this process, some authors mention the tendency of what they name "the new workplace" (Thompson and Warhurst, 1998; Holman *et al.*, 2005), the "new ways of working" (Peters *et al.*, 2009; Heckscher *et al.*, 2012) or the "new ways of organizing work" (Kelliher and Richardson, 2012).

All of these terms evoke this common willingness to break with traditional ways of working where flexible work practices, new styles of management and work environments substitute the rigid and bureaucratic way of organizing work (Felstead *et al.*, 2003; Kelliher and Richardson, 2012). While flexwork is studied as a homogeneous set of practices, we focus here on spatio-temporal flexibility, i.e. flexible working arrangements encompassing telework and office layouts such as open offices and shared offices (e.g. De Menezes and Kelliher, 2011).

In this vein, flexwork can be conceived in terms of place or space. In the first case, it covers different terms and underlies the notion of distance from traditional workplace. Telework involves therefore working from home, from a satellite office or refers to mobile working (Bailey and Kurland, 2002; Haddon and Brynin, 2005; Taskin, 2012). In the second case, flexwork is characterized by the work environment. It includes flexible workspaces within organizations. Open offices refer to workspaces that are personalized and assigned to individuals (Schultz and Hatch, 2009; Labardin, 2011; Hills and Levy, 2014). Conversely, shared offices remove opportunities for employees to personalize the work environment, and desks are no longer assigned to individual workers (Felstead *et al.*, 2005; Warren, 2006; Hirst, 2011).

The advantages of flexwork are vastly presented in the literature. To cut a long story short, the major benefit for organizations to adopt flexwork resides in the financial benefits it may generate through the reduction of space and associated real estate costs (Salomon *et al.*, 1991; Felstead *et al.*, 2005; Baldry and Barnes, 2012). Related to this, the perspective of the increase in organizational and job performance constitutes another motivation for implementing flexwork.

With regard to home-based telework, some meta-analyses show that the implementation of teleworking is associated with a greater level of performance (e.g. Gajendran and Harrison, 2007; Martínez-Sánchez *et al.*, 2008). However, other studies show contradictory results. In terms of work life balance, some studies highlight the benefits of flexwork, especially for home-based telework. According to them, a greater degree of flexibility enables workers to regulate the boundaries between work and private life, what may also have a positive effect on performance (Raghuram and Wiesenfeld, 2004; Gajendran and Harrison, 2007). Nevertheless, other studies demonstrate the deleterious effects of home-based telework for employees in terms of work life balance and role conflict. These contributions explain how home-based telework might interfere with private life, affairs or times (e.g. Hill *et al.*, 2003; Golden, 2006; Tietze and Musson, 2010; Allen *et al.*, 2015).

In the same vein, de Menezes and Kelliher (2011) specify that there is no clear evidence of the relation between flexwork and performance. In the context of shared offices, some authors demonstrate higher levels of stress and dissatisfaction at work, due to the fact they cannot

personalize their desk (Danielsson and Bodin, 2008; Hirst, 2011; Baldry and Barnes, 2012). So, work life balance appears as a contested – and too limited – characterization of well-being associated to flexwork, and dimensions related to health and job satisfaction should be taken into account.

Open and shared offices are also implemented with the aim of improving communication and collaboration (Zalesny and Farace, 1987; Brennan *et al.*, 2002). Oldham and Brass (1979) explain that open offices enable employees to communicate more and better with colleagues. By suppressing the physical barriers, these authors show that open offices increase feedbacks, sharing of information, what leads to better social relationships and performance within organizations. All of this contributes to the workers' satisfaction and motivation while the informal communication is also increased in these offices. While these studies show an increase in performance, others demonstrate the negative consequences such as increasing levels of absenteeism, problems of concentration or excessive stress for individual and organizational performance (Green, 1993; Sundstrom *et al.*, 1994; Smith-Jackson and Klein, 2009). In addition, other studies demonstrate that shared offices may deteriorate relationships and decrease informal interactions (Hislop and Axtell, 2007; Hirst, 2011). Also in the context of teleworking arrangements, isolation has been reported as a major consequence (Cooper and Kurland, 2002; Golden *et al.*, 2008; Sewell and Taskin, 2015). Some authors specify that these feelings of isolation negatively influence performance and organizational commitment (Allen *et al.*, 2003; Harris, 2003; Golden *et al.*, 2008).

Despite some positive relationships presented in the literature, contrasted influences of some components of flexwork arrangements on well-being and performance are pointed out. To a large extent, and as suggested elsewhere, isolation and collaboration, control and autonomy as well as work life balance and work life blur may be considered as the two faces of the same coin (Taskin and Edwards, 2007). For example, recent research shows deleterious effects of flexwork arrangements on performance, knowledge sharing, identity or well-being at work. For example, Taskin and Bridoux (2010) identified the deleterious effect of home-based teleworking on knowledge sharing due to what they named a 'de-socialization' process. Similarly, Golden and Raghuram (2010) reported the centrality of relational qualities in their study of teleworkers knowledge sharing. She demonstrated how non-territorial work environment threatens identity at work by affecting the personal and the social distinctiveness as well as the personal and social status. In her case study of the emergence of original social structures, Hirst (2011) reported deleterious effects of hot-desking, i.e. shared offices, in terms of workers' identification with the organization. She also pointed out that the practice of movement generates a sense of marginalization for workers. In the same perspective, Elsbach (2003) showed the negative effect of non-territorial offices, i.e. shared offices, on workplace identities at work. Finally, Bodin Danielsson and Bodin (2008) focused on the influence of different office types on worker's health status, well-being, and job satisfaction. In their results, these authors underlined that open plan office types had low scores with respect to health and job satisfaction. Nevertheless, these studies do not consider the combination of the different practices associated to flexwork. Their authors chose to focus on one specific flexible work practice, either teleworking or office designs, but, in the real world of work, such practices in fact combine.

Research framework: Investigating flexwork as sets of combined practices

While some authors specifically study open offices, in qualitative (e.g. Brennan *et al.*, 2002; Hirst, 2011) and quantitative (e.g. Bodin Danielsson and Bodin, 2008) ways, most existing

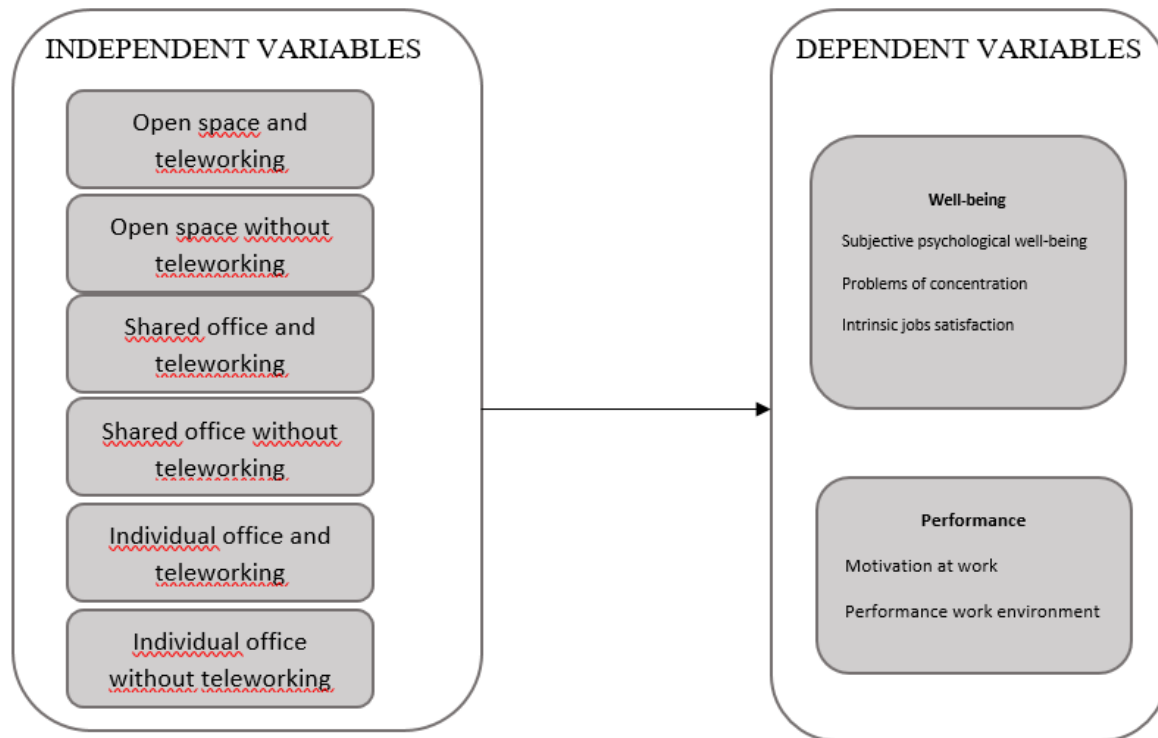
studies focus on telework through quantitative surveys (e.g. Felstead *et al.*, 2005; Gajendran and Harrison, 2007; Martinez-Sanchez *et al.*, 2008), qualitative in-depth case studies (e.g. Taskin and Edwards, 2007), or through proposing theoretical frameworks (e.g. Taskin and Bridoux, 2010; Allen, Renn and Griffeth, 2007). Only few meta-analyses propose to consider flexwork arrangements as a combination of practices (e.g. De Menezes and Kelliher, 2011). Consequently, they do not reveal any clear impact of flexwork on the considered outcomes (apart from absenteeism) since the combination was operated a posteriori by grouping the different practices together. Studying the relationships of specific flexwork arrangements on performance and well-being simultaneously allows understanding how the uses of different flexwork arrangements may combine and the kind of effect they may have on the measured outcomes, when they are combined.

Therefore, our main hypothesis is that the way telework and office designs are combined may explain different levels of employees' well-being and performance. We expect to find the most deleterious effects on these outcomes when shared offices without teleworking are part of the combination.

In terms of dependent variables, regarding performance, since we focus on the individual level, we will opt for motivational dimensions and performance work environment construct, instead of self-reported assessments of productivity or assignment completion (Gajendran and Harrison, 2007: 1531). The selection of these dimensions is justified by recent research pointing the deleterious effects flexwork practices may have, namely in terms of motivation, as shown by Hirst (2011) or Donis (2015) in their studies of shared offices when reporting the workers' feeling of invisibility and loss of productivity, for instance. In the same way, regarding well-being, since work life balance seems too narrow to apprehend the effects of flexwork -and not only home-based telework, which is more directly associated to work and private boundaries-, we opted for subjective psychological well-being, problems of concentration, work family conflict and family work conflict-related variables as well as well as for job satisfaction dimensions.

According to the literature review and our proposal to investigate flexwork as a set of combined practices, we suggest the following framework (see Figure 1).

Figure 1 – Research framework



Method

Participants and Procedure

We administrated an online questionnaire from March, 15 till April, 15, 2014 within 5 large private and public Belgian companies having developed flexwork arrangements in the last 3 years prior to our data collection¹. Potential participants were invited to complete the online questionnaire by email and were assured of the confidentiality of their responses. In total, 843 valid questionnaires were completed on all our variables of interest and thus composed the final sample of this study. Among this sample, 55.75% are men and 44.25% are women. Age was divided into five categories (18-25 years: 1.66%, 25-35 years: 17.67 %, 35-45 years: 36.54%, 45-55 years: 29.54%, and 55-65 years: 14.59%). In addition, 86.12% of these participants are teleworking, 50.18% are working in a traditional open space, 40.81% in a shared office, and 9.02% in an individual office.

Measures

Flexible work practices. Participants classified themselves into each of four flexible work practices, i.e. teleworking, working in open space, shared office or individual office, based on the responses provided to several questions included in the questionnaire. Telework was assessed using one item “Are you a teleworker”. Open space practices were measured using

¹ The research was funded by the laboRH Chair of UCLouvain.

one item *“I spend most of my working time in a collective area surrounded by other workers. My place is fixed and I can leave some personal belongings on my desk”*. People responding yes to this question were classified as working in open space. Shared office was measured using three items; *“I work on a large open work area, but my co-workers and I may occasionally sit in a closed office to perform specific tasks (meetings, phone calls, etc.)”*; *“I have the opportunity to integrate an open space occasionally when I’m passing by my workplace. I do not have any fixed location neither the opportunity to leave personal devices. I just need a simple connection and I sit temporarily”*; and *“I can choose several types of workspace (partitioned office, open office, meeting rooms, etc.), but for short periods of time. I have to request a workspace in advance and to book it when I plan to pass in the organization”*. If participants indicated yes to at least one of these items, they were categorized as using shared office. Finally, participants were invited to indicate if they work in an individual office using a single item *“I spend most of my time working in a personal individual office”*.

Employees Well-being. For the all items listed below, participants indicated the extent to which they agree with the statements using a seven-point Likert-type scale ranging from *“Not at all”* (1) to *“Absolutely”* (7). Employees’ *subjective psychological well-being* was assessed using 10 items developed by Massé et al. (1998). These 10 items were also adapted by Gilbert, Dagenais-Desmarais, and Savoie (2011) to measure a serenity or personal balance dimension of psychological health at work. A sample item is *“I feel healthy and in good shape”*. Employees’ *problems of concentration* were assessed using four items for Lin, Kain, and Fritz (2013). A sample item is *“Being interrupted while I am working is a frequent occurrence.”* Work family conflict (WFC) and family work conflict (FWC) were assessed each time with the 5-item scale of Netemeyer et al. (1996). A sample item of WFC is *“The demands of my work interfere with my home and family life”* and of FWC is *“Things I want to do at work don’t get done because of the demands of my family or spouse/significant other”*. Finally, *intrinsic job satisfaction* was measured with the 4-item scale of Mohrman, Cooke, and Mohrman (1997). A sample item assesses *“The opportunity for personal growth development in your job.”*

Employees’ performance. Employees’ work motivation was measured using Gagné et al. (2010)’s 12 items. This scale reflects distinct types of motivation at work. A sample item is *“Because I have fun doing my job”*. The performance work environment construct was evaluated using Bélanger (1999)’s 5 items. These items were for instance *“My work environment allows me to complete work in a timely and effective manner”* or *“My work environment allows me to do high quality work”*.

Results

Descriptive Statistics and Correlations among Variables

Table 1 includes descriptive statistics, bivariate correlations between all study variables and alpha coefficients. An examination of Table 1 indicates that teleworking is positively correlated to intrinsic job satisfaction ($r = .10, p < .01$), work motivation ($r = .13, p < .01$), and work environment ($r = .11, p < .01$). Working in an open space is negatively correlated to intrinsic job satisfaction ($r = -.08, p \leq .05$) and positively to work environment for performance ($r = .07, p \leq .05$). In addition, working in a shared office is positively correlated to problems of concentration ($r = .10, p < .01$) and negatively to work environment for performance ($r = -.16, p < .01$). Finally, working in an individual office is negatively correlated to problems of concentration ($r = -.07, p \leq .05$) and positively correlated to work family conflict ($r = .08, p \leq .05$) and to work environment for performance ($r = .16, p < .01$).

Table 1 - Descriptive Statistics and Intercorrelations among Variables

Variable		<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender		--	--	--												
2. Age		--	--	.22**	--											
3. Telework		--	--	-.04	.05	--										
4. Open space		--	--	-.02	.06	.17**	--									
5. Shared office		--	--	.04	-.06	-.17**	-.83**	--								
6. Individual office		--	--	-.04	.00	-.01	-.32**	-.26**	--							
7. Psychological well-being		5.25	.97	.09*	.02	-.02	.01	-.02	.02	(.88)						
8. Concentration problems		4.98	1.35	-.03	-.11**	-.01	-.06	.10**	-.07*	-.17**	(.85)					
9. WFC		3.05	1.48	.04	.00	.06	-.03	-.01	.08*	-.33**	.26**	(.93)				
10. FWC		2.27	1.16	.04	-.08*	.06	-.02	-.01	.04	-.18**	.13**	.53**	(.89)			
11. Intrinsic job satisfaction		4.83	1.31	.06	-.03	.10**	-.08*	.04	.07	.36**	-.07*	-.16**	-.15**	(.86)		
12. Motivation		4.29	.95	.10**	.02	.13**	-.01	-.01	.03	.21**	-.04	-.04	.01	.55**	(.85)	
13. Work environment for performance		4.45	1.25	.01	.03	.11**	.07*	-.16**	.16**	.33**	-.38**	-.27**	-.15**	.38**	.32**	(.89)

Note. *N* = 843. Internal reliabilities (coefficient alphas) are given in parentheses on the diagonal. WFC = Work Family Conflict. FWC = Family Work Conflict. Females were coded 1 and Males were coded 2. Age was coded 1 for 18-25 years, 2 for 25-35 years, 3 for 35-45 years, 4 for 45-55 years, and 5 for 55-65 years. Telework was coded 0 = no and 1 = yes. Open space was coded 0 = no and 1 = yes. Shared office was coded 0 = no and 1 = yes. Working in an individual office was coded 0 = no and 1 = yes.

* $p \leq .05$. ** $p < .01$. *** $p < .001$.

Data Analysis and Statistical Models

Univariate general linear model (GLM) was used as a method of analysis (SPSS 24 software). More precisely, in order to test our hypotheses regarding the combination of flexwork practices, we created six different profiles of participants. Profiles included people who reported (1) teleworking and working in open space ($N = 389$), (2) teleworking and working in a shared office ($N = 272$), (3) teleworking and working in an individual office ($N = 65$), (4) *not* teleworking and working in open space ($N = 34$), (5) *not* teleworking and working in a shared office ($N = 72$), (6) *not* teleworking and working in an individual office ($N = 11$). Then, we examined the impact of this variable on employees' well-being (i.e., psychological well-being, concentration problems, work family conflict, family work conflict, and intrinsic job satisfaction) and productivity (i.e., motivation and work environment for performance). This variable which includes the 6 profiles (coded 1 to 6) was used as a fixed factor in GLM and age, gender, and company type were treated as covariates. Furthermore, we calculated descriptive statistics and assessed the differences between each profile using post-hoc tests (Bonferroni).

Results are displayed in Table 2. For the ease of presentation, we did not report the results of the covariates (i.e., gender, age and organization type). As displayed in this table, results indicated a significant effect of the profile variable on employees' intrinsic job satisfaction ($F = 3.991, p < .001$), motivation ($F = 4.361, p < .001$), and work environment for performance ($F = 3.708, p < .001$). Bonferroni post-hoc analyses indicated that participants who are teleworking and working in a shared office scored higher in intrinsic job satisfaction ($M = 5.00$) as compared to participants who are not teleworking and working in a shared office ($M = 4.28$). In addition, participants who are not teleworking and working in a shared office report lower score of motivation ($M = 3.84$) as compared to participants who are teleworking and working in an open space ($M = 4.28$), participants who are teleworking and working shared office ($M = 4.93$), and to participants who are teleworking and working in an individual office ($M = 4.50$). Finally, participants who are not teleworking and working in a shared office report lower score of work

environment for performance ($M = 4.01$) as compared to participants who are teleworking and working in an individual office ($M = 4.98$) and participants who are not teleworking and working in an individual office ($M = 5.20$).

Table 2 - Results of Univariate general linear model controlling for gender, age and organization type

Dependent variables	1. Teleworking and open space ($N = 389$)	2. Teleworking and shared office ($N = 272$)	3. Teleworking and individual office ($N = 65$)	4. Not teleworking and open space ($N = 34$)	5. Not teleworking and shared office ($N = 72$)	6. Not teleworking and individual office ($N = 11$)	F
Psychological well-being	5.32 (.06)	5.21 (.06)	5.15 (.15)	5.27 (.17)	5.13 (.13)	5.21 (.29)	.585
Concentration' problems	4.97 (.08)	5.10 (.09)	4.77 (.21)	4.84 (.23)	4.95 (.19)	4.50 (.41)	.474
WFC	3.03 (.08)	3.04 (.10)	3.63 (.24)	2.75 (.26)	2.80 (.20)	2.76 (.45)	.11
FWC	2.22 (.07)	2.29 (.07)	2.60 (.18)	2.12 (.20)	2.18 (.16)	2.31 (.35)	.43
Intrinsic job satisfaction	4.79 (.07)	5.00 _a (.08)	5.10 (.21)	4.53 (.23)	4.28 _a (.18)	4.10 (.40)	3.991***
Motivation	4.28 _a (.05)	4.93 _b (.06)	4.50 _c (.15)	4.28 (.16)	3.84 _{abc} (.12)	3.86 (.28)	4.361***
Work environment for performance	4.43 (.07)	4.40 (.08)	4.98 _a (.19)	4.64 (.21)	4.01 _{ab} (.17)	5.20 _b (.37)	3.708***

Note. $N = 843$. Standard errors appear in parentheses below means. Means with same subscripts within rows are significantly different at the $p < .05$ based on Bonferroni post-hoc paired comparisons.

* $p < .05$; **, $p < .01$; *** $p < .001$

Discussion

Regarding these results, the rise of collective workspaces in organizations seems therefore counter-intuitive: why disseminate workspaces which foster concentration problems and which do not constitute the best work environment for performance? To get the right answer, we need to consider again the triggers to open offices and shared offices spread: real estate cost reduction (Salomon *et al.*, 1991; Felstead *et al.*, 2005; Baldry and Barnes, 2012). However, organizations, and especially their human resources and facility managers, would be considered as mercenaries if they decided to implement such open office designs without offering a mean to counteract these non-optimal workplace design effects on well-being and performance. As table 1 shows, individual office is positively correlated to work environment for performance and negatively to problems of concentration. Furthermore, home-based telework is positively correlated to intrinsic job satisfaction, work motivation and work environment for performance. This is why (home-based) teleworking is so popular. Regarding our results, it is interesting to keep in mind that the individual office remains a suitable workspace for performing and being performant. This has rarely been said these last decades also because individual office is an 'endangered species' in a time of collaboration overload (Cross *et al.*, 2016).

Furthermore, telework when combined to the office designs surveyed undoubtedly displays a positive effect on the intrinsic job satisfaction and motivation variables we considered. One of the most interesting results deals with motivation, in the context of shared offices: people working on shared offices without teleworking report the weakest level of motivation ($M =$

3.84), and people working on shared offices with the ability to telework report the highest motivation rate ($M = 4.93$). To some extent, the consent to telework is seen as a promise for more intimacy, comfort and trust, while the denial to telework is experienced as a penalty. Recent work has connected shared offices to identity issues (see e.g. Hirst, 2011; Costas, 2013; Donis, 2015). This is probably what is at stake in this contrasted picture in terms of hot-deskers' motivation. For example, Hirst (2011) revealed the role of the shifts in the ownership of space in terms of organizational commitment. Similarly, Donis (2015) reported the many strategies of appropriation of space hot-deskers developed in order to demonstrate and express their presence and existence on this kind of workspaces that anonymize and eradicate human bodies and embodiment. Reporting office redesigns have the potential to profoundly challenge identity at work but also change the relationship and meaning of academic work. Baldry and Barnes (2012) pointed out that these new office layouts are detrimental to both scholarship and professional identity. In that context, the opportunity to telework not only constitutes a positive contribution to well-being or performance; this constitutes a space where to be anchored, where to exist as a human-being with the subjectivity that characterizes us.

Research on flexwork arrangements often considers flexible work practices (office designs, teleworking) separately. In this article, we focused both on the simple and on the combination effect of several practices among themselves: individual office, open-space, shared office and home-based telework. Evidence from our results show that people working in shared offices and without teleworking report the lower scores in terms of concentration and work environment for performance. However, the consideration of these practices, when considered as combinations, allowed us to identify the positive effect of telework on performance and well-being when associated to the office designs mentioned above. Nevertheless, the most relevant lesson from this study is that the combination of shared office without teleworking is strongly negatively associated to well-being and performance. In terms of performance, the combination of shared office with telework helps to recover higher scores, but this is less the case in terms of psychological well-being. This phenomenon is explained by the shared office itself and the symbols it conveys: anonymity, temporary, nomadism, non-membership, etc.

The consideration of flexwork as a combination of office designs and teleworking practices allowed us to observe the dynamics of the combination, i.e. what one practice may bring or withdraw when combined -or not- with another practice. By doing so, we have the feeling to reflect a certain reality of the contemporary world of work. Indeed, workplace can be less and less identified as made of distinct workspaces: today's worker does not spend her/his workday at the same location, in an individual or a shared office, e.g. Workers combine several workspaces depending on their activities and needs (a bubble room, or cell office to concentrate, a shared office to connect and work before a meeting, etc.). This supports the need to study flexwork as a combination of the use of different workspaces, as we did in this research. This paves the way to the – complex – consideration of multiple combined practices and their effects in terms of well-being and performance that could not be easily identified separately, or in a limited set of combinations.

Limitations and avenues for future research

Among the limitations associated to this research, we may identify the number of respondents in some of our combinations. For instance, only 11 subjects were in the “not teleworking and working in individual office” category. This is due to the fact that such work situations were not widely diffused in our sample.

In terms of avenues for future research, we propose to consider two perspectives derived from this research. First, the fragmentation of working spaces and times mentioned above finally raises another concern, that of work fragmentation. By requiring to occupy a specific workspace depending on the activities to be performed, such new forms of work organization impose fragmenting the workday as a disconnected series of activities to spatially locate in the appropriate workspaces. Long before flexwork developed and fragmented work activities, Friedmann (1956) had observed that the introduction of technological instruments in the conduct of work, far from allowing workers to focus on richer tasks, led to greater task fragmentation. In his words, the ‘machine’ is ‘intercalated’ more between the worker and his/her output (Taskin and Van Bunn, 2015). The argument is that while work environments gain from standardization, they become poorer in terms of knowledge creation and the richness (variety) of tasks. Flexwork has both similarities and dissimilarities with Friedmann’s analysis. Similarities because workspaces (especially in the context of activity-based environments) act here as the ‘machine’ that comes between the worker and his/her output and leads to fragmented activities and knowledge. Instead of stimulating collaboration, this tool seems to isolate individuals who value the opportunity to work (alone) from home, especially for the creative part of their job, i.e. the one that requires the most concentration but also collaboration. Dissimilarities because the division of labor pointed out by Friedmann is limited to the organizations’ premises, but one part of the workplace now also settles elsewhere: at home (see Sewell and Taskin, 2015). The study of such critical implications constitutes a promising field of investigation.

Second, this research allows making some suggestions for future avenues. Nowadays, activity-based workspace blurs the traditional boundaries between office designs: by combining on a same floor different forms of workstations (cell, open-plan, flex offices, meeting rooms, creativity spaces, etc.) which may be occupied for a limited period of time, it is more complex to access and identify the effects of one specific arrangement on the outcomes we considered here. Since the workday splits into many workspaces as well as activities, it could be argued that people are not able to isolate the effect of their time spent in a cell office in terms of well-being. This is a plea to consider flexwork as a combination of several practices, as we did here and future research should consider this avenue by using mixed methods allowing access to the feelings and reality of work at many times and places (e.g. using shadowing, longitudinal, or anthropological approaches).

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