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'Fit' for telework'? Cross-cultural variance and task-control explanations in organizations' formal telework practices

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This study investigates how nation-level cultural values ('individualism' and 'collectivism') and intra-organizational task control mechanisms influence the level of organizations' use of formal telework practices. Employing a multi-level analysis on survey data (2009/10), including 1577 organizations within 18 nations, we found that 'high use of formal telework practices in organizations' was more likely when: (1) organizations operated in nations characterized by strong national values; and when they employed (2) 'hard' indirect controls (i.e. individual performance-related pay and 360º performance-evaluations). High telework use was less likely when organizations employed direct controls (i.e. higher proportions of managers) and 'soft' indirect controls (i.e. higher proportions of professionals). 'Low use of formal telework practices' was more likely when organizations employed 'soft' indirect controls. Our findings suggest that national cultural values can function as 'soft' indirect controls to mitigate the 'telework risk' of high levels of telework practices. Internal 'soft' task controls only sufficed for managing low levels of telework practices. We discuss the smart and dark sides of telework and how these relate to the management of telework practice. Implications for future telework research and practices are discussed.

Keywords: Collectivism; cultural values; individualism; multilevel analysis; task control mechanisms; telework management; telework practices

Introduction

Teleworking is a technology-enabled mode of working that can be defined as performing work activities remotely from the location where the results are delivered through the use of information and communication technologies (ICT) (Taskin & Bridoux, 2010). Telework practices comprise multiple dimensions (cf. Garrett & Danziger, 2007): (1) the use of various work locations (i.e. the central office, home, or at third places, such as satellite offices); (2) the importance and types of ICT use; (3) the contractual relationship between the organization and the teleworker (i.e. employee, self-employed worker, or contract worker); and (4) the locational time distribution (i.e. the proportion of work time outside the central office). Telework can be used by organizations to attract, motivate, and retain highly skilled and valuable workers that can contribute significantly to organizational performance (Illegems & Verbeke, 2004). Of course, organizations' competitive advantage through HRM strategies including telework practices depends on how these are actually shaped by organizations and individual workers. Although teleworking often happens informally (Peters & Van der

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Lippe, 2007), achieving competitive advantage from telework also depends on organizations formally facilitating individuals to use telework, for example by providing a permanent electronic link to connect workers with the central office and, if so, allowing a high or low proportion of the workforce to access telework. Moreover, competitive advantage may depend on how telework in organizations is managed, possibly leading to particular 'smart or dark telework outcomes'.

When organizations include formal telework practices in their HRM strategy, they ideally take into account their long and short-term advantages and disadvantages for all stakeholders (Beer, Spector, Lawrence, Mills, & Walton, 1984): the organization, managers, individuals, clients, and society at large. Examples of telework advantages, possibly benefitting all stakeholders, are enhanced job autonomy, time-spatial flexibility, work motivation, engagement, flow, and job satisfaction, and the reduction of commuting time and stress, and work-life conflict (cf., Bailey & Kurland, 2002; Peters, Poutsma, Van der Heijden, Bakker, De Bruijn, 2014). Examples of reported disadvantages are professional and social isolation, a possible loss of commitment, longer working hours, stress and burn-out, permanent availability, and enhanced work-home conflict (Dimitrova, 2003; Illegems, Verbeke, & S'Jegers, 2001; Kelliher & Anderson, 2010; Kurland & Cooper, 2002). In practice, however, organizations and their managers are reluctant to use telework (Bailey & Kurland, 2002), as they may expect individuals to benefit more from telework practices than the organization (Pérez, Sánchez, & de Luis Carnicer, 2002), even when technological developments make jobs increasingly 'teleworkable', i.e. 'fit for telework'. Given the potential 'smart and dark sides of telework', it should therefore be asked 'under which conditions are *organizations* 'fit' for telework'?

Individual productivity (effectiveness, efficiency, productiveness, and the quality of work (cf., Staples, Hulland, & Higgins, 1999)) may be one of the most important single telework outcomes to be considered. Telework can improve (Gajendran & Harrison, 2007), but can also reduce productivity (Golden & Veiga, 2008), which was expressed by Yahoo's CEO Marissa Mayer when she abolished telework in her organization (Webwereld, 2013). In this vein, it is not surprising that a study of large organizations in the Netherlands found that both the use of formal and informal telework practices in organizations was dependent upon anticipated productivity gains. Anticipated social consequences (learning, cooperation, isolation, and commitment) only affected informal telework use. Surprisingly, the frequently anticipated work-life balance gains did not play a decisive role in organizations' formal and informal telework use (Peters & Batenburg, 2015).

The importance attached to bottom-line performance may also be reflected in the close alignment, or 'fit', between 'the level of formal telework practices in organizations' (in this study indicated by the proportion of workers being facilitated by the organization with a permanent electronic link to connect to the central office) and particular extra and intra-organizational factors (cf., Daniels, Lamond, & Standen, 2001). With regard to the former, telework research employing an international perspective reveals variations in telework use across nations (cf., EuroFound, 2007) which seems to suggest a better 'external fit' between the telework practice and national cultures that value individualism compared to those valuing collectivism (Peters, Bleijenbergh, & Oldenkamp, 2009; Peters & den Dulk, 2003; Raghuram, London, & Larsen, 2001). With regard to the latter, research employing an organizational perspective stresses the importance of 'internal fit' between telework practice and organizations' internal task control mechanisms (Illegems & Verbeke, 2004; Illegems et al., 2001; Peters &

Batenburg, 2015; Peters & Van der Lippe, 2007), that motivate workers to carry out organizational tasks effectively and efficiently in line with organizational goals and to safeguard productivity. However, to the best our knowledge, research into the actual *level* of formal telework practices used in organizations, taking into account both macro (national cultural values) and meso factors (structural task control mechanisms) explanations, has been advocated (Daniels et al., 2001), but not yet been conducted.

In this multilevel theoretical and empirical study, using the organization as the unit of analysis, we aim to contribute to the scholarly and societal debates on 'HRM and the smart and dark sides of teleworking as a technology based work practice' by employing an organizational fit perspective (Beer et al., 1984; Boselie, 2010; Paauwe, Guest, & Wright, 2013) to explain the level of formal telework practices used in organizations based in a large number of national settings by looking into its relationship with 'telework management'. In this study, telework management refers to the employment of institutionalized control mechanisms that can motivate and guide teleworkers' behaviors in line with organizational goals and, hence, to control (mitigate) the potential risk of teleworkers behaving opportunistically when direct control is harder to exercise ('telework risk', i.e. the risk of opportunistic employee behavior in telework practices, in order to avoid individual productivity, and hence, organizational performance to be affected (Peters & Van der Lippe, 2007)). We argue that both the above-mentioned extra-organizational (cultural) and intra-organizational (structural) conditions influence telework as an HRM practice, because of their capacity to manage telework.

More specifically, employing multinomial logistic regression analysis of multilevel data, including 1577 organizations within 18 nations, we analyze whether both building on *strong* national values ('individualism' and 'collectivism') (Ralston et al., 2011; Schwartz, 1992, 1994, 1999, 2006) and employing (alternative) *direct or indirect* task control mechanisms (Hales, 1993) can explain the level of telework practices in organizations (cf., Daniels et al., 2001). Providing insight into the external and internal conditions for telework may help stakeholders across the globe to gain from the smart sides of telework and to avoid the dark sides.

A best-fit approach to telework management explaining organizations' level of telework

Employing institutional and internal control mechanisms to manage 'telework risk'

The 'best-fit approach' (Beer et al., 1984; Boselie, 2010; Paauwe et al., 2013) stipulates that organizations' choice of a particular HRM strategy (for example the use of formal telework practices as a means to achieve strategic goals, such as productivity), is more likely when aligned with, i.e. 'fits', the external (strategic and institutional fits) and internal (organizational and internal fits) organizational contexts. The degree of 'fit' determines the contribution of HRM strategy and practices, through HRM outcomes, to organizational performance.

Employment relationships can be viewed as governance relationships that are traditionally managed through institutionalized hierarchical governance structures that are employed to be able to exercise close and concurrent managerial control and coordination to prevent unwanted outcomes (cf., Williamson, 1985). In this regard, the notion of 'fit' is important, given that the introduction of telework practices often implies expanded flexibility and job autonomy for individual workers (Gajendran & Harrison, 2007) and, hence, a loss of direct co-ordination and control possibilities for managers

(Daniels, Lamond, & Standen, 2000; Peters & Van der Lippe, 2007). Framed as a 'disruptive' work practice, some organizations and managers may decide not to adopt teleworking (Peters, Den Dulk, & De Ruijter, 2010), even when jobs are 'teleworkable' and competitive advancement may be possible, for example, because it may not fit with the organizations' institutional or internal contexts. For teleworking organizations, the uncertainty and vulnerability associated with teleworking [(and the need to trust virtual workers [Handy, 1995; Nilles, 1998)] represents a potential risk of damage due to teleworkers behaving opportunistically (Peters & Van der Lippe, 2007) resulting from weakened direct task control mechanisms in telework practices (Daniels et al., 2000; Illegems et al., 2001). To prevent potential trust violations (Handy, 1995), organizations need to mitigate this so-called 'telework risk' (Peters & Van der Lippe, 2007) by employing alternative control mechanisms that can manage workers' task motivation, commitment, and behaviors. In order to foster so-called 'bounded trust' (Handy, 1995), we will argue that (low or high levels of) telework practices fit organizations better when they build on or employ more *indirect, diffuse and mediated extra-organizational or intra-organizational task control mechanisms* to replace or complement the loss of *direct intra-organizational task control mechanisms* in telework practices (Daniels et al., 2000; Illegems et al., 2001; Peters & Van der Lippe, 2007). The higher the proportion of teleworkers in an organization, i.e. the level of telework practices, the higher the telework risk, the more or stronger indirect, diffuse and mediated control mechanisms may need to be institutionalized to enhance fit.

Controlling telework risk through strong national values reflecting institutional fit

Individualism and collectivism values clusters

In the present study, we employ the instrument developed by Ralston et al. (2011) on the basis of Schwartz' Value Survey (SVS), which provides a theoretically grounded measure to cross-culturally assess cultural values. Schwartz refers to values as conceptions of what is desirable, which guide how social actors choose actions, evaluate people and events, and explain these. Values are considered trans-situational criteria or goals (e.g. gaining power or security), ordered by importance as guiding principles in life (Schwartz, 1999, p. 24).

The SVS framework comprises 10 individual value sub-dimensions: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security (Ralston et al., 2011). In the classification used in this study, individual value sub-dimensions are clustered in a set of higher order individual-level value dimensions representing: (1) *individualism* (power, achievement, hedonism, stimulation, and self-direction) and (2) *collectivism* (benevolence, tradition, and conformity) (see Ralston et al., 2011). According to Schwartz, a single scale for individualism versus collectivism cannot capture the absence of either, which is distinct from being intermediate. Therefore, individualism and collectivism are viewed as two separate dimensions, and some societies may be high, moderate, or low on both dimensions at the same time.

Strong individualism values mitigating telework risk

Individualism refers to 'the extent to which the person looks after self-interests and perhaps those of the nuclear family. It implies that society leaves individuals a good deal

of freedom to pursue their own interests' (Ralston et al., 2011, p. 21). The values underlying this description (i.e. power, achievement, hedonism, stimulation, and self-direction) fit telework because they have the capacity to mitigate telework risk by indirectly controlling work-related behavior. How these values can operate may be shown by the longer working hours of teleworkers in work contexts where internalized competitive pressures are felt (Dimitrova, 2003), which runs contrary to opportunistic worker behaviors. More specifically, when 'individualism' values are sufficiently strong, they may mitigate 'telework risk' as follows.

First, in individualism contexts, access to telework can enhance workers' motivation, commitment and engagement as it is associated with *status* and *prestige*. Often only the most *powerful* (i.e. the most highly educated and managers) in organizations are given access to teleworking (Peters & Van der Lippe, 2007). Second, since *achievement* is highly valued, the room for self-determination and proactive work behavior may particularly motivate workers who strive for achievement in their work (Golden & Veiga, 2008; Wheatby, 2012). Third, teleworking may lead to more learning possibilities and more *stimulation* by the work activities, which may particularly attract and motivate novelty seeking workers (Vega, Anderson, & Kaplan, 2015). Fourth, the increase in job autonomy and task broadening and deepening also motivates employees as it relates to the value of *self-direction* (Gajendran & Harrison, 2007; Sardeshmukh, 2012). Therefore:

> Hypothesis 1a. The stronger the nation's individualism values, the more likely the organization is to use (higher levels of) formal telework.

Strong collectivism values mitigating telework risk

Collectivism refers to 'the extent to which it is believed that people are born into groups and they are expected to look after the interest of their group. This group might be the extended family, the tribe or the village. Implicit is that the freedom to pursue one's own goals is subservient to the goals of the group' (Ralston et al., 2011, p. 20). Collectivism comprises the sub-dimensions: benevolence, tradition, conformity. It can be argued that also these values can generate bounded trust in positive telework outcomes and function as control mechanisms, again having the capacity to prevent opportunistic behavior.

First, many managers may fear that telework would affect organizational and collegial commitment and yield social and professional isolation (Kurland & Cooper, 2002). However, when workers strongly value *benevolence*, they may be expected to be motivated to preserve and enhance the welfare of their colleagues whom they have a working relationship with, despite teleworking on a regular basis (Peters et al., 2009). Second, valuing *tradition* may generate the bounded trust needed to mitigate 'telework risk', as these may enhance respect, commitment, and the 'acceptance of the customs and ideas that one's culture or religion imposes on the individual' (Ralston et al., 2011, p. 19). Teleworking organizations in nations characterized by these values may introduce or re-invent traditions, such as regular formal or informal face-to-face meetings needed to invest in building trust relationships. Such 'traditional' modes of work behavior may symbolize group solidarity and express its unique worth (cf., Ralston et al., 2011). Third, employees valuing *conformity* may be expected not to violate social expectations and norms and not to disrupt work processes.

In some regard, 'collectivism' values may not seem to fit with telework (Peters & den Dulk, 2003). However, in view of the strong value attached to group solidarity and collective responsibility, and the concern about maintaining work relationships, 'collectivism' values may be viewed an indirect control that has the potential to generate the bounded trust needed. The high levels of commitment from each individual in nations characterized by 'collectivism' values to adhere to socially prescribed behaviors may result in *clan control* (Kurland & Cooper, 2002). Therefore:

Hypothesis 1b. The stronger the nation's collectivism values, the more likely the organization is to use (higher levels of) formal telework.

Controlling telework risk through internal task control mechanisms reflecting internal fit

A typology of internal organizational task control mechanisms

According to Handy (1995), trust in teleworkers needs to be 'bounded'. Telework needs to be embedded in organizations' internal task control systems, i.e. key HRM practices designed to manage the workforce's behavior in the most efficient and effective way. In the present study, we build on the *typology of task control mechanisms* as distinguished by Hales (1993), under which it can be assumed that an organization's decision regarding the level of telework practices depends on whether *concurrent control*, i.e. direct control traditionally exercised by managers, peers, or technology *during* the work process, has been replaced with alternative, often indirect control mechanisms.

Indirect controls may be exercised: (1) *before* the work process (i.e. *ex ante control*), for example through selections and training; (2) *after* the work process (i.e. *ex post control*), for example through output management; or (3) *beyond* the work process (i.e. *meta control*), for example through cultivating particular organizational values which guide workers' behavior toward their organizations' goals. In addition, *peer control* can mitigate the 'telework risk'.

Some of the internally institutionalized task control mechanisms can be considered 'soft' HRM mechanisms (Truss, Gratton, Hope-Hailey, McGovern, & Stiles, 1997), for example, selection and recruitment, extensive training, and teamwork. Others may be characterized as 'hard' HRM mechanisms (Truss et al., 1997), for example (individualized) performance-related pay. In line with our fit approach, *the intra-organizational task control mechanisms should fit the level of telework practices in the organization*. Below, we present hypotheses regarding the relationships between various types of task controls and the level of telework practices.

Concurrent control (direct)

Although concurrent control (direct monitoring or surveillance) of teleworkers during the work process itself can be exercised through ICT (cf., Holland, Cooper, & Hecker, 2015), in most cases, job autonomy is expanded (Gajendran & Harrison, 2007). According to Daniels et al. (2001), middle managers will object to teleworking as this might reduce their role, status and power. A high proportion of managers may, therefore, be taken to signal the power of managers in the organization, and maybe an organization's lack of fit and, therefore, interest in teleworking. Therefore:

Hypothesis 2a. An organization's use of (higher levels of) formal telework is *less* likely when employing *concurrent* controls (e.g. direct supervision and time-registration systems).

Peer control *(soft and indirect)*

With regard to teamwork, not only individual performance, but also workers' wider contribution to team performance through extra-role behavior is important. When teleworkers fail to co-operate, behave opportunistically, use different work methods and ethical standards, do not deliver the expected quality of work, or neglect tasks expected from them all together (Illegems et al., 2001), team members may penalize the trust violation. Particularly when teamwork depends on mutual adjustment to achieve a common goal, and implies rewards which depend on team performance, teamwork can generate trust (Sparrow, 2000), as it is bounded by informal *mutual* i.e. *peer control* (Hales, 1993, p. 58). Therefore:

Hypothesis 2b. An organization's use of (higher levels of) formal telework is *more* likely when employing *peer control* (*teamwork*).

Ex ante control *(soft and indirect)*

Controlling *inputs*, such as through 'selection and training,' may also be a way to mitigate the 'telework risk' (cf., Daniels et al., 2000; Nilles, 1998). Telework is often limited to relatively independent job categories that involve low levels of collaboration and direct control (Peters & Van der Lippe, 2007). Given that teleworkers are often autonomous, teleworkers' ability to develop skills and self-motivation is important (Sparrow & Daniels, 1999, pp. 57–58). In view of this, teleworking organizations are advised to select people whose values are already compatible with the organization's culture, as telework may cause fewer opportunities to socialize and thereby learn about that culture. Therefore:

Hypothesis 2c. An organization's use of (higher levels of) formal telework is *more* likely when employing *ex ante* controls (e.g. *selection and training*).

Ex post control *(hard and indirect)*

In a telework relationship, it is difficult to observe workers' attendance, attitudes, and specific hours of work (Van Ommeren, 2000). The telework literature, therefore, suggests shifting the emphasis away from controlling teleworkers' labor input to controlling their *output* (Nilles, 1998). Output management mitigates 'telework risk' and reduces the need for close supervision (Illegems et al., 2001; Peters & Batenburg, 2015). Output management may include specification of performance terms, output goals, and standards to direct and motivate teleworkers' work behavior, and reduce role ambiguity.

Since it is often difficult to measure workers' productivity directly and relate effort to output, pay will not typically be linked to output. In response, performance review meetings may be added to control employees' achievements occasionally (Dimitrova, 2003; Sparrow, 2000; Van Ommeren, 2000). This process may involve colleagues and

customers in formal performance appraisals and evaluations. Hence, managers may control work behavior through others (Van Ommeren, 2000). Therefore:

> Hypothesis 2d. An organization's use of (higher levels of) formal telework is *more* likely when employing *ex post* controls (e.g. *output management and peer evaluations*).

Meta control *(soft and indirect)*

Teleworking organizations may implement HRM policies and practices fostering *organizational values* to create a strong collective organizational culture of shared understanding (Daniels et al., 2001; Sparrow, 2000), such as a code of ethics, mission statements, or other organizational policies signaling the organization's norms and values that are supposed to guide teleworkers' behavior. Therefore:

> Hypothesis 2e. An organization's use of (higher levels) of formal telework is *more* likely when employing *meta* controls (e.g. *prescribed organizational norms and values*).

Methodology

Sample and procedure

To test our hypotheses, we used CRANET survey data on Human Resource Management (www.CRANET.org)[1] collected in 2008/2009 through a standardized survey administration procedure across a large number of countries, using a pre-tested questionnaire (Brewster, Tregaskis, Hegewisch, & Mayne, 2000). The indicators of our key variables were spread throughout the questionnaire, which limited possible problems associated with common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Organizations participating in the survey were independent single-establishment businesses, as well as establishments of a larger firm or subsidiaries of a foreign multinational. Targeted respondents were the most senior HR managers of randomly selected medium and large-scale firms in the private and (semi-) public sector employing 100 or more workers. In this study, 93.9% of the respondents were HR-job holders of which two-thirds were senior HR-managers. We consider the respondents to be well-informed on the objective measures of HRM practices implemented by their organization. Therefore, using single-respondent data is believed to be an appropriate strategy to acquire information (Huselid & Becker, 2000).

Operationalization

Organizations' level of formal telework practices

The CRANET questionnaire asked for data on the formal use of organizational policies and HRM practices, the level of formal telework (the study's dependent variable) being further explained as 'employees being provided with a permanent electronic link to a fixed workplace'. Based on this, 'the organization's level of formal telework', three categories were distinguished: (1) Organizations in which telework is not facilitated with a permanent electronic link at all (being the reference group in our analyses); (2) Organizations supporting small proportions of employees with formal telework practices, ranging from 1 to 5% of the workforce; and (3) Organizations supporting proportions of employees with formal telework practices going beyond 5%. Table 3 shows that almost

two-thirds of the organizations in our study (67.3%) did not formally facilitate telework; almost one quarter of the organizations (23.8%) facilitated only a low level of telework in the organization (1–5%); and 8.8% of the organizations facilitated a higher level of telework in the organization (>5%).

Schwartz' higher order individual-level value dimensions

We used Ralston et al. (2011) standardized value scores on Schwartz' higher order 'individualism' and 'collectivism' dimensions to identify each nation's value profile (Ralston et al., 2011; see Table 13). The dimensions were found to be reliable (Cronbach's $\alpha = 0.84$ and 0.82, respectively). The nations' value scores were collected in the period 2000–2008. The nations included in our study and their standardized 'individualism' and 'collectivism' value scores are listed in Table 1.

Supporting task control mechanisms

The CRANET data allowed us to calculate indicators for the intra-organizational task control mechanisms distinguished in Section 2 (see Table 2 for an overview of the scales). Descriptive statistics of our key independent variables and the control variables entered in the model are summarized in Table 3.

Concurrent control was measured by: (1) the proportion of managers within the organization; and (2) the use of a registration system of work time and attendance;

Ex ante control was represented: (1) the use of training programs (reliability coefficient KR20: .747); (2) the use of a selection tool based on ability and psychometric

Table 1. Schwartz' cultural individualism and collectivism values (within-subject standardized) by nation.

Country	Individualism	Collectivism	N obs (a)
United Kingdom	−0.03	−0.20	44
France	−0.16	−0.11	53
Germany	−0.07	−0.11	261
The Netherlands	0.04	−0.15	27
Italy	−0.33	0.03	113
Switzerland	−0.09	−0.16	47
Finland	−0.27	0	63
Czech Republic	−0.18	−0.17	41
Austria	−0.21	−0.16	129
Bulgaria	−0.08	−0.15	65
Hungary	−0.21	−0.18	44
Australia	0.05	−0.17	40
USA	−0.09	−0.01	162
South Africa	−0.21	0	93
Taiwan	−0.16	−0.05	166
Estonia	−0.13	−0.21	28
Slovenia	−0.09	−0.25	140
Lithuania	−0.16	−0.17	61
Total	−0.14	−0.10	1577

Notes: Source values scores: Ralston et al. (2011, Table 13)
(a) N obs: number of organizations in CRANET 2008/2009 survey.

Table 2. Scale analyses (KR20) for training, 360º appraisal (actors appraisal, coverage appraisal) and meta control.

Scale\items	Loevinger scalability H[a]	Item-rest difficulty	Correlation	Reliability (KR20)
Training				
Any days training offered to manuals (01)	0.586	0.287	0.544	
Any days training offered to clerks (01)	0.594	0.363	0.640	
Any days training offered to professionals (01)	0.607	0.544	0.648	
Any days training offered to managers (01)	0.557	0.595	0.536	
Any payroll costs spent on training (01)	0.233	0.428	0.229	
Scale	0.510			0.747
Actors in appraisal				
Appraisal input by customer (01)	0.555	0.131	0.405	
Appraisal input by peers (01)	0.657	0.152	0.518	
Appraisal input by subordinates (01)	0.664	0.173	0.528	
Appraisal input by employee himself/ herself (01)	0.633	0.526	0.528	
Appraisal input by immediate supervisor (01)	0.571	0.543	0.463	
Appraisal input by others (01)	0.950	0.817	0.481	
Scale	0.652			0.743
Coverage of appraisal				
Any appraisal system for manuals (01)	0.733	0.476	0.482	
Any appraisal system for clerks (01)	0.786	0.698	0.781	
Any appraisal system for professionals (01)	0.785	0.720	0.784	
Any appraisal system for managers (01)	0.694	0.759	0.620	
Scale	0.752			0.831
Meta Control				
Communications policy (written) (01)	0.359	0.492	0.424	
Personnel/HRM strategy (written) (01)	0.362	0.542	0.447	
Corporate Social Responsibility statement (written) (01)	0.467	0.393	0.478	
Code of ethics (written) (01)	0.396	0.544	0.495	
Corporate values statement (written) (01)	0.462	0.586	0.566	
Mission statement (written) (01)	0.498	0.757	0.427	
Scale	0.417			0.737

Notes: [a]Following Molenaar and Sijtsma (2000) considered a set of items as a 'weak' scale if the Loevinger's H-coefficient of scalability (H) ranges between 0.3 and 0.4, whereas 'reasonable' scalability is reached if $0.4 <= H < 0.5$, and 'strong' scalability is considered if $0.5 <= H < 1.0$. A set of items with $H < 0.3$ is considered to be unscalable.

tests; (3) the proportion of professionals in the workforce; and (4) the proportion of highly educated employees in the workforce;

Peer control was measured by the use of work team practices by the organization;

Ex post control was indicated by two scale scores based on the use of 360º performance evaluation, differing regarding: (1) the number of different stakeholders involved (e.g. customers, subordinates, suppliers); and (2) the coverage of different personnel categories (e.g. managers, professionals, clerks and manual workers) (reliability coefficients KR20: .743 and .831). In addition, (3) a dummy variable for the presence of individual performance-related pay schemes was included;

Meta control was measured by a scale indicating the presence of written policies in the company's social responsibilities, code of ethics, and organizational value statements (reliability coefficient KR20: .737).

Table 3. Descriptive statistics.

Compounds	Variables	Mean/ Proportions	SD	Min	Max
Dependent variable					
Level of telework practices	No adoption of telework (0%, baseline comparison group)	67.3%			
	Low-level telework practices (1–5%)	23.8%			
	High-level telework practices (>5%)	8.8%			
Control variables					
Size	log (Number of employees)	6.48	1.28	4.61	13.05
	Median number of employees	557		100	464,000
Industry	Construction	3.8%		0	1
	Transport\Communication	5.9%		0	1
	Banking and Finance	10.8%		0	1
	Chemicals	7.2%		0	1
	Other Industries	38.0%		0	1
	Manufacturing (Ref. category)	34.2%			
Foreign headquarters		61.5%		0	1
Private enterprise		70.5%		0	1
Unionization	0% Unionization (Ref. category)	24.9%			
	Unionization 1–10%	16.9%		0	1
	Unionization 10–25%	10.1%		0	1
	Unionization 26–50%	13.4%		0	1
	Unionization 51–75%	13.1%		0	1
	Unionization 76–100%	10.8%		0	1
	Unionization missing	10.8%		0	1
Joint works council	No JWC (Ref. category)	1.1%			
	JWC present	65.8%		0	1
	JWC (missings)	3.2%		0	1
Task control mechanisms					
Ex-ante control	Training (spending, days)	.81	.59	0	5
	Selection method (ability tests)	3.1%		0	1
	Selection method (psychometric test)	0.1%		0	1
	Proportion professionals (in decimals)	.42	.16	0	9.9
	Proportion highly educated (in decimals)	.68	.93	0	10.0
Concurrent control	Proportion managers	.36	.30	0	0.98
	Registration time and attendance	1.6%		0	1
Peer control	Teamwork projects	.36	.09	0	4
Ex-post control	Individual performance-related pay	.09	.50	0	4
	# Activities involved 360 evaluation	.65	.50	0	4
	# Actors involved 360 evaluation	.34	.65	0	6
Meta control	# Written CSR/HRM policies	.20	.95	0	6
Schwartz' cultural values	(Ralston et al., 2011, Table 13)				
	'Individualism'	−0.14	.09	−0.33	0.05
	'Collectivism'	−.10	.08	−0.25	0.03

Table 4. Coefficients of two models predicting low-level and high-level telework practices (TLW).

		Coefficient low TLW	s.e.	Coefficient high TLW	s.e.
Control variables					
Size	log (Number of employees)	0.257**	[0.057]	0.164*	[0.081]
Industry	Construction	−0.046	[0.403]	0.201	[0.628]
Ref. cat: Manufacturing	Transport\Communication	0.175	[0.306]	0.776+	[0.465]
	Banking and finance	−0.399	[0.267]	0.042	[0.398]
	Chemicals	0	[0.279]	0.517	[0.434]
	Other industries	−0.332	[0.206]	0.419	[0.307]
Foreign headquarters		0.096	[0.167]	0.265	[0.245]
Private enterprise		−0.2	[0.190]	−0.156	[0.264]
Unionization					
Ref. cat: 0% Unionization	Unionization 1–10%	−0.006	[0.236]	0.256	[0.321]
	Unionization 10–25%	−0.288	[0.296]	0.467	[0.397]
	Unionization 26–50%	−0.333	[0.275]	0.141	[0.383]
	Unionization 51–75%	−0.229	[0.280]	−0.3	[0.437]
	Unionization 76–100%	−1.024**	[0.328]	−1.471*	[0.604]
	Unionization missing	−0.04	[0.263]	−0.131	[0.396]
Joint works council	JWC present	0.177	[0.182]	0.145	[0.254]
Ref. cat: No JWC	JWC missings	0.069	[0.437]	0.579	[0.529]
SVS Nation-level values	'Individualism' values	1.474	[2.008]	4.719*	[2.238]
	'Collectivism' values	1.367	[2.477]	5.565*	[2.764]
Task control mechanism					
Ex-ante control	Training (spending, days)	−0.056	[0.044]	0.088	[0.064]
	Selection Method (ability tests)	−0.073	[0.160]	0.216	[0.236]
	Selection Method (psychometric test)	0.121	[0.156]	0.036	[0.229]
	Proportion Professionals	0.037	[0.041]	−0.180**	[0.060]
	Proportion High Education	0.135**	[0.035]	0.076	[0.047]
Concurrent control	Proportion managers	−0.587	[0.373]	−2.339**	[0.537]
	Registration Time and Attendance	0.215	[0.191]	−0.045	[0.251]
Ex-post control	Individual performance related pay	0.018	[0.049]	0.166*	[0.074]
	# Activities involved in 360 evaluation	0.067	[0.062]	−0.160+	[0.097]
	# Actors involved in 360 evaluation	0.072	[0.054]	0.162*	[0.077]
Peer control	Teamwork projects	0.209**	[0.073]	0.1	[0.103]
Meta Control	# Written CSR/HRM policies	0.088*	[0.044]	0.057	[0.065]
Firm level constant		−3.896**	[0.798]	−2.728**	[0.997]
Variance L2 SV_Individualism				1.832	[5.451]
Variance L2 SV_Collectivism				16.703	[17.593]

(*Continued*)

Table 4. (*Continued*).

		Coefficient low TLW	s.e.	Coefficient high TLW	s.e.
Model statistics	Observations			1577	
	ll			−1087	
	chi2			258.9	
	df			65	
	p-value			0.000	
	Cragg & Uhler's pseudo R-square			0.289	

Notes: Standard error (s.e.) between brackets.
$^{**}p < 0.01$; $^{*}p < 0.05$; $^{+}p < 0.1$
VIF-range 1.07 – 2.40.

Control variables

Previous research showed variations in industrial relations associated with cross-national variations in the incidence of HRM practices (Poutsma, Ligthart, & Veersma, 2006). Therefore, we included relevant control variables: size; industry; firm structure (i.e. subsidiary of a foreign MNC, private ownership of the company); and industrial relations characteristics (i.e. collective labor agreements, level of unionization, presence of a works council). We included the presence of a foreign MNC in our model to control for a cultural influence at company level. The foreign MNC subsidiaries were attributed the value profile of their local country.

The 1577 organizations in our study have a median size of 557 employees. Large proportions of organizations operated in two sectors, i.e. manufacturing (34%) and the other industries (38%, mainly representing the service sector). Across sectors, 71% of the organizations had private ownership. Most of the organizations (62%) were subsidiaries of foreign MNCs. Almost half of the organizations reported proportions of unionization below 50%, while 25% of the organizations reported no unionization. Most of the organizations indicated the presence of a joint works council (JWC).

Analysis

Given company-level data (first level) nested within 18 countries (second level), we applied a multi-level, multinomial logistic regression model. We used STATA's (v13.1) program GLLAMM (v2.3.20; Rabe-Hesketh, Skrondal, & Pickles, 2004; Rabe-Hesketh & Skrondal, 2005) to analyze the probability of organizations being in one of the three categories representing the *level of telework practices in the organization*. We distinguished between a low level and a high level of telework practices, with organizations not facilitating telework technologically as the baseline. By using the nation-level value scores 'individualism' and 'collectivism' as random coefficients in our multi-level analysis, fixed effects at the level of the organization were controlled for by the specific nation-level values effect. Diagnostic tests indicated multi-collinearity to be limited (Belsey, Kuh, & Welsch, 2004) (VIF scores ranging from 1.07 to 2.40) and bivariate correlations to be all less than |.55| (results available on request). The coefficients from the multilevel analysis are summarized in Table 4.

Results

The random-coefficient model yielded a significant loglikelihood of −1087 (Wald Chi2 (df:65): 258.9, $p < .001$ which is below our threshold p-value of .05). The Cragg-Uhler pseudo R-square (aka Nagelkerke R-square: 0.289; Long & Freese, 2006) signifies a medium size improvement from the random intercept null model to the fitted model. The inter-country coefficient (the icc) (.074, $p < .05$) indicates a relevant multi-level model given nation and the nation's cultural value scores.

Individualism and collectivism explaining the level of telework practices

Consistent with Hypothesis 1a and 1b, Table 4 shows that the nation-level coefficients of 'individualism' and 'collectivism' significantly increased the probability of organizations using a relatively high level of telework practices [(individualism: 4.719 [$p < 0.035$]; collectivism: 5.565 [$p < 0.044$])], but not a low level of telework practices (resp. 1.474; 1.367).

Intra-organizational task control mechanisms explaining the level of telework practices

Partly in line with Hypothesis 2a, Table 4 shows the presence of *concurrent control mechanisms* to reduce the probability of a high level of telework practices (proportion of managers: a high level (−2.339, $p < .001$). However, concurrent control by means of time and attendance registration did not affect the use of high or low telework levels.

Partly in line with Hypotheses 2b, 'soft' *peer control* only positively affected the probability of a low level of telework (Teamwork: 0.209, $p < .004$).

'Soft' *ex ante* control mechanisms related to both low and high levels of telework practices. In line with Hypothesis 2c, a low level of telework practices was positively associated with the proportion of highly educated workers (0.135, $p < .001$). In contrast with Hypothesis 2c, however, a high level of telework negatively related to the proportion of professionals in the organization (−0.180, $p < .001$). No support was found for the other indicators of *ex ante* control used to test Hypothesis 2c.

Hypothesis 2d was also partly supported: 'hard' *ex-post controls* only increased the probability of a high level of telework practices [performance-related pay (0.166, $p < .025$); involvement of different stakeholders in 360º performance evaluations (0.162, $p < .034$)]. The number of activities covered in the 360º performance evaluations were non-significant.

In line with Hypotheses 2e, 'soft' *meta-controls* only positively affected a low level of telework (written CSR/HRM policies: 0.209, $p < .001$).

An overview of the support found for the hypotheses is presented in Table 5.

Control variables

Table 4 also shows the effects of the control variables. On average, larger organizations (Size) were more likely to have both a low (0.257, $p < .001$) and a higher level of telework practices in place (0.164, $p < .001$). Higher levels of unionization (Unionization 76–100%) reduced the probability of a low level (−1.024, $p < .002$) and a higher level (−1.471, $p < .015$) of telework practices. Industry effects were insignificant, as was private sector status, or having a foreign headquarters.

Table 5. Overview of hypotheses tested.

Component	Constructs	Predicted	Findings telework level (TWL) (No = Ref. Cat.) (Low, High)	Hypothesis
Schwartz' value dimension	'Individualism'	+	+ for high TWL only	1a
	'Collectivism'	+	+ for high TWL only	1b
Task control mechanisms	Concurrent control	−	− for high TWL only: Proportion managers	2a
	Peer control	+	+ for low TWL only: Teamwork	2b
	Ex ante control	+	+ for low TWL only: Proportion of high education	2c
	Ex ante control	+	− for high TWL only: Proportion of professionals	2c
	Ex post control	+	+ for high TWL only: Individual performance-related pay, # actors involved in 360 evaluation	2d
	Meta control	+	+ for low TWL only # Written CSR/HRM policies	2e

Compound analyses

Compound analyses (see Figure 1) reveals that the nation variable captures a relative large portion of the variance in the level of telework practices (Cragg-Uhler R^2 0.121). This value was almost equaled by the R^2 associated with the task control mechanisms entered in our model (0.098). The control variables, indicating some important

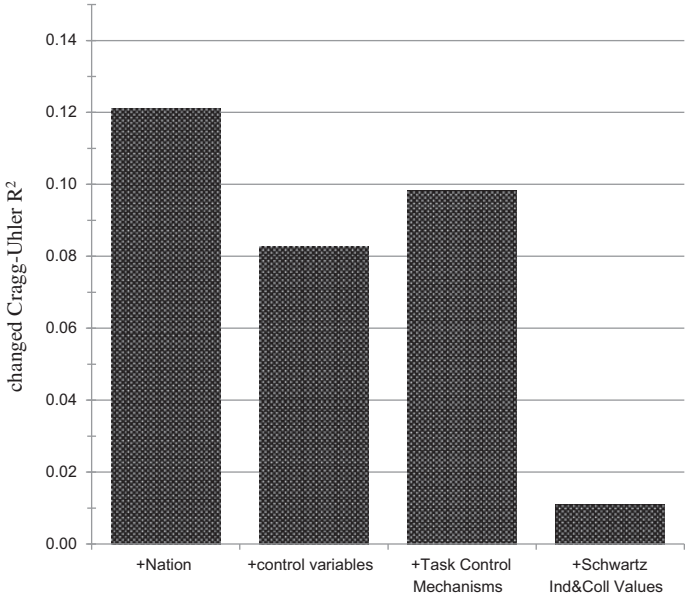

Figure 1. Effect size of the main components measured by Cragg-Uhler pseudo R-square changed.

institutional and organizational contextual factors affecting telework levels, revealed a similar R^2 (0.083). Schwartz' cultural values only accounted for a relative low level of the R^2 (0.011).

Conclusion and discussion

In this multilevel study, we employed an organizational fit approach (Beer et al., 1984; Boselie, 2010; Paauwe et al., 2013) to analyze both institutional (cultural) and internal (structural) factors to explain the level of formal telework practices in 1577 organizations within 18 nations.

We contributed to both the SHRM and the telework literatures by taking the notion of 'fit' as a starting point and linking this to the concept of 'telework management' (Illegems et al., 2001; Peters & Van der Lippe, 2007), referring to the employment of organizational HRM practices to manage or control the 'telework risk', i.e. the risk of opportunistic employee behavior in telework practices, in order to avoid individual productivity, and hence, organizational performance to be affected.

Below, we summarize and discuss our major findings and elaborate on how these may contribute to the debates on SHRM and the smart and dark sides of telework management.

The importance of individualism and collectivism in telework management

Following Ralston et al. (2011) and Schwartz (1992, 1994, 1999, 2006), we included collectivism as a separate value dimension besides individualism. Our findings indicated that both strong individualism and collectivism values can function as 'soft' indirect control mechanisms to be relied on or employed by organizations when managing a relatively high level of telework practices.

Strong individualism values

Where strong individualism values hold [e.g. indicating workers valuing the status, prestige, and power associated with telework, and telework satisfying actors' need for achievement, stimulation, and self-direction (Gajendran & Harrison, 2007; Golden & Veiga, 2008; Peters & Van der Lippe, 2007)], it may be relatively 'safe' for organizations to allow larger proportions of their workforce to telework, as strong individualism values can motivate teleworkers to perform their tasks in line with organizational goals, which may lead to smart telework outcomes [e.g. motivation, engagement, flow, commitment, productivity]. This finding supports previous studies suggesting an institutional fit between individualism and telework (cf. Peters et al., 2009; Peters & den Dulk, 2003; Raghuram et al., 2001)

Strong collectivism values

Rather than underlining teleworking being motivated by individual needs for self-determination and individualized life styles, the positive relationship between collectivism values and organizations' telework levels signals the importance of advocating collectivism values in teleworking organizations (*benevolence*, *tradition*, and *conformity*) in order to build communal relationships and to avoid dark telework outcomes [e.g. social and professional isolation and the loss of commitment, knowledge sharing,

and productivity (cf., Peters & Batenburg, 2015)]. This finding supports that telework also fits with strong 'collectivism' values, possibly because the socially prescribed behaviors can function as a mechanism of *clan control* (cf., Dimitrova, 2003; Kurland & Cooper, 2002).

Moderate or low cultural values

The above findings may imply that conceptualizations of 'individualism' versus 'collectivism' rather than distinguishing between 'individualism' *and* 'collectivism' (Ralston et al., 2011; Schwartz, 1992, 1994, 1999; 2006) can explain some of the ambivalent findings regarding the influence of national cultural values in previous studies (cf., Navarrete & Pick, 2003). Since both stronger individualism and collectivism values enhance telework use in organizations, our findings may also imply that when nations are characterized by moderate or lower scores on both these national values (e.g. Austria), organizations might need to employ alternative, internal control mechanisms to mitigate the 'telework risk'. In fact, the compound analysis showed that the influence of national cultural values, although present, was relatively limited, whereas task control mechanisms explained far more variance in organizational levels of formal telework practices. Although strong cultural values can have a positive effect on telework levels in organizations, external control mechanisms likely need to be accompanied by other internal control mechanisms.

The importance of internal task control mechanisms in telework management

Our findings revealed that organizations that use telework employ different types of 'soft' and 'hard' task control mechanisms (cf., Hales, 1993; Truss et al., 1997) to manage the 'telework risk', depending on having low or high levels of telework practices in place.

Managing a low level of formal telework practices

Our results showed that the management of a low level of telework practices was associated with the institutionalization of so-called 'soft' internal controls: *ex ante* controls (also indicating that employees are expected to be able to exercise self-control), *peer control* (through teamwork), and *meta control* (being institutionalized through written CSR/HRM policies and operating beyond the work process) (cf., Hales, 1993). These 'soft' internal controls may suffice in these cases because of the relatively low proportion of workers having access to the formal telework, indicating a lower 'telework risk' (Peters & Van der Lippe, 2007).

Managing a high level of formal telework practices

In light of the non-significant effects of 'soft' indirect internal control mechanisms' on a high level of telework in organizations, we may conclude that the organizations in our study did not consider these controls sufficient to manage the associated larger 'telework risk'. A high telework level, however, was associated with the absence of concurrent control as reflected in lower proportions of (line) managers exercising concurrent or direct control *during* the work process (cf. Hales, 1993). Instead, organizations high on telework relied on more formal and 'hard' indirect controls such as

output or performance management (Illegems et al., 2001; Peters & Batenburg, 2015; Van Ommeren, 2000), including individual performance-related pay and 360º performance evaluations.

Strikingly, we found a negative association between a high telework level and higher proportions of professionals. Previous studies showed access to telework to be given most to knowledge workers, such as policy-makers, managers, and professional (Bailey & Kurland, 2002). Therefore, the proportion of professionals in the organization was taken to indicate organizations relied on *ex ante* control mechanisms, assuming that particularly high-grade professional knowledge workers would be able to manage themselves ('self-control') (cf., Hales, 1993). However, the notion of professionals used in our study may apply (also) to those who usually work with people, for example teachers or health care professionals, who may therefore have limited access to remote working.

Limitations and future studies

One limitation of this study is its cross-sectional nature. Longitudinal research could better capture trends and causality. For example, an alternative explanation for the relatively small effects of our two key variables (national cultural values and task control mechanisms) may be that their effects are 'masked or displaced by a number of other institutional processes' (Daniels et al., 2001, p. 1166), such as mimetic pressures (cf., Peters & Heusinkveld, 2010). Enhanced global competiveness and expanding global operations across geographical borders and time zones have not only enabled, but also pressured telework use (Peters et al., 2009). In some national contexts or sectors, developing telework may have become a mainstream SHRM strategy, causing the influence of cultural variables to have weakened over time (EuroFound, 2010). Future research may look into the influence of other factors, such as the penetration of information and technology in society (Daniels et al., 2001, p. 1165), as these may help to account for formal telework use in organizations.

Another limitation concerns the operationalization of our dependent variable. Although we acknowledged that telework comprises multiple dimensions (cf., Garrett & Danziger, 2007), we focused on the level of formal telework practices in organizations, since access to and support for telework cannot be taken for granted (Bailey & Kurland, 2002). Consequently, no attention was paid to how organizations and individual workers actually shape the telework practice. Future research could examine the management of 'telework risk' taking into account variatons in telework locations, technologies, contracts, and time spent away from the central office (cf., Garrett & Danziger, 2007).

Moreover, we employed an organizational fit perspective to analyze organizations' level of formal telework practices by looking into factors relating to management control (Illegems et al., 2001; Peters & Batenburg, 2015; Peters & Van der Lippe, 2007). However, organizations' perception of the level of telework practices does not necessarily equal actual and used telework practices Peters et al., 2010), as this may depend on employees' perceptions of telework fitting their conditions and needs. Future research might analyze each of these simultaneously.

In addition, although both strong individualism and collectivism values were shown to fit a high level of formal telework practices, telework outcomes in these national cultures may differ. The fit between telework and strong individualism values may particularly generate what we considered 'smart' telework outcomes (e.g. motivation,

engagement, flow, commitment, productivity). The fit between telework and strong collectivism values may particularly prevent what we regarded 'dark' telework outcomes (e.g. social and professional isolation and a loss of commitment). Future research may focus on telework outcomes for stakeholders across cultures.

Implications

In view of future technological developments, the insights from this study regarding the external and internal conditions which make organizations 'fit' for telework can be helpful to stimulate telework across the globe. This may open up telework access to more societies, organizations, and individuals, to engender smart outcomes for multiple stakeholders, such as higher productivity, commitment, engagement, productivity, and better work life balance. At the same time, these insights may also help stakeholders to recognize the challenges of telework management and to avoid the dark sides, such as a loss of social cohesion and information and knowledge transfer (e.g. when individualism values dominate) and a loss of work motivation and engagement (e.g. when collectivism values dominate). For example, our findings may suggest that for organizations in nations with strong (individualism or collectivism) values, introducing an HRM strategy including a high level of telework practices may be a 'smart' way to gain competitive advantage in global markets. However, intra-organizational control mechanisms need to be exercised with caution, as *ex post* formal controls, including 360º evaluations and pay-for-performance systems, may be less compatible with collectivist cultures (Gooderham, Fenton-O'Creevy, Croucher, & Brookes, 2015). Of course, it is even conceivable that future telework practices might push a national culture in a more individualistic direction, with damaging long-term consequences (Putnam, 2000).

In any case, it should be recognized that the increasingly obscured and strengthened management control systems employed in telework practices can also have dark sides, such as work intensification and enhanced stress (Kelliher & Anderson, 2010), also opening up possibilities for electronic monitoring and surveillance (Holland et al., 2015), which may negatively affect well-being, trust, and engagement. Stakeholders all over the globe, therefore, have to find a balance between the smart and dark sides of telework, and make use of technologies to create new work environments that satisfy individuals' psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 2000).

Disclosure statement

No potential conflict of interest was reported by the authors.

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References

Bailey, D. E., & Kurland, N. B. (2002). A review of telework research: Findings, new directions, and lessons for the study of modern work. *Journal of Organizational Behavior, 23*, 383–400.

Beer, M., Spector, B., Lawrence, P. R., Mills, D. Q., & Walton, R. E. (1984). *Managing human assets: The groundbreaking Harvard Business School program*. New York, NY: The Free Press.

Belsey, D. A., Kuh, E., & Welsch, R. E. (2004). *Regression diagnostics: Identifying influential data and sources of collinearity*. New York, NY: Wiley.
Boselie, P. (2010). *Strategic human resource management. A balanced approach*. Noida: Tata McGraw-Hill Education.
Brewster, C., Tregaskis, O., Hegewisch, A., & Mayne, L. (2000). Comparative research in human resource management: A review and an example. In C. Brewster, W. Mayrhofer, & M. Morley (Eds.), *New challenges for european resource management* (pp. 324–348). New York, NY: Macmillan.
Daniels, K., Lamond, D. A., & Standen, P. (2000). *Managing telework. Perspectives from human resource management and work psychology*. London: Thomson Learning.
Daniels, K., Lamond, D., & Standen, P. (2001). Teleworking: Frameworks for organizational research. *Journal of Management Studies, 38*, 1151–1185.
Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.
Dimitrova, D. (2003). Controlling teleworkers: Supervision and flexibility revisited. *New Technology, Work and Employment, 18*, 181–195.
EuroFound. (2007). *Fourth European working conditions survey*. Dublin, OH: European Foundation for the Improvement of Living and Working Conditions.
EuroFound. (2010). *Telework in the European Union*. Retrieved from http://www.eurofound.europa.eu/eiro/studies/tn0910050s/tn0910050s_3.htm
Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology, 92*, 1524–1541.
Garrett, R. K., & Danziger, J. N. (2007). Which telework? Defining and testing a taxonomy of technology-mediated work at a distance. *Social Science Computer Review, 25*, 27–47.
Golden, T. D., & Veiga, J. F. (2008). The impact of superior–subordinate relationships on the commitment, job satisfaction, and performance of virtual workers. *The Leadership Quarterly, 19*, 77–88.
Gooderham, P., Fenton-O'Creevy, M., Croucher, R., & Brookes, M. (2015). A multilevel analysis of the use of individual pay-for-performance systems. *Journal of Management*. doi:10.1177/0149206315610634
Hales, C. (1993). *Managing through organisation. The management process, forms of organisation and the work of managers*. London: Routledge.
Handy, C. (1995). Trust and the virtual organization: How do you manage people whom you do not see? *Harvard Business Review, 73*, 40–50.
Holland, P., Cooper, B., & Hecker, R. (2015). Electronic monitoring and surveillance in the workplace. *Personnel Review, 44*, 161–175.
Huselid, M., & Becker, B. (2000). Comment on 'measurement error in research on human resources and firm performance: How much error is there and how does it influence effectsize estimates?' by Gerhart, Wright, Mc Mahan, and Snell. *Personnel Psychology, 53*, 835–854.
Illegems, V., & Verbeke, A. (2004). Telework: What does it mean for management? *Long Range Planning, 37*, 319–334.
Illegems, V., Verbeke, A., & S'Jegers, R. (2001). The organizational context of teleworking implementation. *Technological Forecasting and Social Change, 68*, 275–291.
Kelliher, C., & Anderson, D. (2010). Doing more with less? Flexible working practices and the intensification of work. *Human Relations, 63*, 83–106.
Kurland, N. B., & Cooper, C. D. (2002). Manager control and employee isolation in telecommuting environments. *The Journal of High Technology Management Research, 13*, 107–126.
Long, J. S., & Freese, J. (2006). *Regression models for categorical dependent variables using stata* (2nd ed.). College Station, TX: Stata Press.
Molenaar, I. W., & Sijtsma, K. (2000). *User's manual MSP5 for windows*. Groningen: iec ProGAMMA.
Navarrete, C. J., & Pick, J. P. (2003). Cross-cultural telecommuting evaluation in Mexico and the United States. *Electronic Journal on Information Systems in Developing Countries, 15*, 1–14.
Nilles, J. (1998). *Managing telework: Strategies for managing the virtual workforce*. New York, NY: Wiley.
Paauwe, J., Guest, D., & Wright, P. (2013). *HRM and performance: Achievements and challenges*. West Sussex: Wiley.

Pérez, M. P., Sánchez, A. M., & de Luis Carnicer, M. P. (2002). Benefits and barriers of telework: Perception differences of human resources managers according to company's operations strategy. *Technovation, 22*, 775–783.
Peters, P., & Batenburg, R. (2015). Telework adoption and formalisation in organisations from a knowlegde transfer perspective. *International Journal of Work Innovation, 1*, 251–270.
Peters, P., Bleijenbergh, I., & Oldenkamp, E. (2009). Cultural sources of variance in telework adoption in two subsidiaries of an ICT multinational. *International Journal of Employment Studies, 17*, 66–102.
Peters, P., & den Dulk, L. (2003). Cross cultural differences in managers' support for home-based telework: A theoretical elaboration. *International Journal of Cross Cultural Management, 3*, 329–346.
Peters, P., Den Dulk, L., & De Ruijter, J. (2010). 'May I work from home? Views of the employment relationship reflected in line managers' telework attitudes in six financial-sector organizations'. *Equality, Diversity and Inclusion: An International Journal, 29*, 517–531.
Peters, P., & Heusinkveld, S. (2010). Institutional explanations for managers' attitudes towards telehomeworking. *Human Relations, 63*, 1–29.
Peters, P., Poutsma, E., Van der Heijden, B. I., Bakker, A. B., & Bruijn, T. D. (2014). Enjoying new ways to work: An HRM-process approach to study flow. *Human Resource Management, 53*, 271–290.
Peters, P., & Van der Lippe, T. (2007). Access to home-based telework: A multi-level and multi-actor perspective. In T. Van der Lippe & P. Peters (Eds.), *Finding Time* (pp. 233–248). Cheltenham: Edward Elgar.
Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903.
Poutsma, E., Ligthart, P., & Veersma, U. (2006). The diffusion of calculative and participative HRM practices in European firms. *Industrial Relations, 45*, 513–546.
Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster.
Rabe-Hesketh, S., & Skrondal, A. (2005). *Multilevel and longitudinal modeling using stata* (1st ed.). College Station, TX: Stata Press.
Rabe-Hesketh, S., Skrondal, A., & Pickles, A. (2004). *GLLAMM Manual* (Working Paper No. 160). Berkeley: U.C. Berkeley Division of Biostatistics Working Paper Series.
Raghuram, S., London, M., & Larsen, H. (2001). Flexible employment practices in Europe: Country versus culture. *The International Journal of Human Resource Management, 12*, 738–753.
Ralston, D. A., Egri, C. P., Reynaud, E., Srinivasan, N., Furrer, O., Brock, D., … Alas, R. (2011). A twenty-first century assessment of values across the global workforce. *Journal of Business Ethics, 104*, 1–31.
Sardeshmukh, S. R. (2012). Impact of telework on exhaustion and job engagement:A job demands and job resources model. *New Technology, Work and Employment, 27*, 193–207.
Schwartz, S. H. (1992). Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (pp. 1–65). New York, NY: Academic Press.
Schwartz, S. H. (1994). Beyond individualism/collectivism: New cultural dimensions of values. In U. Kim, H. C. Triandis, C. Kagitcibasi, S. Choi, & G. Yoon (Eds.), *Individualism and collectivism: Theory, method, and applications* (pp. 85–119). Thousand Oaks, CA: Sage.
Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Applied Psychology, 48*, 23–47.
Schwartz, S. H. (2006). A theory of cultural value orientations: Explication and applications. *Comparative Sociology, 5*, 137–182.
Sparrow, P. S. (2000). Teleworking and the psychological contract: A new division of labour? In K. Daniels, D. A. Lamond, & P. Standen (Eds.), *Managing telework. Perspectives from human resource management and work psychology* (pp. 93–103). London: Thomas Learning.
Sparrow, P. S., & Daniels, K. (1999). Human resource management and the virtual organization: Mapping the future research issues. *Journal of Organizational Behaviour, 20*, 45–62.
Staples, D. D., Hulland, J. S., & Higgins, C. A. (1999). A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Organization Science, 10*, 758–776.

Taskin, L., & Bridoux, F. (2010). Telework: A challenge to knowledge transfer in organizations. *The International Journal of Human Resource Management, 21*, 2503–2520.
Truss, C., Gratton, L., Hope-Hailey, V., McGovern, P., & Stiles, P. (1997). Soft and hard models of human resource management: A reappraisal. *Journal of Management Studies, 34*, 53–73.
Van Ommeren, J. (2000). Performance management and compensation. In K. Daniels, D. A. Lamond, & P. Standen (Eds.), *Managing telework. Perspectives from human resource management and work psychology* (pp. 149–157). London: Thomas Learning.
Vega, R. P., Anderson, A. J., & Kaplan, S. A. (2015). A within-person examination of the effects of telework. *Journal of Business Psychology, 30*, 313–323.
Webwereld. (2013). *Baas Yahoo! Verbiedt thuiswerken*. Retrieved from http://webwereld.nl/mobility/59488-baas-yahoo-verbiedt-thuiswerken
Wheatby, D. (2012). Good to be home? Time use and satisfaction levels among home-based teleworkers. *New Technology, Work and Employment, 27*, 224–241.
Williamson, O. E. (1985). *The economic institutions of capitalism*. New York, NY: Free Press.