

# New Ways of Working: Impact on Working Conditions, Work-family Balance, and Well-being

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**Abstract** Organizations have started to redesign their approach to work by integrating technological innovations in their daily practices. Central to this new approach is that employees are asked to organize their work flexibly. Employees are expected to decide for themselves when they work, where they work, and by which communication tool/medium they work. Such a flexible work design, also referred to as ‘new ways of working’ (NWW), has been applauded thus far, as it would lead to more efficient and cost-effective work processes. However, little is known about how NWW influence employees and their families. The chapter will focus on the advantages and disadvantages of NWW and on the question whether NWW help employees to find a better balance between work and nonwork roles. Insight into the possible pitfalls and opportunities of NWW may help employees to use NWW in such a way that they enable them to optimally combine their work and nonwork responsibilities.

Keywords: Exhaustion, Job Performance, Recovery, Well-being, Working Conditions, Work-life Balance

## X.1 Introduction

It goes without saying that over the past two decades developments in information and communication technology have had a huge impact on working life. Email is arguably the most prevalent form of computer-mediated communication within organizations, but the increasing use of mobile devices in business has given the experience of email a new dimension (Derks and Bakker 2010). Using these technological innovations, more and more organizations have started to redesign their approach to work. Central to this new approach is that employees are asked

to organize their work flexibly. Employees are expected to decide for themselves when they work (schedule flexibility), where they work (e.g. telecommuting), and by which communication tool/medium (smartphone, email, videoconference) they work (Baarne et al. 2010; Ten Brummelhuis et al. 2012). This implies further that the emphasis has shifted to output, as opposed to facetime (just being present). Such a flexible work design, also referred to as ‘new ways of working’ (NWW), has been applauded thus far, as it would lead to more efficient work processes and reduce organizational costs (Rennecker and Godwin 2005). However, whereas the organizational benefits of NWW have been emphasized in previous studies (Sánchez et al. 2007), little is known yet about how NWW influence employees and their families. What are the pros and cons of NWW? Do NWW help employees to find a better balance between work and nonwork roles? Using an iPad to check work-related email in the evening at home while watching TV with the spouse may interfere with private life. However, using that same iPad to Skype with the spouse while on a business trip may positively influence work-family balance. Insight into the possible pitfalls and opportunities of NWW may help employees to use NWW in such a way that they enable them to optimally combine their work and nonwork responsibilities.

In this chapter we examine the impact of NWW on work-family balance. We will first discuss the concept of NWW and their possible advantages and disadvantages. In the next paragraph, we will investigate the impact of NWW on working conditions, work-family balance, and employee well-being. We will then proceed with a discussion of how NWW can be used as an intervention to improve the balance between work and private life.

## **X.2 New ways of working**

New Ways of Working (NWW) have three key characteristics (Baarne et al. 2010). First, the *timing* of work has become more flexible. Employees have more autonomy in deciding when they work. This implies that there are no fixed work schedules as is common in 9 a.m. to 5 p.m. jobs. Second, NWW offer the employee various options for the *place* of work, including the office, home, and during commuting time (e.g., on the train, on the airplane). At the office, employees no longer have fixed workspaces (Kelliher and Anderson 2008). Instead, plain workspaces are provided that are suitable and accessible for every employee who comes to the office. Third, NWW are facilitated by *new media technologies*, such as smartphones, and videoconferencing. Thus, NWW offer the employee various options for communication with co-workers, supervisors, and clients, including phone calls, email, online messaging, and (online) virtual meetings (Baarne et al. 2010). Combining these three characteristics, we define NWW as a work design in which employees can control the timing and place of their work, while being supported by electronic communication. Strictly speaking, all these characteristics

should be present to meet the definition (or criteria) of NWW. Although NWW refer to these three characteristics, this chapter will particularly focus on the last one as the other two characteristics have been more extensively covered by earlier literature on flexitime (Baltes et al. 1999) and telecommuting (Golden and Veiga 2005). However, we would emphasize that the distinctive features of NWW are more autonomy over the workday (location, timing, communication) and more flexibility that is facilitated by high-tech communication to guarantee information flow and contact with colleagues and customers.

### ***X.2.1 Pros and Cons***

The introduction of NWW has initiated a revolution in the way employees interact with each other on the work floor (Gephart 2002). A significant proportion of communication in organizational life, with clients and colleagues, far away or in close proximity, takes place online (Renaud et al. 2006). Communication by email is supposed to be less time-consuming, more reliable, and more efficient than face-to-face meetings or phone calls (e.g., Berghel 1997). Moreover, people can be reached easily and quickly (Manger et al. 2003), and can collaborate with individuals across geographically distributed locations (Renaud et al. 2006). Furthermore, email enables the receipt of more information from more – and more diverse – sources.

Wireless access to email facilitated by smartphones enables users to engage in email in new ways. The smartphone is one of the newest communication tools in the workplace today (Rennecker and Godwin 2005). For an increasing number of employees, smartphones have become part of everyday work life (e.g., Hassan 2003). A smartphone is a mobile device with the functionality of a pocket pc. It facilitates calendar management, unlimited access to the Internet, making phone calls, and receiving emails anytime, anywhere. The main reason for having a smartphone is to send and receive emails (Middleton 2007). Companies provide their employees with smartphones in the hope of a return on investment. Research has indeed indicated that mobile tools can lead to increased productivity (Locke 2005) and enhanced collaboration (Baron 2005). Other advantages associated with smartphone use are improved responsiveness, the availability of real time information, faster decision-making, and more flexibility in work schedules. This flexibility can give individual workers the opportunity to better balance their work and home domains, as they can allocate their time over work and family activities in a way that suits their situation best (Parasuraman and Greenhaus 2002).

However, NWW are known to have some drawbacks as well. One such drawback is the possible (information) overload. Hiltz and Turoff (1985) foresaw that when email became widely available for everyone, workers would struggle with managing the inflow of messages. A handful of studies, however, has found that workers' perceived overload stems from aspects of their email use other than, or in

addition to, the number and length of messages received (Rennecker and Derks 2012). Other factors contributing to perceived overload have included pressures to respond quickly (Derks and Bakker 2010; Thomas et al. 2006); unanticipated tasks generated by received messages (Thomas et al. 2006); interruptions and task-switching associated with responding to emails (Dabbish and Kraut 2006; Russell et al. 2005); numerous and diverse role demands (Derks and Bakker 2010); and lack of control over incoming messages (Allen and Shoard 2005).

Moreover, NWW and particularly the use of electronic communication, i.e. smartphones, may also extend the workday. Fenner and Renn (2004) reported that extending the workday to the home during evenings, weekends, and holidays is of all times. However, the availability of technological tools (e.g., the smartphone) facilitating anytime-anywhere connectedness of employees to their employers is a relatively new tendency. Some studies suggest that employees who use electronic communication outperform employees who refuse to work after hours, because of reduced interruptions from colleagues and increased autonomy (e.g., Venkatesh and Vitalari 1992). However, other studies have shown that employees who engage in such NWW report feelings of isolation; have difficulties in working without structure; experience interruptions by family and friends (Allen et al. 2003), and complain about being overworked (Galinsky et al. 2001).

NWW not only have advantages and disadvantages for the user but also for the organization. The intensive use of smartphones in organizational life creates a norm that is characterized by nomadic working and continual communication (e.g., Hassan 2003). The possibility to stay connected expands into new settings and introduces new options regarding availability, responsiveness, and coordination (Mazmanian et al. 2006). However, this opportunity of accessibility anytime, anywhere, seems to change to availability everywhere, all the time (Katz and Aarhus 2002). There are indications that the blurring of boundaries leads to a deteriorated work-family balance (e.g., Derks and Bakker 2011; Jarvenpaa and Lang 2005).

Finally, NWW practices require autonomous and self-managed ways of working, which are thought to benefit both organizational and employee performance. However, previous studies have found contradicting results regarding the impact of flexible working practices on employee outcomes (Golden and Veiga 2005). Some studies have shown favorable effects, e.g., an increased sense of autonomy (De Jonge and Rutten 1999; Gajendran and Harrison 2007), while many other studies found negative outcomes such as an increase in negative emotions, physical health complaints (Mann and Holdsworth 2003), work intensification (Kelliher and Anderson 2010), and reduced privacy and job satisfaction (De Croon et al. 2005). We will now take a closer look at the impact of NWW on working conditions, work-family balance, and employee well-being.

### **X.3 A Closer look at the impact of NWW on working life**

#### ***X.3.1 Impact of NWW on working conditions***

NWW influence the working conditions in a drastic way. We will use the Job Demands – Resources (JD-R) framework (Bakker and Demerouti 2007; Demerouti and Bakker 2011; Demerouti et al. 2001) to illustrate how NWW impact the work environment. Thus, we use a systematic way not only to describe the changes in the work environment due to NWW but also to explain how these changes may influence work-family balance and well-being. Accordingly, although every work environment is unique, its characteristics can be categorized in two broad dimensions: job demands and job resources. *Job demands* refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs. Examples are a high work pressure, an unfavorable physical environment, and irregular working hours. Although job demands are not necessarily negative, they may turn into job stressors when meeting those demands requires high effort from which the employee fails to recover adequately (Meijman and Mulder 1998). *Job resources* refer to those physical, psychological, social, or organizational aspects of the job that either/or: (1) are functional in achieving work goals; (2) reduce job demands and the associated physiological and psychological costs; (3) stimulate personal growth, learning, and development. Hence, resources are not only necessary to deal with job demands, but they also are important in their own right. This agrees with Hackman and Oldham's (1980) Job Characteristics model that emphasizes the motivational potential of job resources at the task level, including autonomy, feedback, and task significance.

NWW may influence both job demands and job resources. With respect to job demands, Derks and Bakker (2010) suggested that NWW increase three kinds of 'overload': *information overload*, *work overload*, and *social overload*. Information overload occurs when the amount of information to be consumed and assimilated, particularly with respect to a task or decision, exceeds the individual's information processing capacity. Work overload occurs when the volume of messages received and the time required to respond appropriately exceeds the time available to do so. This may be due to the receipt of a large number of unnecessary messages, a low-trust culture that prompts users to 'cc:' many recipients, a worker being engaged in too many simultaneous projects, or a lack of group or organizational norms to promote judicious use of email. Finally, social overload occurs when a worker receives email messages from too many different people evoking too many distinct roles and social contexts, exceeding the recipient's interaction capacity.

Moreover, although the continuous availability can decrease work delays (quick access to information) which leads to increased organization efficiency, at the same time it may lead to an increase in *work interruptions*, and, in turn, to increased disorganization (Renneker and Godwin 2005). Rubinstein et al. (2001) examined the time cost implications of task familiarity and complexity in task switching. They showed that switching between tasks resulted in a delay before engaging effectively in a new task, even if the worker had been previously engaged in the task. Each fragmentation of a task adds to the total time required to complete it (Rubinstein et al. 2001).

The lack of nonverbal cues in computer-mediated communication implies automatically that not all information is fully transferred (McKenna and Bargh 2000). The messages typically conveyed by these cues are absent in a text-based environment (e.g., Walther 1995), which implies that for the interpretation of messages online we have to rely exclusively on non-verbal information. This may have consequences for the decoding of others' emotions because we cannot make use of nonverbal cues in the interpretation of incoming messages. *Misunderstandings* and *conflicts* between colleagues can be the result of such kind of communication. At the same time, the lack of nonverbal cues also has consequences for the expression of our own emotions since every emotion has to be verbalized and part of the nonverbal expression happens unconsciously. The strictly task-oriented messages should not suffer that much from these consequences. This makes email a relatively 'safe' environment (McKenna et al. 2002).

The lack of nonverbal cues may also have certain advantages in the regulation of emotions. Since many organizations demand that their service employees adhere to strict display rules regarding the emotions they should show to customers, computer-mediated communication may have the potential to make this work easier. Service employees constantly have to regulate their emotional expressions while interacting with customers (Grandey and Brauburger 2002). Hochschild (1983) argued that this form of *emotional labor* is not without costs for the employees because this process requires a lot of effort. It can be argued that the possibility to communicate emotional messages to colleagues and customers mediated by email gives the user more control and autonomy over actions.

One may consider electronic communication as a helpful resource for the sender but as a demand for the recipient. Specifically, a characteristic of email is that it invites the sender to engage in short and shallow messages (Bertacco 2007; Bertacco and Deponte 2005). Wicklund and Vandekerckhove (2000) argued that only speedy communicative media that are also limited in bandwidth, for example email, would promote shallow communications. Speed-oriented communication gives an individual the sense that the recipient can be reached and dealt with quickly (Manger et al. 2003). Especially in comparison with postal mail, email messages tend to be shallower and more reactive (Bertacco and Deponte 2005). This might bring about important social psychological consequences in that senders abbreviate their interactions and are more egocentric, in that they reduce per-

spective taking, than individuals who interact face-to-face (Wicklund and Vandekerckhove 2000).

With respect to the impact of NWW on resources, when electronic communication was introduced on the work floor, it was not only expected to replace part of face-to-face communication but also to generate an increase in *communication overall* (Contractor and Eisenberg 1990). Surprisingly, Sarbaugh-Thompson and Feldman (1998) found that the increase in electronic communication was related to a decrease in face-to-face and telephone interactions, producing a net decrease in overall communication in their population of organization members. This decline in volume might suggest that electronic communication is more efficient (see also, Rice and Case 1983). Taking a closer look at the analysis revealed that electronic communication was not more efficient per se but that the reduction in casual communication (e.g., greetings, social talk at the coffee corner) was at the root of the decrease in communication (Sarbaugh-Thompson and Feldman 1998). Thus, although NWW help to increase the efficiency of communication at the same time they reduce overall communication (which represents an important job resource according to the JD-R model).

According to the JD-R model, social support is an essential job resource that has the potential to buffer the impact of job demands on well-being (e.g., Bakker et al. 2005; Xanthopoulou et al. 2007). In view of the fact that NWW facilitate workers to be separated in time and place, the likelihood that colleagues spend time together in one place is decreasing. The key ingredient of casual conversation, ‘hanging out together’, is missing when employees communicate by email, or work from home, which requires intent and planning. These reduced opportunities to give and receive support are also an issue for the increasing number of teleworkers.

Since NWW and in particular electronic communication are very practical in the exchange of documents and information (e.g., Sullivan 1995), it has also become more common to deliver feedback on these documents. Feedback messages can be considered ambiguous because they have an objective, critical component, but also a motivational component in the form of constructive feedback. In organizations, feedback is considered as a first step to improvement and personal development. This makes it an important resource fueling our motivation at work (Bakker and Demerouti 2007). However, if information is likely to be negative, media choice can be crucial when delivering the feedback (Fulk and Mani 1986). In our Western society it is not done to send negative personal feedback by email. In such a situation, face-to-face interaction is preferred. The mediated environment of electronic communication might decrease the psychological discomfort of the sender during the communication process and, as a consequence, the feedback might be more straight and honest (Sussman and Sproull 1999). So, people may find it less stressful to deliver negative feedback by email in comparison to face-to-face because they are socially buffered from their communication partners (e.g., Gallupe et al. 1992; Kiesler and Sproull 1992). Sussman and Sproull (1999) experimentally tested the influence of media choice (face-to-face, telephone, synchro-

nous computer-mediated communication) on the perception of feedback (positive or negative). The results showed that individuals using computer-mediated communication to deliver negative feedback distorted it to a lesser extent than individuals communicating face-to-face. Thus computer-mediated communication facilitates the delivery of more direct and negative feedback, which is sometimes difficult to deliver through face-to-face communication. Because of NWW, individuals do office work away from a central, conventional office during regular office hours (Kraut 1987). NWW replace work done at a central office location. Employees who work from home might experience enhanced autonomy, more flexible working hours, and reduction in costs for transportation (Zedeck and Mosier 1990). Employees who use NWW are also better able to cope with family demands since they can take care of their children while actually working. In this way, they need less daycare and can be with their child in case of sickness. However, the biggest concern about telecommuting is the potential for exploitation by the organization (Zedeck and Mosier 1990). According to Zedeck and Mosier, telecommuting contains the danger of restriction of career advancement for the more vulnerable groups of the working population like females with enhanced childcare responsibilities, elderly individuals, and people with disabilities. The reason is that telecommuters are isolated from the organization and their promotion possibilities might therefore be impaired (Demerouti 2006).

In conclusion, NWW seem to have an impact on the quantity and quality of job demands and job resources. Specifically, in terms of job demands overload, interruptions, misunderstandings, and conflict seem to increase while emotional labor seems to decrease due to the application of NWW. With respect to job resources, while feedback and autonomy seem to increase, social support, overall communication, and career advancement might decline as a result of the introduction of NWW. How does this consequently influence work-life balance and employee well-being? That is what we will discuss next.

### ***X.3.2 Impact of NWW on work-life balance***

One of the reasons that more and more organizations introduce NWW is that it would facilitate the integration of employees' work and life roles (Ryan and Kossek 2008). The general idea of why NWW contribute to work-life balance is that, first of all, they give employees control over the scheduling of their workdays. Flexible work schedules allow the employee to use time more efficiently and schedule various activities in a way that suits the employee's situation best (Parasuraman and Greenhaus 2002). Being able to choose a location for work, (e.g., working from home) also allows employees to schedule work optimally to minimize work-family interference (Gajendran and Harrison 2007). Furthermore, telecommuting actually saves the employee time because it cuts down on commuting time that cannot be used for work or family activities (Hill, Ferris, and Martinson



2003). Finally, electronic communication enables employees to stay in touch with work while working from home or on schedules that differ from colleagues or customers (Ten Brummelhuis et al. 2012).

Although the potential of NWW for adjusting work and life roles sounds appealing, some critical notes have been made as well. For instance, Perlow (1998) suggested that managers are keen to control the hours that employees work, and therefore the temporal boundary between employees' work and life outside of work. The predictions about the effectiveness of telecommuting in reducing problems with balancing work and family as well as the initial research findings were more positive (e.g., Gordon 1976) than in recent studies. Gajendran and Harrison (2007) commented that telecommuting may increase the permeability of boundaries between work and nonwork domains as the physical boundaries between the two environments are eliminated (Shamir and Salomon 1985). Instead of facilitating balance, telecommuting was found to enhance interference between multiple roles (Hill et al. 2003). Also, Duxbury et al. (1996) found that users of telecommuting were more likely to report greater stress and more work-family interference. Similarly, flexible work schedules may cause more stress owing to constantly changing schedules that result in a highly unstructured daily program (Tausig and Fenwick 2001). A blurring of work-family boundaries may particularly occur when flexible work arrangements are combined with increased electronic communication (Katz and Aarhus 2002). Working from home while staying connected through email and smartphone implies that work never stops and intrudes into the family domain. In this way both the beginning and end times of work are not clearly defined (Hamilton 1987).

Not surprisingly then, empirical studies on the effects of telecommuting, flexitime, and electronic communication on work-life balance show a rather mixed picture. In their meta-analysis of studies on telecommuting, Gajendran and Harrison (2007) concluded that telecommuting reduced work-family conflict, although the effect was small. Nevertheless, in some studies it is reported that telecommuters experience more time pressure in the long run, while making longer work hours (Peters and Van der Lippe 2007). Glass and Finley (2002) were more explicit about the mixed findings of flexible work schedules. In their review study, they mentioned that previous studies reported both positive and negative effects of flexible schedules on work-family conflict. There is also evidence that mobile devices blur the distinctions between the public and private domains of life (Grant and Kiesler 2001; Green 2002). For instance, Jarvenpaa and Lang (2005) showed that smartphone users reported increased work pressure and the inability to separate and keep distance from work. This might be because boundary management is more difficult for NWW, as blurring role boundaries will occur when working from home is combined with smartphone use (or other forms of continuous connections).

Kattenbach et al. (2010) provided an additional explanation for the mixed findings regarding the effects of flexible working time arrangements and work-family interference. Namely, flexibility in working time contains not only time autonomy

(of the employee's) but also his or her temporal restrictions, imposed by others, e.g. the employer. Kattenbach et al. (2010) found that after controlling for various job demands, time autonomy was negatively related while time restrictions was positively related to work-family conflict.

In sum, in the studies on the key dimensions of NWW (telecommuting, flexible work schedules, and electronic communication) mixed findings were reported on the impact on work-family balance. A possible explanation for these mixed findings is that conditional factors that might influence the success of NWW have rarely been taken into account. Work conditions, family conditions, and personal characteristics (e.g., a boundary management strategy of segmentation or integration of roles; Perlow 1998; Powell and Greenhaus 2010) are all very likely to influence the extent to which NWW actually enhance work-life balance. For instance, organizations propagating a presence-culture, while being wary of telecommuters, may rather raise stress than supporting 'New Workers'. Ten Brummelhuis and Van der Lippe (2010) showed that employees' family situation also matters, as they reported that telecommuting and flexible work schedules were only effective for singles and not for employees with a partner and/or children. Finally, persons may differ in the extent to which they prefer, but also are able to deal with, enhanced control over their work schedule. Conscientiousness and self-efficacy possibly play an important role here (Raghuram and Wiesenfeld 2004). Future studies are needed to examine the consequences of NWW on work-life balance in different work and family settings and among persons varying in individual characteristics.

### ***X.3.3 Impact of NWW on recovery***

NWW can influence not only interrole management but also the way in which individuals spend their time after work in the form of recovery activities. Recovery occurs during time periods when no demands similar to the preceding job demands are put on the person (Meijman and Mulder 1998), in other words during evenings off (Rook and Zijlstra 2006). The common factor underlying most recovery definitions is that recovery occurs after strain when the stressor is no longer present (Sonnentag and Geurts 2009).

The important role of recovery can be illustrated from the perspective of Effort-Recovery theory (Meijman and Mulder 1998). Its central assumption is that effort expenditure at work is unavoidably associated with acute load reactions. Under optimal circumstances, these stress-related acute load reactions return to pre-stressor levels during after-work hours, and recovery is completed before the next working day starts. In this situation, health is not at risk (Meijman and Mulder 1998). However, when stress-related acute load reactions prolong or re-occur during after-work hours, recovery is incomplete. In this situation, the worker will start the subsequent workday in a suboptimal condition and will have to invest com-

pensatory effort in order to perform adequately at work. Following this idea, Sonnentag (2001) showed that employees need leisure time to detach from work in order to properly recover from stress expenditure.

Sonnentag and Fritz (2007) argued that people might differ in the activities (e.g. low-effort, social, or physical activities) they experience as recovering. They suggest that recovery experience consists of four different dimensions. Psychological detachment (1) includes activities aimed to disengage oneself mentally from work. Relaxation (2) is characterized by low activation and increased positive affect. Deep physical and mental relaxation can be achieved by deliberately practicing relaxation techniques, for example meditation (Grossman et al. 2004). Mastery experiences (3) refer to challenging experiences in other domains that provide opportunities for learning and success (Sonnentag et al. 2008). Finally, control or autonomy (4) refers to an individual's ability to choose an action from multiple options. In other words, the degree to which an individual can decide which activity to pursue during leisure time, as well as how and when to engage in this activity (Sonnentag and Fritz 2007).

It is questionable to what extent intensive smartphone users really experience evenings off. Derks et al. (2011) examined whether intensive smartphone users have more difficulties to actively engage in recovery activities. It was hypothesized that it might be very difficult for intensive smartphone users to engage in recovery activities (e.g., low-effort or social activities) in response to high work-home interference. In other words, especially when employees need recovery the most, the probability that they will succeed in undertaking activities aimed at recovery decreases. This hypothesis was examined in a study among 80 employees (40 smartphone users, 40 controls). Participants completed a six-day diary questionnaire over a time period of two weeks. Results showed that for the control group, T1 work-home interference was positively related to recovery (i.e. psychological detachment, relaxation, mastery, and control over time), whereas smartphone users facing high work-home interference did not succeed in engaging in these recovery activities. This implies that being connected to work in the evening hours through smartphones has consequences for the extent to which employees succeed in adopting recovery strategies. This finding is explained by the fact that in most cases the request to work initiated by the smartphone is external and uncontrollable, and continues the confrontation with work-related matters (Duxbury, Higgins and Lee 1994).

Research on job-stress recovery suggests that recovery experiences during leisure time provide opportunities to unwind from work (Geurts and Sonnentag 2006; Westman and Eden 1997). Empirical research has shown that employees who successfully detach from work during after-work hours experience higher levels of life satisfaction and well-being (Sonnentag and Fritz 2007), and show better performance (e.g., Binnewies et al. 2009; Demerouti et al. 2009; Meijman and Mulder 1998). Continuous preoccupation with work during after-work hours and the inability to switch off from work is part of an unhealthy pattern characterized by high levels of fatigue, sleep complaints, and other indicators of poor well-

being (Grebner et al. 2005; Van Hooff et al. 2006). Derks and Bakker (2011) argued that work-home interference, and the inability to switch off, are stronger related to poor well-being for intensive smartphone users in comparison to less intensive users. Assuming that intensive smartphone users use their smartphones during evening hours, they drain the same energy resources during the evening as during the workday, which accelerates the fatigue process. Since employees who decide to stay connected have no prior information about the frequency and quantity of requests that will be made on them, they might experience low levels of control (Middleton and Cukier 2006). In addition, the smartphone facilitates working overtime. As a result it is plausible that extensive smartphone use during evening hours contributes to the prolonged exposure to work demands and its associated negative consequences. With a daily diary study, Derks and Bakker (2011) found that for intensive smartphone users daily work-home interference was more positively related to daily exhaustion than for employees who abstained from smartphone use during evening hours. In other words, the costs of high work-home interference are disproportionally loaded on the intensive smartphone user. The explanation for this effect is that because smartphone users will be more inclined to check their work-related emails during nonwork time, they ruminate more about their work, are more involved in work while being at home, and consequently they recover less.

Taken together, it seems that the empirical evidence regarding the impact of NWW on recovery is not sufficient to provide a clear picture of the way in which the different dimensions of NWW influence recovery after work. It seems that NWW have both positive and negative effects on work-family interaction. The positive effects are due to the flexibility (in location and hours of working) that NWW enable, while the negative effects are due to the increased risk that individuals are constantly busy with their work during nonwork times.

### ***X.3.4 Impact of NWW on employee well-being and performance***

In a recent diary study, Ten Brummelhuis et al. (2012) examined the effects of NWW on work engagement and exhaustion, and investigated whether communication quality mediated these relationships. The results of a five-day diary study (n= 550) showed that daily use of NWW was positively related to daily engagement and negatively to daily exhaustion due to increased effective and efficient communication. In addition, NWW enhanced connectivity among co-workers, resulting in enhanced daily engagement and reduced exhaustion. However, Ten Brummelhuis et al. (2012) also found a positive relationship between NWW and exhaustion, because NWW increased interruptions during the work process. This means that although NWW have the potential to foster work engagement during the workday, some caution is needed. Namely, NWW make employees engaged,

but at the same time cost a lot of energy, which consequently may exhaust them at the end of the workday.

Similarly, Kattenbach et al. (2010) found that after controlling for various job demands, time autonomy was negatively related while time restrictions (e.g., incidental overtime) was positively related to exhaustion. Moreover, the authors showed that time autonomy and time restrictions were unrelated to self-reported as well as peer-rated in-role and extra-role performance. The only trend that was found (on  $p < .06$ ) was that the more time-autonomy employees reported the more negative their extra-role performance was rated by their colleagues. The authors explained this finding by the fact that highly flexible working times can interfere with communication and cooperation among colleagues because employees are not at work during the same time period (Nollen 1981). Such problems can arise particularly when tasks are highly interdependent (Ronen and Primps 1981).

#### **X.4 NWW as a work-family balance intervention**

'New Workers' are allowed to determine their working times, their location of work, as well as the communication media they use to keep in contact with the office. This enhanced control over the workday provides employees with the opportunity to tune work hours to family responsibilities. For instance, employees may decide to work from home and use the time they save on traveling for doing groceries. Or, they schedule their work hours around their children's school times, enabling them to bring and pick up the children. Meanwhile, email, phone and instant messaging can be used to stay in touch with co-workers or clients. NWW thus allow employees to efficiently distribute their time over various responsibilities. Moreover, the feeling of being in control lowers stress (Lazarus and Folkman 1984), thereby indirectly contributing to work-life balance.

Paradoxically, the pitfalls of NWW lie also in their flexibility. For most people, a certain separation between work and leisure time helps them to recover from work (Geurts and Sonnentag 2006). Working from home removes such a clear separation between work and home and may impede the recovery process. Moreover, highly irregular day schedules may also cause stress, as they raise uncertainty and a feeling of restlessness (Ten Brummelhuis et al. 2010). Finally, the advanced communication technologies that support NWW blur the home-work boundary even further because one is constantly in contact with work, and messages from work intrude the home domain (Grant and Kiesler 2001). Not only does this constant connection with work impede employee recovery, family members may also be annoyed by the employee's preoccupation with work (Middleton 2008). When we review the opportunities and pitfalls of NWW, it seems that NWW have the potential to contribute to work-life balance, provided they are used in a considerate and moderate way. In other words, NWW can be beneficial for employees and

their families if boundaries to separate work and family life are created. The following steps may help employees to adopt such a strategy.

1. Map the means. Like all behavioral changes, the first step to change is awareness of current behavior (Bandura 1977). Therefore, employees first are asked to estimate their current NWW behavior by reconstructing an average workday. This means making a scheme of one's work timeslots (beginning and end times of each work block), the location of work, and the communication techniques used (e.g. hours spent on email, phone calls).

2. Map the goals. The next step is to make an overview of one's responsibilities. Thus, all tasks that need to be done as well as other activities one wants to be involved in (work hours, household chores, care tasks, volunteering, sports, etc.). This overview can be further completed by an estimation of the actual hours spent on each activity, and the preferred hours spent. For an estimation of preferred hours to spend on each activity it can be helpful to rank activities on a scale from high priority to lower priority. For instance, one may prefer to limit the amount of time spent on smartphones use during the evening, while increasing undisturbed time spent with family members.

3. Compile the optimal daily schedule. As described above, NWW can be used to design an efficient daily schedule, in which responsibilities are scheduled efficiently. The extent to which employees can plan their work times and location can be seen as a means to reach their goals (i.e., spending enough time to prioritized activities). For example, if one attaches great value to picking up the children from school, and having dinner with the whole family, but also working 8 hours a day, one may decide to schedule work in a 'scattered' workday (e.g. working between 10 a.m. to 3 p.m. at the office and from 8 p.m. to 11 p.m. at home).

4. Report the actual schedule. Because intentions often do not match reality, in the next step a record is kept of one's actual weekly schedule. This can be done by using an online daily reconstruction tool (Oerlemans et al. 2011) in which employees report during 5 consecutive workdays the timing and duration of activities they engaged in each day. At the end of the week, an overview of one's actual behavior is obtained. It is then possible to compare the actual schedule to the optimal schedule (e.g., whether one picked up the children on time or managed to work 8 hours on a day or exercised two times a week).

5. Evaluate, adjust, and fine-tune. The final step comprises of adjusting any gaps between the actual (point 4) and optimal work schedules (point 3). If goals are not met, one can reflect on whether this is due to a lack of means, or may result from having set unrealistic goals. When the latter is the case, lower priority goals may be adjusted (e.g. skipping a training, outsourcing household chores, or working less hours a week). Also, the use of NWW may be fine-tuned. For example, when the weekly records reveal that one uses the smartphone at home more than preferred, one can more consciously try to limit its use. Finally, it should be noted that there is a limit to flexibility (Hill et al. 2003). This means that, although NWW may foster efficient time use, they do not create an additional hour to the 24 hours that a day counts.

## **X.5 Conclusion**

Because organizations embrace NWW although the exact pros and cons are still unclear, more research is needed on the impact of NWW on working life. First of all, it would be interesting to examine the role of control over communication. The findings of Ten Brummelhuis et al. (2012) suggest that harmful effects of NWW may be attenuated when employees can control when and where they are connected to work, while uncontrolled communication, such as interruptions, are energy consuming. Studies are needed to test this hypothesis. Furthermore, it is important to design longitudinal research to investigate the long-term effects of NWW. In such a design, the frequency of or time spent on NWW can be related to work-family balance, recovery after work, well-being, and job performance over time, for example over the course of six months. This would allow an examination of the causal direction of the relationship.

Another suggestion for future research is to examine the role of personality or other individual characteristics (like boundary management strategies). For example, it is conceivable that individuals who are more open to new experiences will profit more from NWW, experiencing more work engagement, while costing them less energy to adopt this new work design. Conscientiousness may also play a role, as highly disciplined persons are probably better able to work efficiently at home and schedule their workday. In contrast, NWW may be stressful for individuals scoring high on Extraversion, since they would miss the face-to-face contact with their colleagues. Finally, future studies could use a study design in which employees using NWW are compared with employees who do not use NWW (yet). Such a design will enable to address more explicitly how job demands and resources and work outcomes differ between NWW users and nonusers. Thus, a more conclusive understanding of how NWW influence employee well-being, and recovery after work and family life can be gained. Such an understanding is vital to design NWW effectively and in a way that they stimulate positive outcomes for both organizations and employees.

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