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Do new ways of work mean new ways of work-nonwork interface? Using a demands-resources approach for understanding satisfaction with work and nonwork life among location independent and traditional workers.

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Abstract

Information and communication technologies (ICTs) become more advanced and more accessible which leads to new ways of work. A rather new phenomenon is that of location independent workers (LIWs), who are enabled by these technologies to work while traveling the world. New ways of working assumingly lead to changes in the work-nonwork interface. This study takes a demands and resources approach to examine antecedents of satisfaction with work and nonwork life among LIWs and compares them to a group of traditional workers. Ninety-four LIWs and 68 traditional workers responded to a self-report questionnaire assessing their work-related experiences (job control, task quality ambiguity, task completion ambiguity), recovery experiences (psychological detachment, relaxation, mastery, control during leisure time), ICT usage, and satisfaction with their work and nonwork life. LIWs showed higher levels of satisfaction with their work life, job control, and control during leisure time as well as feeling less ambiguous about the quality of their work than the comparison group. Hierarchical regression analyses showed different models explaining work and nonwork satisfaction for the two groups. For LIWs job control and control during leisure time predicted satisfaction with work life, while job control and relaxation were predictors for satisfaction for the comparison group. When explaining satisfaction with nonwork life, control during leisure time was a predictor among LIWs, whereas relaxation was a predictor among members of the comparison group. This study emphasizes that people differ in their work and nonwork experiences and how these experiences are related due to their way of working.

Keywords: location independent work, satisfaction with work and nonwork life, ICTs, job control, task ambiguity, recovery experiences

Work is embedded in a wider socio-economic context and is consequently influenced by macroeconomic shifts such as globalization and technological development (Cascio & Montealegre, 2016; Okhuysen et al., 2013; Schaffers, Prinz, & Slagter, 2005). More specifically, recent advances in information and communication technologies (ICTs), and developments in mobility and transportation structures build the foundation of a new way of working (Cascio & Montealegre, 2016; Harmer & Pauleen, 2012). Previous literature (e.g. Allvin, 2008; Schaffers et al., 2005) describes these ways of working as characterized by organizations becoming more decentralized, and by an increased responsibility of the individual for their own work, leading to people working in more autonomous and self-organizing ways. As advances in ICTs enable these new working scenarios, the question is how these changes influence how work is conducted and how people's perceptions of their work are altered. According to Cascio and Montealegre (2016), people adapt to changes in the way work is conducted by learning new skills and creating new forms of employment or jobs. Thus, new jobs, which are taking advantage of the new ways of working, are created. Already in 1997, Makimoto and Manners (1997) proposed that a new group of workers had developed, who rely on ICTs to conduct their work and are continually on the move. They labeled this group 'digital nomads'. Similarly, other literature also describes the existence of a group of workers who rely on the ubiquitous access to digital resources and the negligibility of geographical distance and time (Harmer & Pauleen, 2012; Messenger & Gschwind, 2016; Müller, 2016; Vartiainen, 2006). Since work represents a context of social situations e.g. work-family issues which influence psychological situations (Okhuysen et al., 2013), the new ways of working can have various consequences for the individual worker. One consequence of the omnipresent use of ICTs and the increased mobility of workers might be that the distinction between work and nonwork becomes blurred and the two domains highly overlap (Allvin, 2008; Schaffers et al., 2005). Work is not restricted to a 9 to 5 job in an office anymore and people are switching between work and nonwork roles as is required from them (Shumate & Fulk, 2004). As a result, it is important to investigate how these rather new work characteristics influence the work-nonwork interface (Vartiainen, 2006). This study adopts a demands and resources perspective (Voydanoff, 2005a) in researching the satisfaction with work and nonwork life of people who engage in work which is conducted independent of a specific location and in comparing them to people who employ more traditional ways of working.

The literature review below starts by illustrating a specific new way of working (location independent work) which has not been well researched yet. Following, the demands and resources approach to satisfaction with work and nonwork life is presented, and literature on specific demands and resources, which are assumed to be connected to this technology-based way of working, is reviewed. Thereby past empirical research about the relations of use of ICTs for work purposes, task ambiguity, job control and recovery experiences with satisfaction with work and nonwork life is examined more closely.

Location independent work

Working in another location than the employer's premises, due to the use of ICTs is commonly known as telework (Harmer & Pauleen, 2012; Messenger & Gschwind, 2016; Vartiainen, 2006). Although there has been an extent of research on the topic of telework, there is no standard definition of the term (Siha & Monroe, 2006). Messenger and Gschwind (2016) propose a conceptual framework of three generations of telework which is based on an evolutionary perspective of telework (see Figure 1). The evolutionary perspective assumes that the development of technologies has shaped the mode of work, especially the organization and location of work. According to this framework, telework emerged when employees started partially working in a home office, supported by stationary ICTs (computer, telephone). In this generation, telework is viewed as a rather immobile work arrangement, meaning that the employees only work from home. The second generation of telework, the mobile office, is based on the development of mobile, wireless ICTs (laptop, mobile phone). In a mobile office, employees could not only work on the employer's premises or at home but also in established third places, making it partially organized. The appearance of new ICTs, which combine information and communication technologies into one device, and the fact that information is stored in clouds and thus accessible everywhere, enabled telework to enter a third generation - the virtual office. The new ICTs, e.g. smartphones or tablets, enable workers to work and access information in intermediate, mobile spaces (e.g. on the train). Work is no longer bound to any specific location, but location independent. Furthermore, it is a less structured and less formal work arrangement, which the authors term occasional (Messenger & Gschwind, 2016). However, as Messenger and Gschwind (2016) note, it is important to acknowledge the blurred boundaries between the different kinds of ICTs. Nowadays, it is not only the new ICTs which combine information and communication technologies, but also many stationary computers support both purposes.

Keeping in mind that these are not strict categories but that the generations of telework can be overlapping, Messenger and Gschwind's (2016) Conceptual Framework of the Evolution of Telework provides a helpful framework to systemize research on the use of ICTs for work purposes.

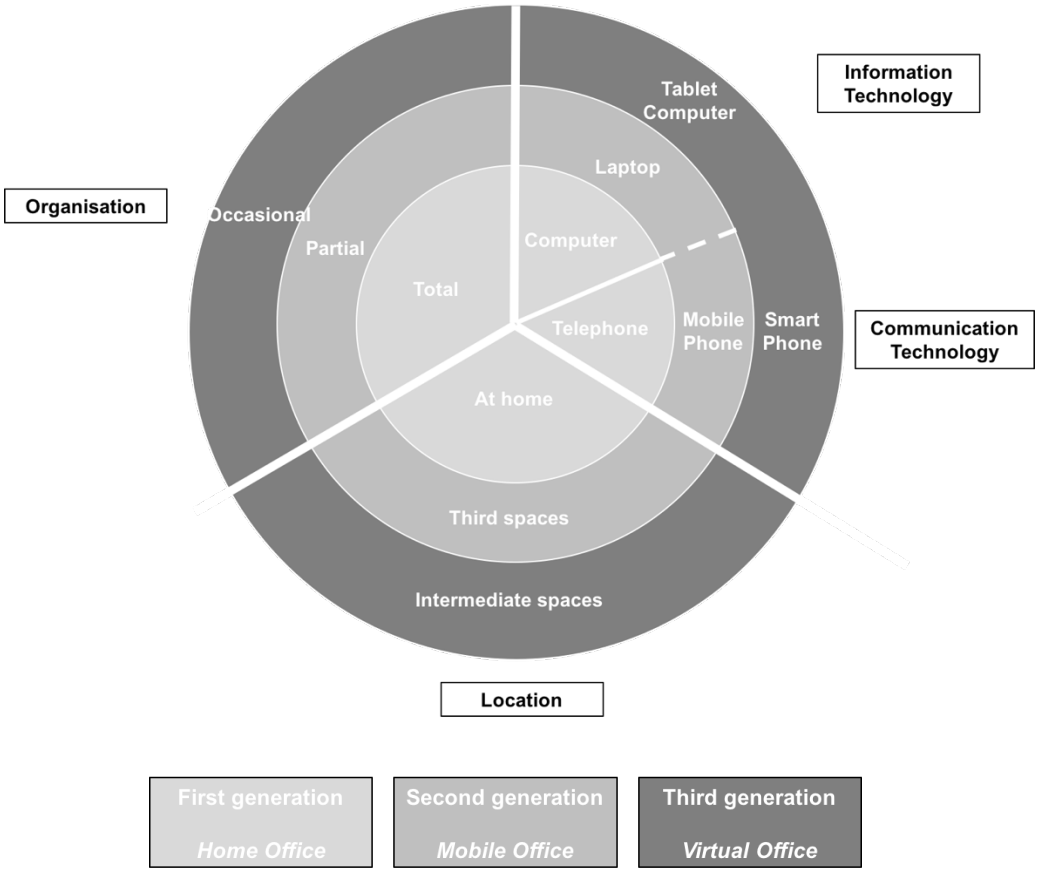

Figure 1: A Conceptual Framework of the Evolution of Telework (Messenger & Gschwind, 2016, p. 203)

Definition of the location independent worker. According to Messenger and Gschwind (2016), various authors defined the group of people who engage in location independent work. Lilischikis (2003; as cited by Vartiainen, 2006) used the term nomads to describe employees who work in varying places and are constantly on the move. However, these kinds of workers (e.g. insurance agents, diplomats) do not necessarily choose themselves where they want to work. The digital nomad, as described by Müller (2016), also is a worker who no longer depends on a traditional office. However, that independence is because all they need for their work is an internet connection and a suitable device. Furthermore, according to her definition digital nomads engage in location independent work

as a way to adapt work to their self-determined vision of their personal life (Müller, 2016). Similar to the definition of the digital nomad is Harmer and Pauleen's (2012) definition of the offroader. According to their research findings, offroaders are professionals with highly developed skills, who dissociated themselves from working in a traditional office environment and use technologies in order to engage in a nomadic working lifestyle. They are characterized by high levels of autonomy and intrinsic motivation. Although the terms (nomad, digital nomad, offroader) describe the same underlying assumption, they might be connected with different connotations. The term digital nomad is frequently used in popular literature and often associated with the assumption of a lifestyle-trend of traveling the world and working on the beach, but being self-absorbed at the same time. Thus, some people engaging in this nomadic lifestyle prefer not to be called digital nomad in order to be not associated with all the inherent connotations (e.g. Croke, 2016). While there is no scientific research about how the identification with this lifestyle and the label of the digital nomad relate, one can find various blog entries on the internet which are about this topic.

One common underlying assumption is that these kinds of workers (nomad, digital nomad, offroader) have a job which allows them to work wherever they want to, hence being location independent. Therefore, the more neutral term of a location independent worker (LIW) is used in the present study. For the purpose of this research, to be considered to be a LIW one has to fulfill two criteria. First, a LIW is someone who has a high degree of flexibility and mobility, as such that his or her work is not bound to a specific location and that he or she frequently moves to various places and works from there. Second, this mobility is present because the person engages in work which is based on the use of mobile ICTs.

A demands and resources approach to satisfaction with work and nonwork life

Considering the development of new ways of working (e.g. Allvin, 2008; Schaffers et al., 2005), it is important to investigate whether these new ways of working might have an impact on the compatibility of work with other life domains.

In the field of work-nonwork interface research the term work-life balance is widely used in academic and popular discourse, even though there is no common definition of what is included in this term (Kalliath & Brough, 2008). Authors often conflate work-life balance and work-family balance and assume that the nonwork domain can be equated with family

responsibilities (Eikhof, Warhurst, & Haunschild, 2007). Furthermore, most theories focus on the family roles as a representative of the nonwork domain (e.g. Clark, 2000; Frone, 2003; Greenhaus & Beutell, 1985; Valcour, 2007). Nonetheless, for most people life is more encompassing than family and work and different aspect of the nonwork life may be differently important to various people (e.g. health, education, community involvement) (Keeney, Boyd, Sinha, Westring, & Ryan, 2013).

Additionally, work-life balance research is marked by a dissemination of constructs (e.g. enrichment, facilitation, positive and negative spillover, conflict) (Valcour, 2007). Some research is based on the assumption that work and family roles are in bi-directional interaction where the work and the family domain influence each other (Greenhaus & Beutell, 1985). Frone (2003) builds on this assumption and describes work-family balance using a fourfold taxonomy along the two dimensions; direction of influence (work-to-family or family-to-work), and type of effect (conflict or facilitation). Work-family balance can according to this approach be understood as the absence of conflict, or the existence of facilitation between the two domains (Clark, 2000; Frone, 2003). Examining satisfaction with work-life balance, Grawitch and colleagues (2013) found that satisfaction with work-life balance is more encompassing than the existence of facilitation or absence of conflict. As different approaches in contemporary research are aiming to explain work-life balance, this leads to different understandings of what having balance between work and other life domains constitutes (Turner, 2013). Additionally, academics and practitioners question the inherent assumption that balance implies that aspects of life are weighted equally (Binnewies, 2016), for instance, equal allocation of time (Greenhaus & Allen, 2011).

Hence, this study takes a more holistic approach in researching the work-nonwork interface by measuring satisfaction with work and nonwork life. This general approach does not have the underlying assumption that the work and other domains are in conflict. It does not focus on interactions, but on the level of satisfaction within the work or nonwork domain (Valcour, 2007). Furthermore, although this study is conducted in the field of work-nonwork interface it does not aim to measure the balance between the two domains, but more so the level of satisfaction with the separate domains.

The demands and resources approach. Within the field of work-nonwork interface research, the present study adopts a demands and resources perspective and investigates

LIW's and traditional worker's satisfaction with work and nonwork life. Davis, Shevchuk, and Strebkov (2014) define satisfaction with work-life balance as an individual's cognitive appraisal of how generally satisfied they are with their success in meeting different work and life demands. The concept of satisfaction with work-life balance is rooted in the demands and resources approach developed by Voydanoff (2005a, 2005b). Voydanoff (2005b) describes resources as "structural or psychological assets that may be used to facilitate performance, reduce demands, or generate additional resources" (p.823), and demands as "structural or psychological claims associated with role requirements, expectations, and norms to which individuals must respond or adapt by exerting physical or mental effort" (p.823). The author further states that perceptions of balance, resources, and demands are subject to one's individual cognitive appraisal. Further theoretical support is offered by Hobfoll's (1989) conservation of resources (COR) theory. The basic assumption of the COR theory is that "people strive to retain, protect, and build resources" (Hobfoll, 1989, p. 513). If these resources are threatened or not suitable to meet life demands, people experience strain and decreased perceptions of work-life balance (Grawitch et al., 2013; Hobfoll, 1989). The COR theory can also be used to explain how person-environment fit impacts individual well-being (Barber, Grawitch, & Maloney, 2016). People have personal preferences for the allocation of their finite amount of resources. If resource allocation is not in accordance with these preferences, they might experience less satisfaction with either work or nonwork life (Barber et al., 2016).

Grawitch and colleagues (2013) found that work life satisfaction and nonwork life satisfaction are positively related to satisfaction with work-life balance, yet not conceptually the same. However, they, and also Valcour (2007), assessed balance by measuring satisfaction with items such as "the way you divide your attention between work and home" (Valcour, 2007, p.1517). Although this operationalization might be suitable for employees in more traditional work arrangements, it is not fitting perfectly for measuring satisfaction with work-life balance for location independent worker, because they do not have a 'home' in the traditional sense. Therefore, satisfaction with work-life balance for this study is conceptualized as the satisfaction with work and nonwork life. This is furthermore in line with the above-mentioned definition that satisfaction with work-life balance is apparent, when the resources meet the demands of the different life domains. However, this approach to investigating the interface of work and nonwork life is not that common in research so far.

That is why in the following section predominantly research on work-life balance will be discussed.

Valcour (2007) investigated satisfaction with work-family balance of employees working in a telephone call center in the US (79% female). Her findings showed that work hours (a demand) were negatively associated with satisfaction with work-life balance, while job complexity and control over time (resources) were positively related to satisfaction with work-life balance. Similarly, the results of a study investigating self-employed Russian internet freelancers indicated an overall support for the negative relationship of the demands (working hours and having a second job) with satisfaction with work-life balance (Davis et al., 2014). These two studies support taking a demands and resources approach to investigate satisfaction with the work and nonwork life among different groups of workers.

Demands and resources originating in the work domain

Which demands and resources are present and related to satisfaction with work and nonwork life might depend on the way of work which the individual engages in. Location independent work is characterized by the use of ICTs and the individual responsibility for one's work. On the one hand, this might result in enhanced control over where, when or how to work, on the other hand, it might also result in ambiguous feelings about the quality and the completion of one's work tasks.

Using ICTs for work purposes as a demand. Empirical studies which have investigated the use of ICTs as a part of working in a virtual office show an ambiguous influence of the virtual office on work-life balance (Hill, Ferris, & Märtinson, 2003; Hill, Miller, Weiner, & Colihan, 1998), such as that it provided greater flexibility but also blurred the boundaries between the work and family domain (Hill et al., 1998). Comparing different work venues (traditional office, home office, and virtual office), Hill and colleagues (2003) found that employees working in a virtual office had the lowest work-life balance and lowest success in personal/family life. One explanation for these findings might be the lack of boundaries between the two domains due to working in a virtual office (Hill et al., 2003). The second stream of research examined the relationship of use of ICTs during after work hours and work-life balance. Research on the use of ICTs during nonwork hours indicates that increased use is associated with more work-to-life conflict (Boswell & Olson-Buchanan,

2007) and negative spillover in both directions (work to home and home to work) (Berkowsky, 2013). Unlike these findings, Derks, ten Brummelhuis, Zecic, and Bakker (2012) found that work-related smartphone use during after work hours was not related to work-home interference. Nonetheless, smartphone users who encountered high work-home interference were not successful in engaging in recovery experiences. Although not without doubts (Derks et al., 2012), past empirical research indicates that using (mobile) ICTs for work purposes is negatively associated with perceptions of work-life balance, assumingly due to blurring of work and nonwork roles (Hill et al., 1998) and not being able to sufficiently engage in nonwork activities with the purpose of replenishing resources (recovery activities) (Derks et al., 2012; Park, Fritz, & Jex, 2011). A possible explanation for these negative findings might be that this way of working is not chosen voluntarily, but due to demands and content of the job. Furthermore, as illustrated by the Conceptual Framework of the Evolution of Telework (Messenger & Gschwind, 2016) different generations of telework might pose different challenges to the worker and different perceptions of work-nonwork interface. Thus, it has to be investigated whether these findings are applicable to the group of location independent workers. Furthermore, so far empirical studies have focused on work in organizational settings. Therefore, it is one aim of this research to investigate the use of ICTs and the perceptions work and nonwork experiences for different groups of workers.

Task ambiguity as a demand. Investigating how the new ways of working impact work characteristics, Hellgren, Sverke, and Näswall (2008) conducted interviews with professional employees about their perceptions of work demands. Their findings indicate three main stressors: constant demands of developing new competencies (competency demands), judging the quality of work by oneself (task quality ambiguity), and deciding when work is completed (task completion ambiguity). Based on these results they developed three scales measuring the three demands and conducted a questionnaire study investigating the new stressors, old stressors (role overload, role conflict and role ambiguity), and the relationship of the stressors with job satisfaction, performance, and mental health. Empirical analysis showed that these new stressors were conceptually different to the old stressors. Furthermore, they found that task completion ambiguity and task quality ambiguity were negatively related to job satisfaction, performance and mental health (Hellgren et al., 2008). These findings indicate that the new ways of working pose new demands on employees. Supporting the assumption of task ambiguity as a demand in the work-life balance framework, Mellner, Aronsson, and Kecklund (2015) found that task completion ambiguity

negatively predicted boundary control of work and nonwork roles. Boundary control itself was related to work-life balance. In conclusion, empirical studies indicate that task ambiguity might be a demand for the new ways of working and is related to aspects of work-nonwork interface. However, more research is needed to explore how the new demands relate to various outcomes and how they interact with other work and nonwork characteristics. Furthermore, the question has to be asked whether these new stressors are unique to new ways of working as the location independent work or ubiquitous in various kinds of work. The present study aims to make a contribution to the field by investigating task ambiguity as a demand and its relationship to satisfaction with work and nonwork life among location independent and more traditional workers.

Job control as a resource. Psychological job control describes the control over how work is done and psychological control over where and when the work is done (Kossek, Lautsch, & Eaton, 2006). Investigating the differences between lower and higher level employees in a traditional work setting, DiRenzo, Greenhaus, and Weer (2011) found that job autonomy (how the work is done) was negatively related to work interference with family. Similarly, Grzywacz and Marks (2000) found that in a non-teleworker sample lower decision latitude in how to conduct the work was related to more negative spillover from work to family. Furthermore, empirical findings indicate that for workers engaging in different forms of flexible work, control over time was positively associated with work-life balance (Hill, Hawkins, Ferris, & Weitzman, 2001; Maruyama, Hopkinson, & James, 2009) and satisfaction with work-life balance (Davis et al., 2014; Valcour, 2007). The relation of different aspects of job control with satisfaction with work-life balance is further supported by the research findings of Kossek et al. (2006), who showed that greater psychological job control was connected to lower family-work conflict. According to the demands and resources approach (Voydanoff, 2005a), resources will be positively related to satisfaction with work-life balance. These findings indicate that control over work time is important for both employees in a more traditional office (Valcour, 2007) and working as a freelancer (Davis et al., 2014). Consequently, it can be assumed that job control is an important resource in relation to satisfaction with work and nonwork life for any worker.

Resources originating in the nonwork domain

According to the demands and resources approach, resources from one domain may also influence performance in another domain (Voydanoff, 2005a). One valuable nonwork domain resource is recovery. Sonnentag and Fritz (2007) base the conceptualization of recovery on a theoretical framework combining the Effort-Recovery Model (Meijman & Mulder, 1998), the Conservation of Resources (COR; Hobfoll, 1989) theory and emotion regulation research. The Effort-Recovery Model (Meijman & Mulder, 1998) states that in order to achieve recovery, during nonwork time an individual must not endure the same demands and not use the same functional systems as during work time. Recovery is achieved when a person does not endure the same stressors anymore and load reactions such as fatigue return to prestressor level (Meijman & Mulder, 1998). As mentioned above, COR describes that people seek to gain or keep resources that are important to them (Richardson & Thompson, 2012). Similar to the understanding of Voydanoff (2005a), resources can be physical external or internal entities. In summary, recovery means engaging in activities, which lead to resource gain such as positive mood and undertaking activities during nonwork time that are functionally different to activities during work time (Sonnentag & Fritz, 2007). According to Sonnentag and Fritz (2007), there are four different specific experiences which may lead to recovery: psychological detachment, relaxation, mastery experiences, and control during leisure time. Psychological detachment describes the process of mentally disengaging from work, and not thinking about work-related aspects, might they be opportunities or demands (Sonnentag & Fritz, 2007). Relaxation is a process often associated with activities which lead to a state of low activation and positive mood. Mastery experiences, for example learning a new language, may put an initial demand on an individual, but only in such a way as this demand does not overstrain an individual's capabilities, and eventually leads to resource gain. Lastly, having control during leisure time is associated with positive affects such as increased self-efficacy and feelings of competence. Thus, control during leisure time describes the capability of a person to choose between various different activities as well as when and how to pursue them (Sonnentag & Fritz, 2007). This conceptualization of recovery complements the demands and resources approach of Voydanoff (2005a). Successful recovery can thus be a valuable resource originating in the nonwork domain, which consequently can improve satisfaction with work and nonwork life.

Recovery experiences as a resource. Sonnentag and Fritz (2015) reviewed the literature on psychological detachment and well-being. They found consistent evidence that

psychological detachment positively predicts life satisfaction (e.g. Fritz, Yankelevich, Zarubin, & Barger, 2010; Moreno-Jiménez et al., 2009; Safstrom & Hartig, 2013; Sonnentag & Fritz, 2007). While there is an ample amount of research on psychological detachment, less empirical studies have examined the other recovery experiences, and to the author's knowledge, no study so far has investigated the relationship between recovery experiences and satisfaction with work and nonwork life. More specifically, the suggestion that recovery experiences might be related to satisfaction with work and nonwork life is supported by the results of Sonnentag and Fritz (2007), who showed that all four recovery experiences are positively connected to life satisfaction. This finding is further supported by empirical research showing that three of the four recovery experiences (psychological detachment, relaxation, and control during leisure time) buffer the relationship between workload and work-life conflict (Molino, Cortese, Bakker, & Ghislieri, 2013). Moreover, findings of a one-year longitudinal study by Siltaloppi, Kinnunen, and Feldt (2011) suggest that five patterns of engaging in recovery experiences exist which are related differently to psychological outcomes (e.g. dedication work engagement, sleep problems). Furthermore, the patterns consisted of people with different demographic characteristics. These findings indicate that LIWs and more traditional workers might also differ in how they experience recovery and how these experiences are related to satisfaction with work and nonwork life.

Significance and aim of the study

The present study intends to make several contributions to the field of work-nonwork interface research. First, this study uses a rather new approach of applying a demands and resources framework in order to research work-nonwork interface. Furthermore, in contrast to most research in this field it takes an encompassing and holistic approach to the topic by investigating satisfaction with the work and the nonwork domain. Additionally, it aims to expand on research about the new stressors of work such as task quality and task completion ambiguity, as well as on experiences of job control. Fourth, it is the first study to examine all four recovery experiences and their relationship to satisfaction with work and nonwork. Another important contribution which this study strives to make is to further the understanding of the use of ICTs and telework, more specifically with the newest stage of the evolution of technologies: location independent work. It is the purpose of this study to examine the group of location independent workers and compare them to more traditional workers. Thereby, this study is one of the first not taking only a qualitative approach to

understand group characteristics of location independent workers but also to quantitatively understand the relationship between work and nonwork characteristics and work-life interface.

Taken together, this study aims to answer the following research question: How is the use of ICTs for work purposes, as well as perceptions about work (job control and task ambiguity), and nonwork (recovery experiences) related to satisfaction with work and nonwork life among LIWs and in comparison to more traditional workers? Based on the reviewed literature the following hypotheses are proposed:

H1: LIWs differ from the comparison group in their extent of use of ICTs for work purposes, their experience of work characteristics (job control, task quality ambiguity, task completion ambiguity) and recovery experiences (psychological detachment, relaxation, mastery, control during leisure time) as well as in their satisfaction with work and nonwork life.

H2: According to the demands and resources framework, the use of ICT for work purposes and task ambiguity (task completion ambiguity and task quality ambiguity) as demands will negatively predict satisfaction with work life, while job control and recovery experiences (psychological detachment, relaxation, mastery experiences and control during leisure time) as resources will be positively related to satisfaction with work life, in various extends to the LIW and the comparison group.

H3: Similarly, the use of ICT for work purposes and task ambiguity (task completion ambiguity and task quality ambiguity) as demands will negatively predict satisfaction with nonwork life, while job control and recovery experiences (psychological detachment, relaxation, mastery experiences and control during leisure time) as resources will be positively related to satisfaction with nonwork life, in various extends to the LIW and the comparison group.

Additionally, in order to better understand location independent work and its differences or similarities with more traditional work engagements, this study strives to answer the following questions: How do workers make use of the new technologies? How do workers define the work and nonwork domain respectively and which reasons lead LIWs to engage in this new way of working?

Methods

Procedure

Participants were recruited via various online social networks and all measures were self-administered using a web-based online questionnaire created with www.lamapoll.de. The online questionnaire was posted in groups related to location independent work and work based on ICTs (e.g. remote work, digital nomads, freelancers) on Facebook, Xing, LinkedIn, and Reddit. Additionally, messages were sent to randomly selected members, who had been active recently, of the 'digitalnomads' subreddit on Reddit. Following an introductory page with information about participation and asking for participant consent, use of ICTs, job control, task ambiguity, recovery experiences and satisfaction with work-life balance were measured. At the end of the questionnaire information about demographic variables and control variables were collected, and participants could answer open-ended questions.

Participants

Overall a number of 1.742 people clicked on the link to the online survey, 349 people started filling out the online questionnaire and 184 participants completed it. After excluding cases with incoherent data (e.g. missing group criteria, more than two missing variables, which could indicate carelessness in filling out the survey) the final sample consisted of 162 participants. In accordance with the Framework of the Evolution of Telework by Messenger and Gschwind (2016) and the definition of location independent work mentioned above, participants were on the basis of their responses divided into either the LIW or the comparison group. Participants who stated that their work was dependent on mobile ICTs and who indicated a number of frequent location changes as well as disagreed with the statement "I am not location independent" were included in the LIW group. Participants who did not fulfill all of the LIW criteria, but only fulfilled one criterion, meaning that they were either dependent on ICTs for their work or had a mobile work which included traveling, were included in the comparison group. Furthermore, following the Framework of the Evolution of Telework (Messenger & Gschwind, 2016), participants who did not fulfill either of the criteria, but whose inspection of the data indicated that they used ICTs, although not mobile ICTs, or were dependent on the use of the internet were included in the comparison group. Consequently, 94 participants were included in the LIW group and 68 participants were included in the comparison group.

The group of LIWs consisted of 48 men and 45 women; additionally, one person self-identified themselves as queer. The age range in this group was from 20 years to 56 years (M = 31.53, SD = 6.05). Eleven participants indicated that they had children under the age of 18, while 80 indicated that they had no children under the age of 18. Multiple choices were possible for indicating the employment relationship. Forty-two participants in the LIW group disclosed that they were employed, 30 were freelancers, 30 were business owners, 21 were self-employed and 4 indicated that they had another employment relationship than the available options. Of the comparison group, 25 participants identified as male and 43 as female. The age ranged from 19 to 54 years (M = 30.22, SD = 6.84), and 12 participants indicated that they had children younger than 18, while 55 stated that they had no children under that age. In the comparison group, 58 participants stated that they were employed, 4 were freelancers, 4 were business owners, 4 were self-employed and 3 were engaged in another employment relationship that the options mentioned. A majority of LIWs worked in professions such as IT (n = 28) or marketing (n = 14). While still 15 members of the comparison group worked in IT, the professions of the other were slightly more varied (e.g. 8 participants had administrative work, 5 worked in finance). For a more detailed description of the professions of the groups see Appendix B.

Measures

The data was obtained using a self-report questionnaire. This method is fitting to collect information about people's psychological perceptions, and especially useful assessing how people perceive their work and nonwork experiences (Fila, Paik, & Griffeth, 2014). The online self-report questionnaire was selected due to the nature of the group of location independent worker as they do not reside in one specific place and are thus problematic to reach otherwise.

Use of mobile information and communication technologies. The individual use of ICTs was measured as the time spent using different devices (laptop, mobile phone, tablet) for online and offline activities as well as differentiating between work and nonwork purpose. Participants had to indicate whether they own a device and consequently specify how many hours they use this device on an average day. Besides these three devices, participants could add additional devices in order to capture the total ICT usage. The time could be indicated on a scale from 0 hours to 12 hours. The number of hours spent using ICTs for online and offline

activities with work purposes were summed up into one variable representing the work hours. Similarly, the number of hours spent using ICTs for online and offline activities during nonwork time were summed up into one variable representing the use of ICTs during nonwork time.

Job control. Perceived job control was measured using the psychological job control scale (Kossek et al., 2006). The scale measures job autonomy (e.g. "The job gives me considerable opportunity for independence and freedom in how I do the work") and personal flexibility control over the location and scheduling of work (e.g. "To what extent does your job permit you to decide about when your work is done?"). The scale includes seven items, which are answered on a 5-point scale anchored by 1 (*very little*) and 5 (*very much*) or 1 (*very inaccurate*) and 5 (*very accurate*). Kossek et al. (2006) demonstrated a Cronbach's $\alpha = .74$, which was similarly high in the present study (LIW group, Cronbach's $\alpha = .82$; comparison group, Cronbach's $\alpha = .79$).

Task ambiguity. Task ambiguity was measured with the two subscales task completion ambiguity (four items) and task quality ambiguity (three items). Both scales were answered on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) (Hellgren et al., 2008). An example item of the task completion ambiguity subscale is "I can determine when my work assignments are completed" (reversed), and for task quality ambiguity subscale an example is "I know when I have done good work" (reversed) (Hellgren et al., 2008). The subscale assessing competence demands was not included because empirical findings indicated that it is not likely to be related to work satisfaction (Hellgren et al., 2008). According to Hellgren and colleagues (2008), the scales showed a satisfactory internal consistency with Cronbach's Alpha from $\alpha = .76$ to .89 (Hellgren et al., 2008). Cronbach's Alpha in this study for task completion ambiguity ranged from $\alpha = .79$ (comparison group) to $\alpha = .83$ (LIW group), and for task quality ambiguity from $\alpha = .90$ (LIW group), to $\alpha = .91$ (comparison group).

Recovery experiences. Recovering experiences were assessed using the Recovery Experiences Questionnaire (Sonnentag & Fritz, 2007). Participants were asked to respond to the items with regard to their free time. The measure consists of the subscales psychological detachment (e.g. "I do not think about work at all."), relaxation (e.g. "I do relaxing things."), mastery (e.g. "I do things that challenge me.)" and control (e.g. "I decide my own schedule.").

Each scale consists of four items which are responded to on a 5-point from 1 (*I do not agree at all*) to 5 (*I fully agree*). The internal consistency of the original subscales was satisfactory and ranged between Cronbach's α = .79 and .85 (Sonnentag & Fritz, 2007). Similar, in the present study the reliability of the subscales is ranging from Cronbach's α = .84 to .89 for the LIW group, and between Cronbach's α = .80 and .91 for the comparison group.

Satisfaction with work and nonwork life. Satisfaction with work and nonwork life was measured with the subscales satisfaction with work life and satisfaction with nonwork life developed by Grawitch and colleagues (2013). The scales were adapted from Satisfaction with Life Scale (Diener, Emmons, & Griffin, 1985), and have previously shown a good internal consistency with Cronbach's α = .86 and Cronbach's α = .90 respectively (Grawitch et al., 2013). Both of the subscales include five items which are answered on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item of the satisfaction with nonwork life scale is "In most ways, my nonwork life is close to my ideal"; and for the the satisfaction with work life scale an example is "I am satisfied with my work life". These scales offer an encompassing and holistic perception about satisfaction with all life domains (work and nonwork), which is suitable for the group of location independent workers. For the LIW group the internal reliability is Cronbach's α = .92 for the satisfaction with work scale (α = .95 for the comparison group) , and Cronbach's α = .92 for the satisfaction with nonwork scale (α = .91 for the comparison group).

Control variables. Demographic information (gender, age) as well as information controlling for aspects of location independent work (dependence on ICTs, dependence on internet connection, the number of location changes/ not being location independent) was collected.

Open-ended questions. For the purpose of understanding how the participants perceive the context of their work and nonwork life beyond rating scale scores, participants were given the opportunity to answer open-ended questions about their reasons for working independent of location and how they define work and nonwork. These open-ended question were phrased the following: "How do you define work for yourself? (e.g. where, when or how do you work?)", "How do you define nonwork for yourself?", "What are the reasons that you are location independent?". Additionally, participants were asked how they use their mobile devices "Which are the top three tasks or services you use your mobile devices for most

often?". Following the method of content analysis, the answers to the open-ended questions are categorized by similarity and frequencies of the categories are counted.

Ethical considerations

The study was conducted in conformity with the Swedish Act concerning the Ethical Review of Research involving Humans (2003:460). Before starting the survey, participants were shown an introductory text which informed about the purpose of the research, that participation is voluntary and can be ended at any time without negative consequences. Participants were assured that the data will be collected anonymously and treated confidentially. Furthermore, they were told that by starting in the survey they are giving their consent to participate.

Preparatory analysis

A preliminary inspection of the data showed that overall use of ICTs for work purposes exceeded 24 hours (min = 0; max = 39; *M* = 11.2; *SD* 7.34). This leads to the assumption that participants understood the questions differently and/or use various devices simultaneously and/or switch between online and offline activities, and has to be kept in mind when interpreting the data. Additionally, I collected information about the use of ICTs for work and nonwork purposes. However, as there might have been already different interpretation of the use of ICTs for work purposes, the decision was made to not include the use of ICTs for nonwork purposes in the analysis in order to avoid additional overlap. Overall, the question's phrasing seems to have allowed different interpretations, lowering the validity of this measure which has to be considered when interpreting the results. Since no assumption about differences in interpretations could be made, i.e. it is difficult to determine which participants might use ICTs simultaneously, the decision was made to keep the variable in its original data nevertheless to not artificially manipulate the results.

Since there was no notification for participants in the cases they missed to answer an item, it can be assumed that single missing values were accidentally not answered by participants. Therefore, values assumed missing completely at random were replaced with the group mean score of the remaining values of that variable of the respective subsample (Tabachnick & Fidell, 2013).

Prior to testing the hypotheses, preliminary analysis of the data was conducted to ensure that all assumptions were adequately met. Visual inspection of the data using Normal Q-Q Plot and a Scatterplot was used to ensure normality, homoscedasticity, and linearity of the residuals. The variables use of ICTs for work purpose and control during leisure time showed slight deviations from normality. However, as the deviations were only small, the variables were not transformed and instead non-parametric tests were used whenever appropriate. Nevertheless, this limitation has to be kept in mind when interpreting the results. All variables were screened for univariate outliers and multivariate outliers. One univariate outlier in the task quality ambiguity scale was identified with a score of $z > 3.29$. As suggested by Tabachnick and Fidell (2013), the impact of this outlier was reduced by replacing the original score with a value one unit more extreme (.1) than the second most extreme value. Checking for multivariate outliers was conducted using Mahalanobis distance. None of the probabilities for the X^2 values was $p < .001$ (Tabachnick & Fidell, 2013), thus no multivariate outlier was identified.

As planned comparisons were stated a priori in H1, multiple independent *t*-tests were conducted to test the hypothesis (Tabachnick & Fidell, 2013). Furthermore, the Bonferroni-Holm adjustment was applied to the alpha level to control for statistical significance (Holm, 1979; Pallant, 2010; Tabachnick & Fidell, 2013). To test H2 and H3, four hierarchical regression analyses were conducted testing the relationship of the predictors with satisfaction with work life of each group as well as the satisfaction with nonwork life for both groups respectively. The hierarchical regression was following the demands and resources approach Voydanoff (2005a, 2005b) and similar to the analysis strategy of Valcour (2007) who also adopted this approach. For all four hierarchical regression analyses the control variables were included to establish the base model. In Step 2 the demands (ICT use for work purpose, task completion ambiguity task quality ambiguity) were entered. Thus, controlling for the demands in step 2, in step 3 the resources (job control, psychological detachment, relaxation, mastery, control on leisure time) were entered in Step 3. All statistical analyses were conducted using IBM SPSS Statistics Version 24.

Results

In this section, I will start with testing the hypotheses. After that, I continue with analyzing the open ended questions about the use of ICTs, how the participants define the

work and nonwork domain and which reasons lead location independent workers to engage in this way of working in order to contribute to the findings with additional information.

Group differences

Hypothesis 1 states that LIWs differ from the comparison group in their work and recovery experiences as well as in their satisfaction with work and nonwork life. In order to test that hypothesis, independent-samples *t*-tests were conducted to compare satisfaction with work life, satisfaction with nonwork life, task completion ambiguity, task quality ambiguity, job control, psychological detachment, relation, and mastery between the LIW group and the comparison group. As the use of ICTs for work purposes and control during leisure time showed deviations from normality the Mann-Whitney-U test, which is the nonparametric alternative for the independent samples *t*-test, was used to test these variables (Pallant, 2010). The Levene's Test for satisfaction with work life indicated unequal variances (violation of homoscedacity), so the degrees of freedom for that test were adjusted from 160 to 128.90. Means and standard deviations of both groups as well as *t* and *df* values can be seen in table 1.

As reported in table 1, LIWs showed a significantly higher mean for satisfaction with work life than the comparison group. Similarly, LIWs reported significantly more job control than the comparison group. For control during leisure time, the LIW group had significantly higher scores than the comparison group. Furthermore, LIWs, showed a significant lower mean in task quality ambiguity than the comparison group. No other significant differences were shown in in the mean scores of satisfaction with nonwork life, use of ICT for work purposes, task completion ambiguity, psychological detachment, relaxation, and mastery.

In support of the hypothesis 1, LIWs showed significantly higher means for satisfaction with work life, job control, and control during leisure time, as well as a lower mean for task quality ambiguity. Furthermore, following the proposed guideline for comparing groups by Cohen (1988), the effect sizes for the significant analyses ranged from medium for differences in satisfaction with work life, $d = 0.56$, task quality ambiguity, $d = -0.45$, and control during leisure time, $d = -0.49$, to large for differences between the groups in job control, $d = 1.38$. However, the results also suggest that LIWs do not significantly differ from the comparison group with regard to satisfaction with nonwork life, ICT use for work purposes, task completion ambiguity, psychological detachment, relaxation, and mastery.

Concluding, hypothesis 1 was partially supported in that LIWs differ from the comparison group in only some work and nonwork experiences.

Table 1

Independent Sample T-test Comparing Means of the LIW Group and the Comparison Group

	LIW group (n = 94)		Comparison group (n = 68)			
Variable	*M*	*SD*	*M*	*SD*	*t*	*df*
Satisfaction with work life	5.04	1.39	4.27	1.65	3.16*	128.89
Satisfaction with nonwork life	4.98	1.37	4.49	1.53	2.15	160
ICT work hours	11.51	6.81	10.31	8.15	-1.13†	160
Task completion ambiguity	2.11	0.93	2.32	0.85	-1.51	160
Task quality ambiguity	1.57	0.60	1.88	0.75	-2.87*	160
Job control	4.18	0.69	3.13	0.82	8.73***	160
Psychological detachment	2.97	1.03	3.11	0.99	-0.86	160
Relaxation	3.76	0.84	3.64	1.00	0.80	160
Mastery	3.86	0.83	3.52	0.88	2.49	160
Control during leisure time	4.33	0.72	3.96	0.83	-3.09*†	160

[a] *Note*: * $p < .05$. **$p < .01$. ***$p < .001$

[b] *Note*: †*Z* instead of *t* value

Demands and resources predicting satisfaction with work and nonwork satisfaction

As stated before, the assumptions of normality, homoscedasticity, and linearity of the residuals are assumed to be met for the hierarchical regression analysis. Furthermore, as can be seen in Appendix C the assumption of multicollinearity was not violated. The sample size is not sufficient for ten predictors in the final model in step 3 which would have to be at least 114 for each group (Tabachnick & Fidell, 2013). However, the results of the *t*-tests indicated that there are significant differences between the two groups, thus vouching for a separate analysis of the two groups. In order to explore and capture the different patterns in the groups the four hierarchical regression analyses will be conducted to test hypotheses 2 and 3. However, when interpreting the results this has to be done with caution and in consideration of this limitation. Similar to the analysis strategy of Valcour (2007), for all hierarchical

regression analyses Step 1 shows the base model estimated with the control variables. In Step 2 the demands (ICT use for work purposes, task completion ambiguity task quality ambiguity) were entered. The resources (job control, psychological detachment, relaxation, mastery, control on leisure time) were entered in Step 3.

Satisfaction with work life. Hypothesis 2 assumes that proposed demands (use of ICT for work purposes, task completion ambiguity, and task quality ambiguity) will negatively predict satisfaction with work life, while proposed resources (job control and recovery experiences will positively predict satisfaction with work, in various extents for the LIW and the comparison group. In order to test hypothesis 2, two hierarchical regression analyses were conducted regressing the assumed demands and resources on satisfaction with work life for each group respectively. Table 2 displays the standardized regression coefficients (β), F, R, R^2, adjusted R^2 and change in R^2 after each step of the hierarchical regression of satisfaction with work life for the LIW group and the comparison group individually.

Location independent workers. As reported in table 2, the regression model was not significant when controlling for gender and age in step 1, $F(2, 91) = 1.28$, $p = .282$. After step 2, in which the ICT work hours, task completion ambiguity and task quality ambiguity were added and accounting 10% of the variance in satisfaction. The model was significant with $F(5, 88) = 2.99$, $p < .05$. However, only task quality ambiguity significantly and negatively predicted satisfaction with work life. When added in step 3, job control, psychological detachment, relaxation, mastery and control during leisure time added additional explanation of the variance, $F(10, 83) = 4.83$, $p <. 001$. Of the variables job control as well as control during leisure time positively predicted satisfaction with work. Task quality ambiguity was no longer a significant predictor in step 3. This pattern of results suggests that 29% of the variability in satisfaction with work life of location independent workers is positively predicted by level of job control and control during leisure time. The level of task quality ambiguity is only a significant negative predictor when resources are not included. This implies that there is an overlap of the explanatory power of variance between task quality ambiguity and job control and/or control during leisure time.

Comparison group. After controlling for gender and age in step 1, $F(2, 65) = 2.02$, $p = .141$, ICT work hours, task completion ambiguity and task quality ambiguity were added in

step 2 and explained 21% of the variance in satisfaction with work, $F(5, 62) = 4.57$, $p < .01$. Of these demands, only task completion ambiguity negatively predicted satisfaction with work life for the comparison group. When added in step 3, job control, psychological detachment, relaxation, mastery and control during leisure time increased the explanation of variance up to 37%, $F(10, 57) = 4.89$, p <. 001. In step 3, job control as well as relaxation positively predicted satisfaction with work. Task completion ambiguity was not a significant predictor anymore in step 3. There might also be an overlap in explanatory power of the variance of task completion ambiguity with job control and/or relaxation. This pattern of results shows that over a third of the variability in satisfaction with work life of the comparison group is predicted by level of job control and extent of relaxation.

These results partially support hypotheses 2. Of the demands, only task quality for the LIWs and task completion ambiguity for the comparison group were negatively related to satisfaction with work in step 2, but not in step 3 anymore. Of the resources, job control and control during leisure time among the LIWs as well as job control and relaxation in the comparison group were positively related to satisfaction with work in step 3.

Satisfaction with Nonwork Life. Hypothesis 3 assumes that proposed demands (use of ICT for work purposes, task completion ambiguity, and task quality ambiguity) will be negatively predict satisfaction with nonwork life, while proposed resources (job control and recovery experiences) will positively predict satisfaction with nonwork, in various extents for the LIW and the comparison group. The relationship of the demands and resources with satisfaction with nonwork as proposed in hypotheses 3 was tested using two hierarchical regression analyses. Table 3 displays the standardized regression coefficients (β), F, R, R^2, adjusted R^2 and change in R^2 after each step of the hierarchical regression of satisfaction with nonwork life for the LIW group and the comparison group individually.

Location independent workers. As can be seen in table 3, the regression model was not significant in step 1, $F(2, 91) = 0.27$, $p = .765$, and not in step 2 when the demands (ICT work hours, task completion ambiguity, and task quality ambiguity) were added, $F(5, 8) = 1.59$, $p = .172$. In step 3 job control, psychological detachment, mastery, relaxation and control during leisure time were added creating a significant regression model explaining 26% of variability in satisfaction with nonwork life among LIWs, $F(10, 83) = 4.34$, $p < .001$. Similar to the regression model explaining variance in satisfaction with work life, task quality

was a significant negative predictor in step 2 but not in step 3. In step 3, control during leisure time significantly and positively predicted satisfaction with nonwork life.

Comparison group. Similar to the LIW group, the base model for the comparison group was not significant, $R^2 = .01$, $F(2, 65) = 0.17$, $p = .845$, and neither was the model in step 2, $R^2 = .15$, $F(5, 62) = 2.12$, $p = .075$. In step 3, when the assumed resources (job control, psychological detachment, mastery, relaxation and control during leisure time) were added the regression model was significant with adjusted $R^2 = .36$, $F(10, 57) = 4.74$, $p < .001$. In step 3, relaxation was a significant positive predictor of satisfaction with nonwork life.

In summary, these results partially support hypotheses 3. Of the proposed demands task quality ambiguity was negatively related to satisfaction with nonwork for the LIWs in step 2 but not in step 3. Of the resources control during leisure time positively predicted satisfaction with nonwork life among the LIWs and in the comparison group only relaxation positively predicted satisfaction with nonwork life.

Table 2

Hierarchical Regression Analysis of Satisfaction with Work Life

Variable and statistics	LIW group (n = 94)			Comparison group (n = 68)		
	β	β	β	β	β	β
Step 1. Base model	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	-.16	-.03	.00	-.21	-.11	.04
Age	.02	.00	.03	-.14	-.16	-.01
Step 2. Demands						
ICT work hours		-.08	-.02		-.15	-.18
Task completion ambiguity		-.13	.18		-.36**	-.19
Task quality ambiguity		-.28*	-.22		-.10	.01
Step 3. Resources						
Job Control			.41**			.42***
Psychological Detachment			.05			.05
Relaxation			.03			.34*
Mastery			-.06			-.07
Control during leisure time			.31*			.04
F	1.28	2.99*	4.83***	2.02	4.57**	4.89***
R	.17	.38	.61	.24	.52	.68
R^2	.03	.15	.37	.06	.27	.46
Adjusted R^2	.01	.10	.29	.03	.21	.37
Change in R^2	.03	.12*	.22***	.06	.21**	.19**

Note: * $p < .05$. **$p < .01$. ***$p < .001$

Table 3

Hierarchical Regression Analysis of Satisfaction with Nonwork Life

Variable and statistics	LIW group (n = 94)			Comparison group (n = 68)		
	β	β	β	β	β	β
Step 1. Base model	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	-.07	.03	-.01	-.07	.02	.22*
Age	.02	.01	.08	.02	-.01	.22
Step 2. Demands						
ICT work hours		-.19	-.11		-.24	-.16
Task completion ambiguity		.03	.09		-.17	-.04
Task quality ambiguity		-.26*	-.13		-.14	.06
Step 3. Resources						
Job Control			.07			.19
Psychological Detachment			.14			.22
Relaxation			.13			.38*
Mastery			.13			.07
Control during leisure time			.28*			.11
F	0.27	1.59	4.34***	0.17	2.12	4.74***
R	.08	.29	.59	.07	.38	.67
R^2	.01	.08	.34	.01	.15	.45
Adjusted R^2	-.02	.03	.26	-.03	.08	.36
Change in R^2	.01	.08	.26***	.01	.14*	.31***

Note: * $p < .05$. **$p < .01$. ***$p < .001$

Participants defining use of ICTs, work, nonwork and reasons for location independence

Additional to testing the hypotheses, this study aimed to create a context of defining location independent work answering the following questions: How do workers make use of the new technologies? How do workers define the work and nonwork domain respectively and which reasons lead LIWs to engage in this new way of working?

Use of mobile devices. In order to understand the use of mobile technologies in more detail, participants were asked in an open-ended question to name three services they used these devices for. For LIWs, services related to work (n = 50) and communication-related to work using emails (n = 45) or other specific apps (n = 10) were named most frequently. In contrast, among members of the comparison group the use of mobile devices related to fulfilling work tasks (n = 19) and e-mails (n = 29) was less frequently mentioned. While the use of social media was named most often in the comparison group (n = 37), it was mentioned second most often among LIWs (n = 46). Other services were mentioned by both groups fairly equally. These usages were: means of communication e.g. instant messaging (LIW group, n = 33; comparison group, n = 36), entertainment services (LIW group, n = 22; comparison group, n = 22), and accessing information (LIW group, n = 22; comparison group, n = 22), making calls (LIW group, n = 15; comparison group, n = 10), and browsing the internet (LIW group, n = 16; comparison group, n = 7).

Definition of work. When asked how they define work most LIWs (n = 32) mentioned that it entails some aspect of using a laptop, working online and having no set time when or place where to work. For instance, one participant described work as the following “I work in Cafes, Airbnbs and Hostels on my notebook whenever I want, often at night (out of choice)”. However, only three members of the comparison group described this way of working. Similarly, only members of the LIW group mentioned an overlap of work and nonwork (n = 8; e.g. “honestly, I don’t draw much distinction between work and non-work”). For members of the comparison group the most common understanding of work was having a set time and space (n = 17; e.g. “at the office, 9-5”) or engaging in specific work tasks (n = 17; e.g. “the tasks I have due to my job”). Despite not being the most common understanding of work, this definition was also widespread among LIWs. Seventeen LIWs defined work as taking place during certain hours of the day or going to specific place such as cafés or coworking spaces (“early morning to late afternoon at a local coffee shop”). Furthermore, n = 16 participants of the LIW group specified work as consisting of specific tasks, as one person

stated: “when I am writing code or planning code”. An almost equal number of members of both groups defined work as getting paid (LIW group, *n* = 8; comparison group, *n* = 9), being rewarding (LIW group, *n* = 4; comparison group, *n* = 3), or negatively associated (LIW group, *n* = 1; comparison group, *n* = 2).

Definition of nonwork. In response to the question how they define nonwork time most LIWs (*n* = 19) and members of the comparison group (*n* = 16) mentioned doing things not related to work and/or not thinking about work. For instance, one participant stated that nonwork is “Any time not working or thinking about work”. Similar, some participants described nonwork as specific leisure activities, engaging in hobbies, socializing with friends or family, or relaxing (LIW group, *n* = 17; comparison group, *n* = 17). Also, for both groups nonwork was described as not being at a specific (work) place or outside specific hours (LIW group, *n* = 11; comparison group, *n* = 8), and being in control of how they use their time (LIW group, *n* = 7; comparison group, *n* = 4). For many LIWs nonwork entailed being offline or not working on the laptop (*n* = 17), however, that was only the case for one member of the comparison group. Likewise, only LIWs defined nonwork as exploring new things and meeting new people (*n* = 5; “Non-work means play. Surfing, visiting friends, traveling to new places, sight seeing. Getting to know other people.”). Furthermore, a few LIWs (*n* = 4) stated, similar to the definition of work, that there is a blurry line between work and nonwork.

Reasons for being location independent. These reasons were only examined for the LIW group (*n* = 94). Most often participants mentioned reasons related to being intrinsically motivated by the fascination for travel, freedom, adventure, flexibility and exploring new things (*n* = 51). For example, one participant states the reason for location independence is the “freedom to travel, work our own hours, experience different cultures, lead a healthier and more fulfilling life”. Eighteen participants indicated that they lead a location independent life because of reasons of convenience (“convenient”, “not a deliberate choice, just happened”). However, some stated that organizational changes (n = 15, e.g. “global team”), personal reasons (*n* = 7), or monetary reasons (*n* = 3) were the reason for their location independence.

Discussion

The present study investigated how work characteristics and recovery experiences are related to the satisfaction with work and nonwork life among location independent workers in

comparison to a sample of more traditional workers. Originating in the area of work-nonwork interface research a demands and resources framework was applied to investigate the relationship of use of ICTs for work purposes, task quality ambiguity and task completion ambiguity, job control, and recovery experiences (psychological detachment, relaxation, mastery, control during leisure time) with satisfaction with work and nonwork life.

Differences between the LIW and the comparison group

Comparing the LIW group and the comparison group, according to hypothesis 1, indicated that LIWs were more satisfied with their work life than the more traditional workers in the comparison group, but there was no difference in satisfaction with nonwork life. One possible explanation for the higher satisfaction with work life might be that most of the LIWs investigated in this study actively chose this way of working and hence might be more satisfied with it. This would be in accordance with the assumption that person-environment fit leads to higher satisfaction (Barber et al., 2016). In support of this assumption is that the reason for this location independent way of living which was mentioned most often was being intrinsically motivated by the fascination for freedom, travel, adventure, and flexibility, which is easier to realize with this way of working. A possible explanation for the non-existent difference in satisfaction with nonwork life might be that people generally might be more satisfied with their nonwork life, seeing that the mean for satisfaction with nonwork life for the comparison group is higher than the mean for satisfaction with work life. In line with hypothesis 1, LIWs felt that they were more in control over their work and free time than the more traditional workers. This might also be explained by the flexible way of living of the LIWs, which could facilitate more control during work as well as nonwork time.

LIWs also felt less ambiguity about the quality of their tasks than the traditional workers, meaning that they trusted the performance of their work more than members of the comparison group. Although one might assume that traditional workers would have a lower extent of task quality ambiguity, because they have easier access to feedback about the quality of work from colleagues and supervisors, findings from Akkirman and Harris (2007), showed a similar pattern as found in the present study. They compared employees working in a virtual and a traditional office and found that the virtual office workers scored higher in satisfaction with personal feedback than the traditional office workers. Although they did not investigate any antecedents, they presumed that this might be due to more formalized and organized

communication structures. This assumption is supported by findings of the present study, as for LIWs the most often mentioned use of ICTs were services related to work and services related to work-specific communication, which was less mentioned by the more traditional workers. Hence, instead of disrupting communication and feedback about tasks, the use of ICTs for work might enable better communication. Alternatively, this difference in task quality ambiguity might be due to the specific professions of the LIWs (e.g. developer) or specific tasks of their work which themselves provide direct feedback on the quality of their work (e.g. the code does or does not work).

No differences between the groups were found in use of ICTs for work purposes, task completion ambiguity, psychological detachment, relaxation, and mastery which partially disproves hypotheses 1. A possible explanation for no difference in use of ICTs for work purposes might be that, although they may use different devices or engage in different tasks, both groups use these technologies to the same extent of time (Messenger & Gschwind, 2016). This might also explain why there is no difference in psychological detachment between the traditional workers and the LIWs, as psychological detachment was found to be related to the use of technologies (Barber & Jenkins, 2014; Richardson & Thompson, 2012). No difference for the recovery experience of relaxation might be related to both groups naming activities related to relaxation in their definition of nonwork. Similarly, in both groups there were only few mentions of activities related to mastery during nonwork time. Furthermore, both groups might experience the new stressor of task completion ambiguity to the same extent, regardless of how the work is conducted.

Antecedents of satisfaction with work and nonwork life

The findings indicated different patterns of the demands and resources in explaining satisfaction with work and satisfaction with nonwork for the two groups. For LIWs job control and control during leisure time predicted satisfaction with work life, whereas job control and relaxation predicted satisfaction with work life for the comparison group. When explaining satisfaction with nonwork life, control during leisure time was a predictor for LIWs, while relaxation was a predictor among members of the comparison group.

Additionally, it is interesting to see that task quality ambiguity is perceived as a demand for LIWs while task completion ambiguity is a demand for the comparison group in

step 2 of the regression model. One explanation might be that these different patterns are due to the profession and thus different work tasks of the two groups. While location independent workers (often working as freelancers) know that a job is done when they deliver their work and get their pay in exchange, they do not actually get instant feedback every time about the actual quality of their task from someone else. In comparison, traditional workers who are more often in an employment relationship might have more difficulties in determining when a task is actually done, e.g. when having more ongoing or repetitive tasks, but maybe get more feedback from supervisors about the quality of their task. Another aspect to consider is that job control was negatively correlated with both task quality and task completion ambiguity for both groups. Thus, if job control increases, both task quality and task completion ambiguity decrease. Maybe if someone has high levels job control that person is used to decide for themselves whether the quality of the task is good or whether the tasks are finished or not.

An autonomy paradox. Nevertheless, task quality ambiguity negatively predicted satisfaction with work and nonwork life for LIWs only until the presumed resources job control and control during leisure time were added to explain variance in satisfaction in the final model. Assumptions about the nature of their relationship based on these results should be taken with great caution. Based on the results one can only explicitly state that the variance which can be explained by task quality ambiguity can also be explained by adding job control and/or control during leisure time for the LIWs; and that variance which can be explained by task completion ambiguity can also be explained by adding job control and/or relaxation for the comparison group. Seemingly, the resources have a stronger impact on explaining satisfaction with work and nonwork life than the demands. However, taken with great care there might be possible explanations for this finding. One possible interpretation of these findings is that the results, especially for location independent workers, reflect the two sides of autonomy. Results from qualitative studies indicated evidence for the ‘autonomy paradox’, where the use of ICTs, on the one hand, enables workers to be flexible on how to conduct their work, but on the other hand induces a feeling of having to be always available and decreased levels of perceived autonomy (Hislop et al., 2015; Mazmanian, Orlikowski, & Yates, 2013; Prasopoulou, Pouloudi, & Panteli, 2006). Having the freedom of deciding when and where to work might entail some uncertainties about the quality of one’s work or when the work is completed which predicts satisfaction with work, but it might be taken as an aspect which is inherent in having increased job control.

Job control as a resource for work satisfaction. While having control over how to conduct work predicted satisfaction with work life for both groups, job control as a strong predictor of satisfaction with work for both groups, is also in line with previous research (DiRenzo et al., 2011; Grzywacz & Marks, 2000; Hill et al., 2001; Ellen Ernst Kossek & Michel, 2011; Maruyama et al., 2009). For instance, past research showed that control over work time was related to satisfaction with work-life balance (Davis et al., 2014; Valcour, 2007) and control over how work is done was related to work interference with family (Grzywacz & Marks, 2000). However, contrary to the assumption in hypothesis 3 it did not predict satisfaction with nonwork life for either group. While previous studies found that job control is related to work-life balance, it might only work as a within-domain resource (Voydanoff, 2005a, 2005b) only effecting perceptions about work and how work effects nonwork life but not satisfaction with the nonwork domain directly.

Control during leisure and relaxation as resources. While job control was only a significant predictor of satisfaction with work, for the LIW control during leisure time was a significant predictor of satisfaction with both work and nonwork time. However, it was not a predictor in the comparison group. This indicates that having control during all life domains is important for the satisfaction with both work and nonwork life for location independent workers. Furthermore, it indicates that recovery experiences also work across domain boundaries, initially originating in the nonwork domain control with leisure time also predicts satisfaction with work. A similar effect was observed with the recovery experience of relaxation for the comparison group. Relaxation positively predicted both satisfaction with work and satisfaction with nonwork. Additionally, surprisingly and in contrast to previous research (e.g. Fritz et al., 2010; Moreno-Jiménez et al., 2009; Safstrom & Hartig, 2013; Sonnentag & Fritz, 2007), the recovery experiences of psychological detachment and mastery were not related to perceptions of work and nonwork life either group. An explanation of the findings of the present study might be offered by research from Siltaloppi and colleagues (2011) who suggest that different patterns of engaging in recovery experiences exist. While the proposed patterns of their study do not exactly fit the groups investigated in this study, differences in demographic characteristics might be an explanation for the differences in recovery experiences and how they relate to satisfaction with work and nonwork life. For instance, one pattern consisted of those with high mastery and control, of which many were without children, were temporary employed, and working comparably long hours. LIWs show some parallels to this pattern as the present study shows that most of them do not have

children and are not employed. Another pattern, characterized by high relaxation and mastery and increasing control over the time span consisted mainly of those with children living at home, having a permanent contract and working less hours, which shows some parallels to the group of more traditional workers investigated in this study. Building on this explanation, it might be that it is more valued in the group of LIWs to be in control and have more autonomy in the organization of their lives, and it is more valued in among the traditional workers to be able to relax after work. However, another possible explanation might be that people engaging in some specific ways of living and working do not have the possibility to engage in the recovery experiences as they are described by Sonnentag and Fritz (2007). For instance, Sonnentag, Binnewies, and Mojza (2008) found that relaxation during the evening hours was related to peacefulness in the next morning. However, for people not engaging in the traditional 9 to 5 work day, and working during the evening hours or constantly switching between work and nonwork roles, engaging recovery activities connected to relaxation might be less likely or less desirable.

Use of ICTs for work purposes. In contrary to the assumption of both hypothesis 2 and 3, use of ICTs for work purposes did neither predict satisfaction with work life or satisfaction with nonwork life neither for the LIW group nor for the comparison group. This is interesting insofar as past research often showed a relationship of use of ICTs for work purposes and aspects of the work-life interface (Berkowsky, 2013; Boswell & Olson-Buchanan, 2007; Hill et al., 2003). However, one study also did not find any connection of smartphone after work and work-home interference (Derks, van Mierlo, & Schmitz, 2014). As mentioned by Derks and colleagues (2014) a possible explanation for this non-existent relationship might be that both groups of workers are similarly and very well capable of managing their boundaries (Ashforth, Kreiner, & Fugate, 2000). Consequently, the participants in this study might be successful in setting clear boundaries between work and nonwork and effectively do not use the ICTs for work purposes during nonwork time. This is supported by the definition of nonwork by some LIWs as being offline or not working on the computer. However, it might also be possible that switching between the work and nonwork domain due to the use of ICTs fits people's preferred boundary management style (Kossek & Lautsch, 2012). Thus, their way of working might be fitting to the strategy of using ICTs: either setting clear boundaries (separator) or blurring the boundaries on purpose (integrators). Whether these strategies are related to the type of work and satisfaction with work and nonwork life needs to be investigated by future research.

Implications

The present study further supports taking a demands and resources approach when investigating work-life interface. Although hypothesis 2 and 3 were only partially supported, the results indicated that some assumed demands have a negative and resources a positive relationship with satisfaction with work and nonwork life. Additionally, it supports the extensions of the definition of work-life balance beyond the traditional equation of life with family and incorporating other aspects such as recovery experiences.

Some practical implications can be taken from this study. Although there was no relationship found between use of ICT and satisfaction with work or nonwork life, this also means that no negative effect of ICT use was apparent. Thus, using ICTs to enable work outside of the traditional 9-5 working scheme does not necessarily need to have a bad impact on work-life balance. Moreover, control over where, when and how work is conducted, which can be assumed is possible due to technological advances, was positively associated with satisfaction with work. Consequently, organizations could profit from giving their employees more control over their own work. Furthermore, the findings can encourage organizations to incorporate the possibility for location independent work for professions and tasks where this is possible, as LIW showed overall higher satisfaction with work and nonwork life. Organizations could also redesign their work in order to increase possibilities for LIW. However, it is important to consider that this way of working might not be suitable for everyone as LIW often seem to have no children and thus probably less family responsibilities. Consequently, organizations might consider offering location independent work as a career stage, similar to sending employees abroad on expatriate assignments. The findings furthermore indicate that different recovery experiences are related to satisfaction with work and nonwork for the two groups. This illustrates that people differ in how they design their nonwork time and which activities are important for them in order to recover. Managers in organizations as well as self-employed workers need to recognize these differences in recovery experiences, and become aware that while relaxation might be effective for one employee, for another it might not (Bennett, Gabriel, Calderwood, Dahling, & Trougakos, 2016). As can be seen in the findings of the present study these differences might be dependent on the kind of employment or task a worker engages in during work time.

Strengths and Limitations

While the study provided some interesting results, a similar study in the future would gain from some improvements. First of all, the overall number of participants was rather small, which resulted in two even smaller groups (LIW group, $n = 94$, comparison group, $n = 68$). Considering the rather low sample size and the large number of predictor variables the results of the regression analyses may be interpreted with caution (Tabachnick & Fidell, 2013).

Furthermore, as participants had to fulfill certain criteria to be included in either group, this also resulted in two not completely equal groups in terms of their characteristics, which could not be all controlled for in the data analysis. For instance, the LIW had almost equal amounts of men and women, while the comparison group had not. Also, the groups were not equal in terms of having the same professions, which might also have affected the results. Moreover, the question "Do you consider your work as truly location independent?" was initially thought to be included as a control question. However, as the interpretation of the meaning of the word "truly" might vary, the decision was made not to use it as a criterion. Due to the fact that this group of location independent workers is not much researched and there is no exact definition of the group, the interpretation of the inclusion criteria was the researcher's responsibility and conducted following the above-stated definition. However, these criteria have to be taken into account when generalizing the results. Additionally, more control variables, e.g. nationality, could have been added to improve statements about the generalizability of the results.

Second, while the method of using an online questionnaire with self-report measures was useful in reaching the participants it has the limitation of people not being able to objectively answer. Some might even unintentionally have indicated that they are more satisfied than they actually are in order to justify this non-standard way of living. Conversely, positive experiences with this way of working might superimpose the more stressful occurrences of this lifestyle leading to an overall more positive perception of work and nonwork life (halo-effect). This can probably be avoided by using more than a single data point, for example conducting a diary study in which participants indicate daily satisfaction with work or nonwork life and averaging multiple measuring points.

Third, in hindsight the way use of ICTs was measured was not ideal and thus if this measure is reliable and valid has to be criticized. It is questionable whether people are actually capable of reliably indicating the overall use of certain devices such as the smartphone. It can be assumed that the use of some of these devices is already so integrated into our everyday life, that we do not realize how often we use them. Thus, over- or underestimation of use for different participants might have occurred which would obstruct the results. To the same extent that it might be difficult for people to remember how often they use the devices, it might be even more difficult to think of the actual use (online or offline). Additionally, as the very high use of ICTs alone for work purpose indicates (LIW group, $M = 11.52$; comparison group, $M = 10.31$), people might have had difficulties answering with regard to times when they engage in offline and online activities, or even work and nonwork purpose, simultaneously e.g. writing code and texting with a friend at the same time. Moreover, in order to be better able to see the use of ICTs in a context, it would have been valuable to control for overall work hours (measure how many hours per day or days per week people work). Furthermore, although it was stated in the questionnaire that the aim was to measure mobile devices, it cannot be assumed that some people included working on stationary devices as well. This should be improved in future research. Thus, this measure of use of ICTs has several limitations which need to be considered when interpreting the results.

Fourth, because this was one of the first studies quantitatively investigating the group of location independent workers, also some additional qualitative information was collected to be able to put the findings in a better context. Although this qualitative data was very useful, it is limited by only having one rater and thus no interrater reliability in creating the categories. Furthermore, as questions about the definition work and nonwork were at the end of the questionnaire, the answer could have been influenced by the items which had to be answered before.

Despite its limitation the present study makes an important contribution to the field of work-life interface by taking a more encompassing approach to the nonwork domain than other studies which often only focus on the family domain (Turner, 2013). Furthermore, this study expands on research on the theoretical framework of the demands and resources approach (Davis et al., 2014; Valcour, 2007; Voydanoff, 2005a,b). Moreover, this study examined the barely researched group of LIWs (Harmer & Pauleen, 2012; Müller, 2016). As

the findings indicate that LIWs differ from the comparison group of more traditional workers in some aspects, it is important to conduct research on this rather new group of workers.

Directions for future research

Based on the findings of the present study there are two main directions of interest to take for further research.

First of all, it would be interesting and valuable to investigate the demands and resource approach more intensely. As shown by the results of this study and also proposed by Voydanoff (2005a, 2005b), there are some within-domain demands and resources which only affect satisfaction of the same domain. In the present study, this could be seen as job control only predicted satisfaction with work but not satisfaction with nonwork life. In addition, as stated by Voydanoff (2005a, 2005b) there are also boundary-spanning demands and resources which influence the worker's ability to manage the boundaries of the two domains. This could be reflected by control during leisure time and relaxation which were related to satisfaction with both work and nonwork life. However, these are assumptions which need to be investigated in further research. As in this study only demands from the work domain were investigated, it would be valuable to include demands from the nonwork domain in future research as well as to investigate other demands and resource which might e.g. be connected to one's social life. Additionally, based on the discussion of the results above it would be interesting to investigate the nature of the relationship between job control and task quality and task completion ambiguity. The results of this finding indicate that there might be some interaction or confounding of the variables when explaining satisfaction with work and nonwork life. Thus, future research could investigate this relationship using a bigger sample or examining the relationship in different (way of working) samples.

Second, this study is encouraging further research about the group of location independent workers. The results of this study not only indicate that this group differs from more traditional workers in their extent of satisfaction with work and nonwork life, but also in which ways different work and recovery experience are related to that. For instance, it might be valuable for organizations as well as for workers to investigate whether location independent work is a new career path on its own or mere a career stage. Furthermore, it might be interesting to explore why some people decide to engage in this way of working and

living and examine certain personality characteristics or worldviews. Another important point to take into consideration in future research was made by Cohen (2010) who argued that research has one-sidedly focused on professional white-collar workers, who are enabled by ICTs to work while being mobile, whereas other occupational groups have been neglected in empirical and theoretical research of mobile work.

Conclusion

The present study did not only demonstrate that it essential to consider the new ways of working when conducting work-life interface research, it is furthermore important to extend the definition of life beyond the meaning of family responsibilities and include other aspects of nonwork such as recovery activities. Results showed that location independent workers were generally more satisfied with their work life, they perceived higher job control and lower task quality ambiguity, and they engaged more in the recovery experience of control during leisure time. While this indicates that there are differences in the work and nonwork experiences due to the way people work, there are also differences between LIW and the comparison group of more traditional workers in how these experience relate to each other. While job control was a predictor for satisfaction with work for both groups, control during leisure time was only significant for LIW and relaxation only for the comparison group. The same recovery experiences were also significant when predicting satisfaction with nonwork for the two groups respectively. This study demonstrates the importance of investigating pathways to satisfaction with work and nonwork life and how these might differ among different groups of workers.

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Appendix A

Questionnaire

1. Use of information and communication technologies

1. How many hours do you use the following devices for work purposes on an average day? *Please allocate the time you use the mobile devices on average for work purposes. Examples for online activities: e.g. messenger, social networks, e-mail, ...; examples for offline activities: e.g. MS office, other programs/apps*

	Offline activities	Online activities
Laptop		
Mobile Phone		
Tablet		

2. How many hours do you use the following devices for nonwork purposes on an average day? *Please allocate the time you use the mobile devices on average for work purposes. Examples for online activities: e.g. messenger, social networks, e-mail, ...; examples for offline activities: e.g. MS office, other programs/apps*

	Offline activities	Online activities
Laptop		
Mobile Phone		
Tablet		

3. Which are the top three tasks of services you use your mobile devices for most often?
4. Are you using other mobile devices than the ones mentioned above?
    4.1. Which devices are you using?
    4.2 How many hours do you use the following devices for work purposes on an average day?
    4.3 How many hours do you use the following devices for nonwork purposes on an average day?

2. Job Characteristics

Please respond to the items with respect to your current work.

	very little				very much
How much autonomy is on your job?					
To what extent does your job permit you to decide on your own about how to go about doing the work?					

To what extent does your job permit you to decide on your own about WHERE the work is done?					
To what extent does your job permit you to decide about WHEN the work is done?					
	very inaccurate				very accurate
The job gives me considerable opportunity for independence and freedom in how I do the work.					
I have the freedom to work wherever is best for me.					
I do not have control over when I work.					
	strongly disagree				strongly agree
I can determine when my work assignments are completed.					
I know when a task is completed.					
I can decide if my work task is finished or not.					
It is up to me to assess when my work assignment is completed.					
I know when I have done good work.					
I can sense when I have carried out a job well.					
I can judge the quality of my work.					
When my work is carried out well, I can feel it.					

3. Recovery experiences

Please respond to the items with respect to your free time (nonwork time). During my free time…

	I do not agree at all				*I fully agree*
I forget about work					
I don't think about work at all					
I distance myself from work					

I get a break from the demands of work					
I kick back and relax					
I do relaxing things					
I use the time to relax					
I take time for leisure					
I learn new things					
I seek out intellectual challenges					
I do things that challenge me					
I do something that broadens my horizon					
I feel like I can decide for myself what to do					
I decide my own schedule					
I determine for myself how I will spend my time					
I take care of things the ways that I want them done					

4. Satisfaction with work and nonwork life

Please indicate your level of agreement with the following items.

	strongly disagree						strongly agree
In most ways my nonwork life is close to my ideal.							
The conditions of my nonwork life are excellent.							
I am satisfied with my nonwork life.							
So far I have gotten the important things I want in life outside of work.							
If I could live my life over, I would change almost nothing in my nonwork experiences.							
In most ways my work life is close to my ideal.							
The conditions of my work life are excellent.							
I am satisfied with my work life.							

So far I have gotten the important things I want in my work life.							
If I could live my life over, I would change almost nothing about my work experiences.							

5. Work characteristics

1. Is your work dependent on mobile information and communication technologies?
2. Is your work dependent on an internet connection?
3. Do you consider your work as being location independent?
   3.1 Are you mainly traveling alone?
   3.2 Please specific with whom you are traveling?
   3.3 How long have you been location independent?
   3.4 How often do you change locations?
   3.5 What are the reasons that you are working location independent?
   3.6 Do you consider your work truly location independent?
4. What is your employment relationship?
5. What is your main profession?
6. How do you define “work” for yourself?
7. How do you define “nonwork” for yourself?

6. Demographic information

1. Which gender do you indentify as?
2. How old are you?
3. Are you responsible for the care of children under the age of 18?
4. What would you like to add?
5. How did you find out about this survey?

Appendix B

Fields of profession of the LIWs and the comparison group

Field of profession	LIW group (n = 94)	Comparison group (n = 68)
IT (e.g. software development)	28	15
Business Owner	5	1
Marketing	14	3
Writer	4	0
Teacher	3	3
Consultant	8	1
HR	4	1
Translator	2	0
Finance	6	5
Manger	6	5
Analyst	4	1
Engineer	1	3
Administrative	1	8
Research	1	5
Psychology	0	3
Other	7	12

Appendix C

Correlations coefficients of the variables (n = 162)

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Satisfaction with work life													
2. Satisfaction with nonwork life	.63**												
3. Age	-.03	.04											
4. Gender	-.202**	-.09	-.10										
5. Children	.08	.14	-.28	-.1									
6. Duration of LI	.07	-.13	-.08	.07	-.19*								
7. ICT work hours	-.13	-.21*	-.05	.14	-.07	.26**							
8. Task completion ambiguity	-.38**	-.20**	-.04	.28**	.03	-.02	.10						
9. Task quality ambiguity	-.34**	-.25**	-.15	.26**	-.02	-.05	-.01	.52**					
10. Job control	.53**	.23**	.03	-.30**	.07	.07	.06	-.50**	-.33**				
11. Psychological detachment	.15	.40**	-.03	-.02	.02	-.06	-.20**	.01	-.07	-.11			
12. Relaxation	.33**	-.49**	-.17*	-.02	.09	.11	-.08	-.14	-.25**	.08	.66**		
13. Mastery	.23**	.29**	-.1	-.13	.13	.12	.02	-.19*	-.12	.26**	.19*	.33**	
14. Control during leisure time	.22**	.46**	-19*	-21**	.33**	.09	-.08	-.31**	-.30**	.37*	.39**	.55**	.48**

Note: * $p < .05$. **$p < .01$.