LIISA MÄKELÄ

Work-life Interaction among International Business Travelers

Acta Universitatis Tamperensis 2123
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ACADEMIC DISSERTATION
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In Melbourne, 13.10.2015 Liisa
Abstract

This dissertation consists of three studies focusing on work-life interaction among international business travelers (IBTs). The study takes into account international career orientation, gender, and parental status as moderators in the relationship between the frequency and/or duration of business trips and work-life interaction. In addition, work-life interaction is examined as a mediator in the relationship between the duration of business trips and sleep problems.

Two different Finnish datasets were used: Study I was based on cross-sectional data (N = 232) gathered through surveys in 2011 from the most frequent travelers at one Finnish trade union and three multinational companies. The data for Studies II and III were obtained as part of a larger research project entitled “International work-related travel and its effects on the health and well-being of workers” conducted by the Finnish Institute of Occupational Health. The data were collected using surveys in two phases across a 12-month period between 2008 and 2010 among employees in five organizations operating internationally. Study II was based on the data at T1 (N = 1366), and in Study III, the longitudinal panel data (T1–T2) were utilized (N = 868).

The main results showed, first, that extensive international business travel (especially the duration of business travel) was positively related to work-to-family conflict (WFC) and work-to-life conflict (WLC). No relation to work-to-life enrichment (WLE) was identified. Second, the psychosocial work environment in terms of effort-reward imbalance played an important role in the context of traveling for work: effort-reward imbalance was related to high WLC and low WLE. Third, IBTs with a stronger individual career orientation to internationalism reported higher WLE, and strong internationalism lowered the negative relationship between travel frequency and WFC. Fourth, there were no differences in the level of WFC between male and female IBTs but those with children at home had higher levels of WFC than those without children. Under the condition of long duration of international business travel, WFC was highest among women with dependent children. Finally, the duration of international business travel did not predict sleep problems directly over a one-year period, but did so indirectly through WFC.

Altogether, the findings of this study suggest that both the negative (conflict) and positive (enrichment) sides of work-life interaction are a part of an IBT’s life. In particular, international business travel and the general psychosocial work environment can be considered critical job demands in line with the Job Demands–Resources
model, leading to WFC and ill health. Therefore, companies employing IBTs should improve their policies and practices related to all these aspects: business travel, the psychosocial work environment, and opportunities to balance work and family life. Regularly tracking the general workload and the intensity of travel and discussing related risk factors, such as WFC, and potential health effects, such as sleep problems, could also help travelers take better care of themselves. The study findings also suggest that an internal career orientation toward internationalism should be taken account when recruiting for a job involving international business travel. Finding a good person-job fit may enhance the positive side of work-life interaction among IBTs.
Tiivistelmä

Tämä väitöskirja koostuu kolmesta tutkimuksesta, joissa tarkastellaan kansainvälisten työmatkustajien työn ja yksityiselämän yhteensovittamista. Tutkimuksessa huomioidaan uraorientaatio, sukupuoli ja vanhemmuus tekijöinä, jotka mahdollisesti muuntavat työmatkojen määrän/keston ja työn ja yksityiselämän vuorovaikutuksen välistä suhdetta. Lisäksi tutkitaan työn ja yksityiselämän vuorovaikutusta liikematkojen keston ja uniongelmien yhteyttä välittävänä tekijänä.


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1 Introduction

1.1 Internationalization of working life

In modern working life, in Finland and around the world, internationalization has dramatically increased in the past few decades. One implication of this trend is that in organizations operating in a globalized environment there exists increased demand for highly skilled workers who are internationally mobile and able to perform effectively in their challenging jobs (Collings, Scullion, & Morley, 2007; De Cieri, Cox, & Fenwick, 2007; Salt & Wood, 2012). While intellectually capable employees are important in advancing the competitive advantage of firms, equally important are psychosocial factors at work influencing employee well-being. The multi-faceted requirements of contemporary working life, such as challenging tasks and the high pace of work, are issues typical of international work and have significant effects on employee well-being and work-life balance (Brewster & Suutari, 2005; Kinnunen, Feldt, & Mäkikangas, 2008; Siegrist et al., 2004). However, these issues have thus far attracted very little research attention in the context of international work.

Today, highly developed transportation connections around the globe and advanced communication technology have led to increased international business (Bergström, 2010; Collings et al., 2007; Ramsey, Leonel, Gomes, & Monteiro, 2011; van der Klis & Karsten, 2009). Therefore, one important and increasing group of employees is international business travelers (IBTs). According to Global Business Travel Association’s (GBTA) BTI report (2014) focusing on business travel trends in the USA, a 12.5% increase in international outbound travel was expected in 2014 with $36.7 billion to be spent on those travels. In Finland, where this particular study was conducted, the number of business trips abroad was 1,577,000 in 2013 and has varied between 974,000 (2009) and 1,951,000 (2012) (Official Statistics of Finland, 2013). Business travel is an important industry worldwide (Travel & Tourism Council, 2014) and it is somewhat surprising that despite the vast amount of research concerning the international labor force in general, empirical research on IBTs is scarce (Collings et al., 2007; McKenna & Richardson, 2007; Tahvanainen, Welch, & Worm, 2005).

So far, in the literature on international business travel, two main avenues can be identified (Gustafson, 2012). First, business travel has been studied from the perspective of organizations adopting the concept of travel management. Studies on
travel management have focused, for instance, on policies and regulations concerning business travels in companies (Douglas & Lubbe, 2006; Holma, 2012; Jenkins, 1993). Second, increasing research interest has been directed to individual travelers from the perspective of their own experiences. Such studies considering IBTs have mainly been conducted within the field of travel medicine focusing on physical or psychological disorders caused by frequent travel (Patel, 2011).

Earlier studies have also recognized that having a job involving international business travel may jeopardize an IBT’s family and personal life and may have effects on their family members (Demel & Mayrhofer, 2010; Konopaske, Robie, & Ivancevich, 2009; Mayerhofer, Hartmann, & Herbert, 2004; Westman, Etzion, & Chen, 2009; Westman, Etzion, & Gattenio, 2008). Despite the importance of better understanding the individual-level consequences of business travel, few empirical studies have thus far focused on conflict between work and family among IBTs (Jensen, 2013; Westman, Etzion, & Gortler, 2004; Westman & Etzion, 2002). However, research exploring the effect of international business travel on personal life generally, that is, taking into account the family and other aspects of personal life such as friends and hobbies, appears to be lacking.

In general, the interaction between employees’ different life spheres has been studied with a focus on work-family conflict or work-life conflict, but the positive effects between different life spheres have also been acknowledged. The concept of enrichment, meaning a situation in which experiences gained from one life sphere improve the quality of life in another life sphere (Greenhaus & Powell, 2006), has been adopted in many studies examining these positive effects. The effects among different life spheres are bi-directional, with working life affecting the family and personal life sphere and vice versa. However, the effects caused by working life on family or personal life have been found to be more common than vice versa (e.g., Frone, 2003; Kinnunen & Mauno, 1998). Therefore, this study focuses on work-to-family conflict (WFC), work-to-life conflict (WLC), and work-to-life enrichment (WLE). It is also known that work-related factors—including business travel—which are the primary target of this study are the strongest contributors to work-to-family/life conflict (Michel et al., 2011). In addition, even though there exist studies on physical and psychological disorders related to international business travel, there is a need for studies exploring the different mechanisms by which international business travel may lead to these disorders and affect IBTs’ health (Jensen, 2013).

Therefore, this study strives to fill these gaps in the literature by examining the relationships between IBTs’ work and personal and family lives and how, that might affect their health. Further, this study aims to show how these relationships may differ depending on individual differences by taking international career orientation, gender, and parental status into account. To improve the knowledge on these issues, the
following three main research questions were examined: 1) what are the direct and moderating effects of an international career orientation on the relationship between the psychosocial work environment—including the frequency and duration of traveling—and WLC and enrichment? (Study I); 2) what are the direct and moderating effects of gender and parental status on the relationship between the intensity of international business travel and WFC among IBTs? (Study II); and 3) does WFC function as a mediator between international business travel and sleep problems across a one-year period? (Study III).

The following sections of the introduction will present the theoretical grounds of the study and provide the definitions of key concepts and an overview of earlier research. Finally, the introduction ends with a discussion the aims of this research in detail.

### 1.2 Theoretical models and key concepts

In this study, two types of theories were used. First, the interactions among various life spheres in individuals’ lives were approached with the help of work-family interaction models and theories. Second, the interaction between the individual and his/her job was conceptualized using work stress models.

#### 1.2.1 Theories of work and personal life interaction

The interaction between working life and personal life spheres is typically approached from the perspectives of role stress theory (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964) and the scarcity approach (Marks, 1977). The expectations and demands related to different roles, such as being a parent, a partner, or a friend in the personal life sphere and being an employee, supervisor, or entrepreneur in the working life sphere, compete for individuals’ time, energy, and commitment, which are finite resources according to the scarcity approach (Marks, 1977; see also Kinnunen, Rantanen, Mauno, & Peeters, 2014). The situation in which the role demands from the work and family spheres are mutually incompatible in some respect is called work-family conflict (Greenhaus & Beutell, 1985). As stated above, this conflict is bidirectional; working life affects family life (work-to-family conflict) and family life affects working life (family-to-work conflict).

However, the interaction is not only negative, as different roles people have in their lives have been found to be beneficial for them. This approach is based on role accumulation theory (Sieber, 1974) and the expansion approach (Marks, 1977; see
also Rantanen, 2008). According to role accumulation theory, holding multiple roles is desirable for many reasons, such as bringing such rewards as income, heightened self-esteem, and the experience of success that is not related to only one role. Therefore, it may be expected that the more roles an individual has, the more benefits she or he enjoys (Rantanen, 2008). For instance, one person may enjoy the benefits of multiple roles associated with being an IBT, which provides opportunities to learn about new cultures and countries, and being a husband or a wife, a role providing a source of social support. The expansion approach argues that time, energy, and commitment are not finite resources (cf. the scarcity hypothesis) but are, instead, abundant and expandable. The rationale for this is that activities and tasks perceived as meaningful and satisfying are likely to produce energy and lessen the feeling of time shortage (Marks, 1977; see also Rantanen, 2008). Therefore, multiple roles have the potential for role expansion and resource enrichment. The most used concept for studying these positive effects between different life spheres is enrichment (see Kinnunen et al., 2014), defined as “the extent to which experiences in one role improve the quality of life in the other role” (Greenhaus & Powell, 2006, p. 73). In this particular study, both conflict and enrichment experiences were studied.

Conflict and enrichment between work and private life have been studied mainly by focusing on the roles related to work and family. However, there are multiple roles people have in the private life sphere other than the traditional family role with responsibilities. Therefore, a broader perspective on private life, which would be appropriate for all workers regardless of marital or family status, is required (Fisher, Bulger, & Smith, 2009; Guest, 2002; Sturges & Guest, 2004). For this purpose, the concepts of work-life conflict and work-life enrichment have been developed. If a personal life role restricts participation in a working life role, the result is called personal life-to-work conflict. In turn, if a working life role restricts participation in a personal life role, the result is called work-to-personal life conflict. In the case of positive effects, the question is of work-to-personal life and personal life-to-work enrichment (see Kinnunen & Mauno, 2008; Kinnunen et al., 2014, for reviews). In this study, the more typical directions, that is, work-to-family conflict (WFC), work-to-life conflict (WLC), and work-to-life enrichment (WLE) were examined.

According to the antecedent–outcome models of work-family interaction (Frone, Russell, & Cooper, 1992; Frone, Yardley, & Markel, 1997; Wayne, Grzywacz, Carlson, & Kacmar, 2007), various individual characteristics, such as gender and parental status, are related to the interaction between work and personal life either directly or as having a moderating role. In the present study, gender and parental status were examined both as antecedents of WFC and as moderators in the travel frequency-WFC relationship among IBTs. In addition, conflict and enrichment are typically seen as mediators between work and family (or personal life) characteristics and health
consequences (see Kinnunen et al., 2014, p. 272). In this study, sleep problems including diminished quality of sleep as well as sleep deprivation were examined as signs of impairment of health. These are relevant health consequences to study in the context of business travel because irregular sleep-wake rhythms and rapid travel across time zones can result in jet lag and sleep disorders (Auger & Morgenthaler, 2009). It has been shown that impaired sleep plays a role in the development of fatigue or exhaustion in burnout (Ekstedt et al., 2006; Söderström, Jeding, Ekstedt, Perski, & Åkerstedt, 2012) as well as depression (Baglioni et al., 2011) and other diseases such as cardiovascular illness (see Härmä, 2006) and diabetes (Nilsson, Rööst, Engström, Hedblad, & Berglund, 2004). Moreover, WFC has been found to cause negative health effects, for example, problems with sleep quality (Lallukka, Rahkonen, Lahelma, & Arber, 2010; Nylén, Melin, & Laflamme, 2007; Sekine, Chandola, Martikainen, Marmot, & Kagamimori, 2006). In this study, WFC was studied as a mediator between international business travel and sleep problems.

1.2.2 Theories of work stress

Work stress is seen as a consequence of the interaction between an individual and his/her work characteristics: when experiencing stress there is generally a mismatch between the individual (e.g., skills, expectations) and his/her work (e.g., demands, possibilities). This particular study is based on three theoretical approaches to work stress, namely the Effort-Reward Imbalance model (ERI, Study I), the Conservation of Resources theory (COR, Study II), and the Job Demands–Resources model (JD-R, Study III). These approaches have also been utilized in examining the interaction between work and family/personal life in earlier studies. They are presented below in more detail.

Effort-Reward Imbalance (ERI) model

The ERI model is based on the idea of social exchange, meaning that an employee putting effort into work expects to gain rewards in return (Siegrist, 1996). If an employee perceives that the efforts invested in work are continuously stronger than the rewards (referring, for instance, to money, esteem, and career opportunities) received, negative consequences are likely to follow. Originally, the ERI model was developed to study the health effects of effort-reward imbalance at work (Siegrist, 1996, 2002), but
more recently, it has also been used to study effects on employee well-being. It has proved useful in many kinds of work contexts, especially in the world of modern, globalized business (Siegrist, Wege, Pühlhofer, & Wahrendorf, 2009).

The fundamental idea of the ERI model is that there should be a balance between efforts put into work and rewards gained from it. Imbalance between high effort and low reward may cause emotional distress, which in the long-term may lead to the development of physical (e.g., cardiovascular) and mental (e.g., depression) diseases (see, van Vegchel, de Jonge, Bosma, & Schaufeli, 2005, for a meta-analysis) via sustained activation of the autonomic nervous system.

However, there are specific situations in which an imbalance between efforts and rewards may continue for a longer period. Examples of such situations are, first, if other jobs are not available in the labor market or, second, if rewards are expected to come in the future. Third, overcommitment on the part of an employee, meaning a personality characteristic with excessive ambition in combination with a need for approval and esteem (Hanson, Schaufeli, Vrijkotte, Plomp, & Godaert, 2000), is also one factor under which an imbalanced situation may maintain longer. Overcommitment has been defined as an intrinsic element of the ERI model with both direct and moderating effects on health. However, the extrinsic hypothesis, referring to the negative effects of an imbalance between high efforts and low rewards, has been dominant in empirical research and gained the strongest support thus far (see e.g., van Vegchel et al., 2005).

The ERI model is also a relevant theoretical framework for the interaction between the work and personal lives of employees. High ERI has been found to have negative effects on the work and family interaction (Franche et al., 2006; Kinman & Jones, 2008; Willis, O'Connor, & Smith, 2008). For instance, it has been shown, in both cross-sectional (Kinman & Jones, 2008) and longitudinal (Willis et al., 2008) settings, that both high effort and low reward are important predictors of work-life conflict. In addition, it has been found that the effect of high ERI on depressive symptoms is mediated by increased negative work-family spillover (NWFS), which is a slightly different concept than WFC (Franche et al., 2006).

In this particular thesis, the relationship of extrinsic ERI (imbalance ratio between efforts and rewards) on WLC and WLE was examined in Study I. ERI was used as an indicator of general psychosocial work environment, whereas the relationships of specific demands of international business traveling to WLC and WLE were in the main focus.
Conservation of Resources (COR) theory

The COR theory is based on the idea that individuals’ well-being is harmed if there is an actual loss or a threat of losing things they value. Individuals attempt to acquire, maintain, protect, and foster things of value to them, called resources in the COR theory (Hobfoll, 2001). Resources can be objects or material goods (e.g., financial stability), personal characteristics (e.g., optimism), conditions (e.g., having a partner), or energy (e.g., time). Several types of resources are salient for well-being, and, if one loses some resources, the importance of other acquired resources increases. Moreover, having fewer resources makes people more vulnerable to resource loss than those with greater resources. This negative process is called a loss spiral (Demerouti, Bakker, & Bulters, 2004; Hobfoll, 2001). In addition, it has been shown that the greater the resources available, the greater are the opportunities to acquire new resources (Hobfoll, 2001). This kind of positive process is known as a resource caravan (Hobfoll, 2002) or a gain spiral (Hakanen, Peeters, & Perhoniemi, 2011; Hobfoll, 2001).

The COR theory has been used as a theoretical basis for studying both conflict (Demerouti et al., 2004; Grandey & Cropanzano, 1999; Halbesleben, Harvey, & Bolino, 2009) and enrichment (Hakanen et al., 2011) processes between work and family. In the context of WFC and WLC, work-related demands such as work pressure deplete the resources—time and energy—of individuals. This leads to a situation in which resources available for the personal life sphere are lessened, which in turn leads to WFC or WLC (Demerouti et al., 2004). In the context of WLE, job resources, in particular social support and control, increase the experience of WLE (Crain & Hammer, 2013; Kinnunen et al., 2014).

In addition, experiences of WFC, WLC, and WLE may differ depending on several individual conditions relevant to the work and personal life interaction. For instance, gender may play a role as there are differences between men and women in their time allocation between work and household duties. As men spend more time at work than women (Statistics Finland, 2014), men may experience more WFC than women. In turn, women spent more time on household duties than men (Statistics Finland, 2014), and therefore they may experience more family-to-work conflict. In addition, being a parent is likely to increase demands on and the depletion of resources and lead to higher WFC and WLC and lower WLE compared to non-parents (see Eby, Casper, & Lockwood, 2005, for a review; Frone, 2003; Winslow, 2005).

In this particular thesis, Study II is based on the COR theory. The number of international business travel days during the past 12 months was examined to establish if that factor jeopardized available resources and therefore had a positive relation to WFC. In addition, Study II explored whether the experiences of WFC were related to gender and parental status, that is, conditions that may deplete resources.
Job Demands–Resources (JD-R) model

According to the JD-R model, psychosocial work characteristics can be divided into two categories, job demands and resources, which explain processes leading to either employee ill health or well-being (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Job demands are defined as being aspects of the job that require sustained physical or psychological effort and are, therefore related to several physiological and psychological costs. Job resources refer to the characteristics of the job that may be instrumental in achieving work goals, mitigating the effect of job demands, and stimulating personal growth and development (Demerouti et al., 2001). According to the JD-R model, job demands lead via the health impairment process to ill being. In other words, if employees continually face highly demanding tasks, their mental and physical resources will be exhausted, and that will sap their energy (Kinnunen, Feldt, Siltaloppi, & Sonnentag, 2011). Having adequate job resources, in turn, leads via the motivational process to well-being, including engagement and commitment to work.

The JD-R model has also been found to be applicable in the context of work and personal life interaction. Negative work-home interference (a similar concept to work-family conflict) has been shown to function as either a job demand (Schaufeli & Taris, 2014, p. 64), a negative outcome (Schaufeli & Taris, 2014, p. 64), or a mediator (Peeters, Montgomery, Bakker, & Schaufeli, 2005) in the ill-health process. In addition, Bakker and Demerouti (2013) invented the Spillover-Crossover model (SCM), which is based on the JD-R model but is expanded to examine couples. The SCM explains how experiences built up at work can influence the partner at home via work-family conflict and enrichment, and social interaction.

In this particular thesis, Study III focuses on the aspects that impair health as international business travel was examined as a potential job demand capable of leading to health impairment, particularly sleep problems, via WFC. To the best of my knowledge, there is only one study acknowledging the relationship between business travel and sleep (Burkholder, Joines, Cunningham-Hill, & Xu, 2010). That study focused on quantity of sleep and found that those who travel more are more likely to suffer from sleep deprivation than those who do not travel or whose travel is not intensive. Therefore, the present study broadens the view of the role of sleep problems among IBTs.
1.2.3 International business travel in the context of the ERI, COR and JD-R models: previous study findings

Frequency and duration of international business traveling as specific job demands

In addition to general job demands as covered by the ERI, COR, and JD-R models, international business travel includes elements that can be considered the effort a person invests in the job (ERI model), loss of resources (COR theory) or job demands (JD-R theory). Therefore, jobs involving international business travel contain specific elements that may be harmful for IBTs’ work-to-life interaction and well-being. Although the literature has highlighted several such stressors (e.g., irregular working hours, short notice before travel, jetlag, and tiredness) related to business travel (DeFrank, Konopaske, & Ivancevich, 2000), one essential job demand related to traveling work is the intensity of travel, in particular how often one needs to travel and how long the trips last (Bergbom, Vesala, Leppänen, Sainio, & Mukala, 2011; Burkholder et al., 2010; Espino, 2002).

In previous research, the frequency (Bergbom et al., 2011; Dimberg et al., 2002; Espino, 2002; Jensen, 2013; Westman et al., 2009) and duration (Bergström, 2010; Espino, 2002) of travel have been studied either using the number of trips (e.g., during the previous 12 months) and the number of traveling days (e.g., during the previous 12 months) or a combination of these two (e.g., 1–5 trips of less than 5 days during the past 12 months) (Burkholder et al., 2010). Research on the combined effects of frequency and duration of business trips has indicated that increasing the frequency and duration of trips increases the risk of ill health among travelers. In particular, the more intensive the travel, the more common are symptoms such as increased alcohol consumption, sleep deprivation, and feelings of insecurity about the ability to keep pace with the workload (Burkholder et al., 2010). Studies focusing on the frequency of business trips have also shown that increased trip frequency is related to dissatisfaction with traveling, greater stress, problems maintaining social networks, and WFC (Bergbom et al., 2011; Jensen, 2013; Westman et al., 2009). The negative effect of increased trip frequency on WFC has been found to remain significant after controlling for the effects of workload, work-role ambiguity, and work-role conflict (Jensen, 2013). However, that particular study involved intra-national travelers and commuters in addition to IBTs and, therefore, we do not know whether the results would be different if only IBTs had been studied. In addition, overly frequent trips also have a negative effect on the well-being of travelers’ families (Dimberg et al., 2002; Espino, 2002).
Only a few prior studies have directly focused on the duration of business travel and the related consequences (Bergström, 2010; Espino, 2002). These studies have reported that an increase in travel days causes a deterioration of social relations (Bergström, 2010) and a high number of travel days affects travelers’ stress and family issues (Espino, 2002). In addition, IBTs are often described as absent spouses and/or parents and IBTs’ families are required to cope with any problems arising during their absence (Mayerhofer et al., 2004; Welch, Welch, & Worm, 2007). These results support the view that time spent away from the home country may be important to well-being and work-life interaction. IBTs’ days away from home have been found to have a significant relationship to the stress levels and health of IBTs, and also to spousal stress and their children’s behavior reported by their spouses (Espino, 2002).

In this particular thesis, Study I explored the effects of both frequency and duration of business trips on WLC and WLE. Studies II and III focused only on duration as it appeared in Study I to be a more powerful antecedent for WLC and WLE than the frequency of international business trips.

Personal level factors of IBTs and work-personal life interaction

Not only environmental but also personal factors play an important role in the process related to experiences about work (see for reviews Mäkikangas, Feldt, Kinnunen, & Mauno, 2013; Schaufeli & Taris, 2014). This has been acknowledged in work stress models, as with overcommitment in the ERI model (Siegrist, 1996; Siegrist et al., 2004), personal resources in COR theory (Hobfoll, 2001), and in the expanded JD-R model (Schaufeli & Taris, 2014). In addition to personality traits and tendencies as personal level factors (see e.g., Mäkikangas et al., 2013), individual differences related to jobs and career preferences are important to acknowledge. For example, a good person-occupation fit has been found to be an important antecedent for employees’ positive perceptions related to work (Danziger & Valency, 2006; Hardin, Stocks, & Graves, 2001; Igbaria, Greenhaus, & Parasuraman, 1991).

Personal differences related to career preferences have been studied through internal career orientations for instance by using, the typology of career anchors (Schein, 1978, 1996). Originally, Schein’s typology consisted of eight career anchors and internationalism was a late addition to the typology. Internationalism is defined (Suutari & Taka, 2004, p. 836) as a preferred career anchor for those who are “primarily excited by working in an international task environment; who want to develop their professional competences in an international environment and, therefore,
enhance career opportunities; and who are interested in searching for new experiences through getting to know unfamiliar countries and different cultures.”

Internationalism is a potentially important predictor of adaptation to work that includes international aspects such as international assignment (Cerdin & Le Peruigneux, 2009, 2010). Previous studies have shown that a good fit between one’s career anchor and job environment is important owing to positive outcomes stemming from an appropriate match and negative outcomes associated with a mismatch. A good fit between internal career orientation and job settings has been found to relate to high job satisfaction, strong commitment to the organization, and weak intention to leave the organization (Danziger & Valency, 2006; Hardin et al., 2001; Igbaria et al., 1991).

As this internationalism anchor refers to the aspects typical of international work, its role in the process of IBTs’ work-life interaction seems evident. In fact, it has been shown that employees’ experience of work-family conflict differs according to their internal career orientation. For instance, time-based WFC (e.g., when time devoted to the work role makes it difficult to participate in the family role) was strongest among those whose career orientation was related to a need for excitement and to total engagement with their work (‘getting high’), whereas WFC was lowest among those whose career orientation was primarily focused on balancing work, relationships, and self-development (Carlson & Wadsworth, 2003). It has been suggested that people considering themselves well matched to their jobs may benefit from reduced WFC (Carlson & Wadsworth, 2003), and probably also from an increase in positive interaction between life spheres (i.e., WFE).

In line with the expanded JD-R model, proposing that in addition to job demands and resources, individuals’ personal resources are related to their well-being (Schaufeli & Taris, 2014), we can expect that individuals strongly oriented to an international career (personal resource) may experience less conflict and more enrichment when faced with stressors related to international business travel (in particular, frequency and duration) than would individuals scoring low on internationalism. Therefore, those exhibiting internationalism adjust better to international business travel, which may protect them from WFC or WLC and foster their WFE or WLE. In this particular thesis the direct and moderating effects of employees’ international career orientations were studied in the relationship between frequency and duration of international business trips and WLC and WLE (see Study I).

Furthermore, demographic aspects may play an important role in how work and personal life interaction is experienced (see e.g., Kinnunen & Mauno, 2008; Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011). In this thesis (Study II), as already mentioned, gender and parental status were examined. The international work context has been described as male dominated and highly gendered (Gripenberg et al., 2013; Hearn et al., 2008), and therefore gender is a relevant demographic factor to study in
the context of international business travel. In the context of the COR theory, it is likely that WFC is higher among men than women because men typically spend more time at work (Statistics Finland, 2014), resulting in a loss of resources. However, empirical studies do not provide firm support for this, and in fact have produced mixed evidence on how gender is related to experiences of the interface between work and family. On the one hand, men have been shown to experience slightly higher WFC than women (see Byron, 2005, for a meta-analysis), but on the other hand, there are also studies that support the view that women are more vulnerable to WFC (Duxbury et al., 1994; Leineweber et al., 2013). In addition, some researchers report no differences between the WFC of men and women (Eagle, Miles, & Icenogle, 1997; Kinnunen, Geurts, & Mauno, 2004). Earlier studies focusing on the interface between IBTs’ work and private lives from a gender perspective have reported that WFC appeared to be slightly more common among women than among men (Westman et al., 2009).

Based on the COR theory, parental status, particularly having children living at home, is likely to mean a reduction in resources such as time and energy and accordingly lead to increased WFC (Demerouti et al., 2004). Research has shown that demands related to family roles generally contribute to WFC (Beutell, 2010), and in particular that being a parent is related to higher levels of WFC (Eby et al. 2005; Frone, 2003; Duxbury et al., 1994; Winslow, 2005). However, a Finnish study found that family type (two-parent families with children, single-parent families with children, and childless couples) was not related to WFC, but parents of all types reported more family-to-work conflict and family-to-work enrichment compared to childless couples (Mauno, Kinnunen, & Rantanen, 2011). In addition, parenthood may be related to a higher level of work-family conflict especially among women, presumably because women have more responsibility for childcare (Duxbury et al., 1994).

In the context of international business travel, it has been reported that experiences of WFC may be dependent on gender—women scoring higher than men (Westman et al., 2009)—but there are also findings suggesting that gender does not predict WFC (Jensen, 2013). Furthermore, parental responsibility may increase the risk of WFC among business travelers in general (Jensen, 2013), a group that includes domestic travelers and commuters alongside IBTs. However, there is little research on how international business travel, parental status, and gender (fathers, mothers, and non-parent females and males) are related to WFC. Therefore, this particular thesis (Study II) aimed to fill this gap by studying the direct and moderating effect of gender and parental status on the relationship between the intensity of international business travel and WFC among IBTs.
1.3 Aims and hypotheses of this study

This thesis consists of three studies that aim to examine employees working in international contexts, and in particular, their business travel, work and personal life interactions, and health. This study is theoretically based on the ERI model (part of Study I), COR theory (Study II), and the JD-R model (Study III). Each of these three studies increases the current knowledge of the interface between the work and personal life spheres of IBTs by approaching the phenomena from different perspectives. Figure 1 illustrates the framework of this study and shows the different issues examined in each of the empirical studies.

Study I focused on WLC and WLE on the basis of the ERI model. More specifically, the links from the psychosocial work environment (Effort-Reward Imbalance), and the frequency and duration of international business travel to WLC and WLE were examined. Following the assumption that certain kinds of jobs are more suitable for certain kinds of people (person-job fit), Study I took into account the direct and moderating role of career orientation toward internationalism in these relationships. The following hypotheses were set based on earlier research and theory:

**Hypothesis 1:** Highly frequent travel (i.e., a large number of international business trips during the previous 12 months) is positively associated with WLC (1a) and negatively related to WLE (1b).

**Hypothesis 2:** Traveling of long duration (i.e., a high number of international business travel days during the previous 12 months) is positively associated with WLC (2a) and negatively associated with WLE (2b).

**Hypothesis 3:** High ERI is positively associated with WLC (3a) and negatively with WLE (3b).

**Hypothesis 4:** International orientation is negatively associated with WLC (4a) and positively associated with WLE (4b).

**Hypothesis 5:** Highly frequent travel (i.e., a high number of international business trips during the previous 12 months) shows a stronger positive association with WLC (5a) and a stronger negative association with WLE (5b) among employees with a low international orientation compared to those scoring high on international orientation.

**Hypothesis 6:** International business travel of long duration (i.e., a high number of international business travel days during the previous 12 months) show a stronger positive association with WLC (6a) and a stronger negative association with WLE (6b) among employees with a low international orientation compared to those scoring high on international orientation.
In Study II, the direct and moderating effects of gender and parental status on the relationship between the intensity of international business travel and WFC among IBTs were examined. The following hypotheses and one research question were set based on the COR theory and earlier research:

**Hypothesis 7:** A high number of international business travel days logged over the previous 12 months is positively related to WFC.

**RQ 1:** Is there a difference in the level of WFC among male and female IBTs?

**Hypothesis 8:** WFC is greater among parents than among non-parents.

**Hypothesis 9:** Highly intensive travel (i.e., a high number of travel days in the previous 12 months) shows a stronger positive association with WFC among women who have children living at home compared to other IBTs (i.e., men with dependent children and women and men without dependent children).

In Study III, health consequences, particularly sleep problems, linked to international business travel were examined in line with the JD-R model's health impairment process. More specifically, the longitudinal study focused on examining the association of international business travel, in terms of the duration of travel (i.e., the number of traveling days per year) as a specific job demand, with sleep problems over time. In addition, Study III aimed to improve understanding of the mechanisms leading to sleep problems and accordingly work-family conflict was studied as a potential mediator in this relationship. Based on the JD-R model and earlier research, the following hypotheses were set:

**Hypothesis 10:** The number of international business travel days 12 months before T1 and between T1 and T2 predict WFC at T1 and T2, respectively.

**Hypothesis 11:** WFC at T1 predicts sleep problems at T2 after traveling days before T1 and T2 are taken into account.

**Hypothesis 12:** The relationship between international business travel before T1 and sleep problems at T2 is indirect, that is, it is mediated by WFC at T1.
Figure 1. The framework for this study and studied relationships.
2 Methods

2.1 Participants and procedure

This study was based on two data sets. Study I was based on data ($N = 232$) which were gathered during May and August 2011 using a web-based questionnaire. The data were obtained from two different sources. First, a Finnish trade union (the Finnish Association of Graduates in Economics and Business) invited its members to take part in the survey via its newsletter, an announcement on its website, and social media channels (LinkedIn and Facebook). The invitation garnered responses from 84 people, and after excluding those respondents not reporting any international business travel during the previous 12 months ($n = 9$), the final sample size was 75. Second, three multinational companies (MNCs) operating in various global locations participated in the study. Two companies were recruited by personally contacting HR managers in the company, and one company enrolled in the study after an open invitation presented at a networking event for HR staff of MNCs. All the companies operated in the energy sector, two of them being manufacturers and one a supplier. The companies employed 10,000, 18,000, and 11,700 people worldwide, respectively. The companies sent an invitation to their most frequent travelers to participate in the survey via e-mail, eliciting responses from 157 travelers.

In this first dataset, 71% of the respondents were men, 86% had a partner, and 54% had children living at home. The respondents with children had an average of two children living at home. The majority of the respondents (63%) had a university degree, and 41% held a supervisory position. Most often, the informants held positions in the sales and marketing function, and in general administration. The reported experience of being an IBT ranged from 26% who had up to five years’ travel experience, 24% who had more than five but less than ten years’ experience, and 51% who had more than ten years’ experience. Of the respondents, 65% named Europe as the most common destination they traveled to, and South America was mentioned next often (13%), followed by Asia (12%).

The data for Studies II and III were obtained as a part of a larger research project titled “International work-related travel and its effects on the health and well-being of workers” conducted by the Finnish Institute of Occupational Health (see, Bergbom et al., 2011). The aim of this larger project was to examine the longitudinal effects of
business traveling on well-being and health, and therefore it was conducted in three phases between 2008 and 2010. During this period, employees in five organizations operating internationally completed three electronic surveys with a six-month time lag. The four private organizations operated in ICT, automation, developing, and consulting. The fifth organization was a public organization operating for foreign affairs in Finland. The data used in Studies II–III were collected in two phases across a one-year period. The first phase started in one organization in autumn 2008, and in the other organizations in early 2009. The questionnaires were first sent to respondents in each organization (T1). One year later (T2), those participants received the same questionnaires via the same process.

In three of the five organizations, 1,333 (56%) employees answered the first survey originally sent to 2,382 employees. In one of those three organizations, the questionnaire was sent to all employees who had logged at least one day of international travel in the preceding year, and also to a smaller number of employees who had not traveled during that time. In two of the three organizations, the questionnaire was sent to employees at random from among those who had spent at least one day traveling in the preceding year or half year. In addition, the questionnaire was sent to a smaller number of employees in both organizations who had logged no travel days during the past year. In the remaining two organizations, 192 people indicated their willingness to participate and eventually 183 (95%) employees completed the survey. Therefore, 1516 employees completed the first survey. Of those, 1046 employees (69%) completed the second survey a year later.

In Study II, the data at T1 were used. For this particular study, we excluded from the sample those employees who reported no travel days in order to focus only on the experiences of IBTs. In addition, three employees were excluded from the sample as outliers because they reported too many travel days (300–365 per year). Taking these issues into account, the final sample of the study consisted of 1,366 employees. The sample was male dominated (72%). Of the men, 87%, and of the women, 68% were married or cohabiting. On average they had 2.0 children living at home (SD = 0.86). Among the men, 63% had children, whereas only 50% of female traveler had children (p < .001). The participants’ mean age was 42.3 years (SD = 8.74). They had been working in their organizations for an average of 11.4 years (SD = 8.04) and in their current jobs requiring international travel for 5.8 years (SD = 5.98). Of the participants, 29% held a supervisory position.

In Study III, the longitudinal panel data (T1–T2) were use. Employees who reported either no travel days at the first measurement point (n = 135) or did not answer the questions regarding work-family conflict (i.e., they had no family) at both measurement points (n = 168) were excluded from the sample. In addition, five employees were excluded from the sample as outliers because they reported too many
travel days (300–365) per year at either T1 or T2. Taking these issues into account, the final sample of the longitudinal study consisted of 868 employees. The sample was male dominated (76%) and most of the participants (91%) were married or cohabiting. On average the parents had 2.72 children living at home (SD = 0.82). The participants’ mean age was 42.79 years (SD = 8.33). They had been working in their organizations for an average of 11.47 years (SD = 7.74) and in their current jobs requiring international travel for 6.12 years (SD = 6.01). Of the participants, 31% held a supervisory position.

**Attrition analyses**

The sample attrition was examined in the longitudinal dataset utilized in Study III. First, the respondents of the first survey (N = 1333) were compared with the non-respondents (N = 1049) in terms of registered business travel days. This comparison was possible in only three organizations. The information received from these three organizations on international business trips related to different time periods: Two organizations provided the registered number of international travel days for a 12-month period spanning 2007-2008 (i.e., covering the period before the first measurement) and the third company provided the number of travel days for a six-month period in 2008. Respondents and non-respondents differed in the two organizations, as respondents had logged more international travel days during the year than the non-respondents had (t(1321) = 2.60, p < .01; t(634.946) = 4.97, p < .001). There were no differences in travel days across the six-month period in the third organization, and nor were there any differences between respondents and non-respondents with regard to gender in any of the three organizations, nor with regard to age in the two organizations that provided information on age. Owing to a lack of information on the non-respondents in the remaining two organizations, it was impossible to conduct an attrition analysis there.

An attrition analysis was also conducted by comparing the respondents of the longitudinal sample (N = 868) with the non-respondents (N = 470), that is, those who took part only in the first survey. The drop-outs did not differ from the respondents significantly in terms of gender, supervisory position, international business trips, travel days, WFC, or sleep problems, but the respondents (M = 42.79 years) were significantly t(616.82) = -2.00, p = .045) older than the non-respondents (M = 41.67 years).
2.2 Measures

Detailed information concerning the measures used in Studies I-III are presented in the original articles. Therefore, only a summary of the main measurement instruments are presented next. Table 1 (p. 32) provides the summary of the studies and presents, for example, the reliabilities (Cronbach alphas) of the sum variables.

2.2.1 Outcomes

Work-to-life interaction (Study I) was measured with eight items from the scale of Fisher et al. (2009). The items were rated on a 5-point Likert scale (1 = completely disagree, 5 = completely agree). Work-to-life conflict (WLC) was measured by all five items in the original scale (e.g., “My personal life suffers because of my work”). Work-to-life enrichment (WLE) was measured by all three items of the original scale (e.g., “Because of my job, I am in a better mood at home”).

Work-to-family conflict (WFC) (Studies II and III) was measured by three items (e.g., “My work keeps me from my family activities more than I would like”). The items were adopted from the scale of Carlson, Kacmar and Williams (2000) and were rated on a 5-point Likert scale anchored with completely disagree (1) and completely agree (5).

Sleep problems (Study III) at T1 and T2 were measured by the single question “How often have you experienced sleeplessness or reduced sleep quality (trouble falling asleep, waking up several times per night, waking up far too early, waking unrefreshed) during the past three months?” Responses were given along a 5-point scale anchored with not at all/rarely (1) and very often/all the time (5). The form of this question derives from the items of the Basic Nordic Sleep Questionnaire (Partinen & Gislason, 1995). A single question was used because it was identical at T1 and T2. At T2, sleep problems were also measured by a five-item scale, with the questions similarly derived from the Basic Nordic Sleep Questionnaire (Partinen & Gislason, 1995). The single question used in this particular study correlated with the 5-item scale statistically significantly (r = .749, p < .001).

2.2.2 Job demands

Frequency and duration of international business travel. The frequency and duration of international business travel (Study I) were evaluated based on the
informants’ answers to two questions: “How many work trips have you made abroad within the last 12 months?” (frequency) and “How many days of work travel abroad have you had during the last 12 months?” (duration). The answers to both questions were round numbers. The average number of travel days was 75.0 (SD = 76.2) and the average number of business trips was 15.6 (SD = 14.9).

International business travel was measured using the number of days of travel 12 months before T1 (Study II and III) and the days of travel between T1 and T2 (Study III). The data were derived from the participants’ answers to the question placed in both surveys: “Estimate how many days of international travel you have had during the past 12 months?” This measure reflects the total duration of travel per year. The number of travel days varied between 1 and 250 at T1 and 0 and 200 at T2. Of the employees, 4.3% at T1 and 23.5% at T2 had fewer than five days of travel per year.

**Psychosocial work environment** (Study I). The components of the ERI ratio were measured using a Finnish version (Kinnunen et al., 2008) of the ERI scale developed by Siegrist et al. (2004). Effort was measured by six items that referred to demanding aspects of the psychosocial work environment (e.g., “I am under constant time pressure due to a heavy work load”). The items were rated on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). The total score for effort varied between 6 and 24; the higher the score, the more effort was experienced. Reward was measured by 11 items, including three subscales: esteem (e.g., “I receive the respect I deserve from my superiors”), career opportunities (e.g., “My job promotion prospects are poor”), and job security (e.g., “My job security is poor”). The rating and scoring was the same as for the effort items. The total score for reward varied between 11 and 44; the higher the score, the more rewarding the job was perceived to be. To compute the ERI ratio, the effort score was placed in the nominator and the reward in the denominator. As the number of items in the nominator and denominator categories were unequal (6 and 11 respectively), the reward score was multiplied by a correction factor of 0.5454. A value close to zero indicates a favorable condition, in which effort is relatively low and reward is relatively high, whereas values beyond 1.0 reflect a large amount of effort made that was not matched by the reward received. As the scale was skewed, the logarithmic ERI ratio was used as a continuous variable in the analysis (e.g., Kinnunen et al., 2008; Siegrist et al., 2004). The Finnish ERI measure has shown good factorial validity, that is, the items measure the two factors of effort and reward adequately and separately (Kinnunen et al., 2008).
2.2.3 Personal factors

**Internationalism** (Study 1) was measured by five items (e.g., “I will feel I am successful in my career only if I manage to work in an international environment”) from the scale of Cerdin and Le Pargneux (2010). The items were rated on a 5-point Likert scale (1 = completely disagree, 5 = completely agree).

**Gender** was measured as a binary variable, where 0 = male and 1 = female.

**Parental status** was measured by asking whether the employee had children living at home (1 = yes and 0 = no).

2.2.4 Controls

In each study, several control variables were used. They covered demographics (e.g., gender, age, relationship status, having children in Study I and Study III, age, and relationship status in Study II), work characteristics (workload, holding a supervisory position in Study III), and health behaviors (body mass index, alcohol consumption, smoking currently or previously, and activity in physical exercises in Study III). The specific variables are described in the original studies.

2.3 Data analyses

In Study I and Study II, a moderated linear hierarchical regression analysis was used to test the research hypotheses using IBM SPSS Statistics 20. In Study III, the mediation path model and the indirect effects using bootstrapping were tested with AMOS 20.0 software. In all three studies, a descriptive analysis of the study variables was performed using IBM SPSS Statistics 20.

A summary of the study design, research aims, main variables, and main statistical analyses is presented in Table 1. The detailed description of the methods can be found in the original publications.
Table 1. Summary of the studies.

<table>
<thead>
<tr>
<th>Study design</th>
<th>Research aims</th>
<th>Variables</th>
<th>Main data analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study I</td>
<td>Cross-sectional (N = 232)</td>
<td>Number of international business trips past 12 months</td>
<td>Moderated linear hierarchical regression analysis</td>
</tr>
<tr>
<td></td>
<td>To examine the relationship between frequency and duration of international</td>
<td>Number of international business trip days past 12 months</td>
<td></td>
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<tr>
<td></td>
<td>business traveling in relation to work-to-life conflict and enrichment and the</td>
<td>ERI (efforts α = .74, reward α = .85) ratio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>moderating effect of international career orientation in this relationship.</td>
<td>International orientation (α = .81)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WLC (α = .90)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WLE (α = .83)</td>
<td></td>
</tr>
<tr>
<td>Study II</td>
<td>Cross-sectional (N=1366)</td>
<td>Number of international business trip days past 12 months</td>
<td>Moderated linear hierarchical regression analysis</td>
</tr>
<tr>
<td></td>
<td>To examine the effect of international business travel days, gender and parental</td>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td></td>
<td>responsibility (three-way interaction) on work-to-family conflict</td>
<td>Parental responsibility (children living at home)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WFC (α = .88)</td>
<td></td>
</tr>
<tr>
<td>Study III</td>
<td>Two-wave longitudinal (N = 868)</td>
<td>Number of days of travel 12 months before T1 and the days of travel between T1 and T2</td>
<td>Path analysis, bootstrapping (direct and indirect effects)</td>
</tr>
<tr>
<td></td>
<td>To examine work-to-family conflict as a mediator between international business</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>travel and sleep problems</td>
<td>WFC (α = .89, .89)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sleep problems</td>
<td></td>
</tr>
</tbody>
</table>
3 Overview of the results

3.1 Study I

The aim of this study was to examine the direct and moderating effects of an international career orientation in the relationship between frequency and duration of international business travel and WLC and WLE. In addition, the ERI was examined in relation to WLC and WLE.

In line with expectations, WLC was explained by long duration of travel (a high number of travel days abroad) of business trips and a high ERI ratio. The longer the trips lasted and the greater the imbalance between efforts and rewards at work, the higher the level of WLC. Contrary to expectations, very frequent travel (a high number of business trips abroad) and international career orientation were not associated with WLC. As expected, low ERI and high international career orientation contributed to WLE. Therefore, the less the imbalance between effort and reward at work and the greater the travelers’ internationalism, the higher the level of WLE. Contrary to expectations, frequency and duration of business travel were not related to WLE.

As expected, the interaction effect between frequency of travel and internationalism was significant in explaining the variance of WLC and showed that travelers with a strong orientation to internationalism reported lower WLC levels in situations marked by a high frequency of travel than did those with low levels of internationalism. However, when trips were low in frequency they had higher WLC than those low in internationalism. Contrary to expectations, international career orientation did not moderate the relationship between highly frequent travel and WLE or between the duration or frequency of travel and WLE.

3.2 Study II

The aim of this study was to examine the direct and moderating effects of gender and parental status on the relationship between the intensity of international business travel and WFC among IBTs.
In line with expectations, a long duration of international business travel (a high number of travel days) and being a parent were related to high WFC but gender was not significantly related to WFC. A significant three-way interaction effect between international business travel days, parental status, and gender on WFC was found. As expected, among women a long duration of international business travel increased the level of WFC for those women who had children more than it did for women who did not have children. For men, a long duration of international business travel raised the level of WFC, as did having children, but there was no interaction effect between travel days and parental status on WFC.

Therefore, a long duration of international business travel was least critical for WFC among women without dependent children and most critical for WFC among women with dependent children. However, women with dependent children were able to travel to a considerable extent before their levels of WFC overtook those of men with dependent children.

3.3 Study III

The aim of this study was to explore the longitudinal relationships between international business travel, WFC, and sleep problems.

As expected, a long duration of international business travel (a high number of travel days) was related to high WFC at both measurement points. In addition, a positive link between WFC and sleep problems over time was found, in line with expectations. Although international business travel was not found to have any direct effect on sleep problems over time, a long duration of international business travel at T1 significantly increased WFC at T1 among IBTs. WFC at T1 in turn predicted subsequent sleep problems at T2.

Therefore, the hypothesis anticipating a mediation via WFC was supported, although the mediation effect was not strong.

Table 2 summarizes the hypotheses and results of this study.
Table 2. Summary of the hypotheses and hypothesis conclusions of this thesis.

<table>
<thead>
<tr>
<th>Study</th>
<th>Hypothesis</th>
<th>Hypothesis conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Hypothesis 1: Highly frequent travel (i.e., a large number of international business trips during the previous 12 months) is positively associated with WLC (1a) and negatively related to WLE (1b).</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 2: Travel of long duration (i.e., a high number of international business travel days during the previous 12 months) is positively associated with WLC (2a) and negatively associated with WLE (2b).</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 3: High ERI is positively associated with WLC (3a) and negatively with WLE (3b).</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 4: International orientation is negatively associated with WLC (4a) and positively associated with WLE (4b) among international travelers.</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 5: Highly frequent travel (i.e., a high number of international business trips during the previous 12 months) shows a stronger positive association with WLC (5a) and a stronger negative association with WLE (5b) among employees with a low international orientation compared to those scoring high on international orientation.</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 6: International business travel of long duration (i.e., a high number of international business travel days</td>
<td>no</td>
</tr>
</tbody>
</table>
during the previous 12 months) shows a stronger positive association with WLC (6a) and a stronger negative association with WLE (6b) among employees with low international orientation compared to those scoring high on international orientation.

**II**

*Hypothesis 7*: A high number of international business travel days logged over the previous 12 months is positively related to WFC.

*RQ 1*: Is there a difference in the levels of WFC among male IBTs and female IBTs?

*Hypothesis 8*: WFC is greater among parents than among non-parents.

*Hypothesis 9*: Highly intensive travel (i.e., a high number of travel days in the previous 12 months) shows a stronger positive association with WFC among women who have children living at home compared to other IBTs (men with dependent children and women and men without dependent children).

**III**

*Hypothesis 10*: The number of international business travel days 12 months before T1 and between T1 and T2 predict WFC at T1 and T2, respectively.

*Hypothesis 11*: WFC at T1 predicts sleep problems at T2 after traveling days before T1 and T2 are taken into account.
<table>
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<th>Study</th>
<th>Hypothesis</th>
<th>Hypothesis conclusion</th>
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<td><em>Hypothesis 12:</em> The relationship between international business travel before T1 and sleep problems at T2 is indirect, that is, it is mediated by WFC at T1.</td>
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Note: yes = the hypothesis was supported; no = the hypothesis was not supported.
4 Discussion and conclusions

4.1 Main findings

4.1.1 Work-related antecedents for work-life/family interaction among IBTs (Studies I-II)

The present study records how IBTs had both negative (conflict) and positive (enrichment) experiences of work-life interaction. WLC seemed to be more common than work-to-life enrichment. This finding is in line with the study by Fisher et al. (2009) in which WLC was also slightly more common than WLE among employees working in domestic settings. Therefore, these findings can be interpreted as supporting the role stress theory (Greenhaus & Beutell, 1985; Kahn et al., 1964) and the role accumulation theory (Marks, 1977). Multiple roles—i.e., having work and private life roles—have both harmful and beneficial effects in individuals’ lives. This has also been observed in earlier studies showing that conflict and enrichment can occur simultaneously (e.g., Rantanen, Kinnunen, Mauno, & Tement, 2013).

In this study, several antecedents for WFC, WLC, and WLE were also examined. Of the antecedents, the most important emphasis was placed on business travel. In addition, the psychosocial work environment was taken into account more broadly, as the ERI was also examined. According to the antecedent–outcome models of work-family interaction, these factors can be seen as antecedents for work-to-family and WLC (see Kinnunen et al., 2014; Rantanen, 2008). The work stress theories adopted in this thesis posit that the effort one invests on the job (ERI model), loss of resources (COR theory), and job demands (JD-R theory) increase the risk of stress and strain and are also very likely to be antecedents of WFC/ WLC.

Extensive international business travel was related to WFC and WLC, but not to WLE. More specifically, the findings showed that the duration of business travel, that is, how many days per year a person is on business trips, is a job demand that is particularly positively related to WLC and WFC. In line with the JD-R model and earlier studies, it is understandable that job demands such as travel were linked to conflict and not to enrichment, as enrichment is primarily a result of job resources
Assuming COR theory is correct business travel of longer duration depletes critical resources. Specifically, the time spent traveling is time away from the family, and therefore increases the risk of WFC. Even though significant relationships between the intensity of international business travel (frequency, duration) and WLE were not found, it is notable that at the correlational level, contrary to our expectations, a high travel frequency was slightly positively related to WLE. This finding may support the suggestion that business trips offer some respite from daily routines (Westman et al., 2009; Westman & Etzion, 2002), and therefore having positive effects on IBTs’ personal lives.

Certain earlier literature (Burkholder et al., 2010; Espino, 2002) has applied the term ‘frequent flyer’ to refer to the number of business trips an employee takes. However, in this study the duration of trips was found to be more important. Therefore, the term ‘international business traveler’ (IBT) could be more appropriate when this type of international work is in focus. One possible explanation for why duration is more important than frequency is that family problems have been found to be related to a traveler’s long absence from home (Bergström, 2010; Espino, 2002). It is possible that even if an IBT were to travel frequently, s/he would not always spend that many consecutive days away. Therefore, it could be easier to organize issues in the personal life sphere for frequent but brief periods than try to be prepared for different issues that may emerge during a single, long stay abroad.

In line with previous studies indicating that great effort and low reward predicts WLC (Kinman & Jones, 2008; Willis et al., 2008), in this study higher ERI was linked to increased WLC. Moreover, ERI seemed to play an important role in relation to enrichment experiences as lower ERI (i.e., reward perceived to be higher than effort) at work was linked to increased WLE. This finding can be interpreted as being in line with previous studies showing that work-related resources contribute to work-family enrichment (Grzywacz & Butler, 2005; Karimi & Nouri, 2009; Siu, Lu, Brough, & Lu, 2010). It is notable that ERI was the most important single predictor for both WLC and WLE. This finding concerning WLC is in line with the JD-R model’s health impairment process and previous empirical studies (see Michel et al., 2011, for a meta-analysis). The finding concerning WLE is consistent with the JD-R model’s motivational process and earlier studies relating WLE to job resources (Crain & Hammer, 2013). As a whole, these findings show the relevance of the general psychosocial work environment in the context of traveling for work (Jensen, 2013).
4.1.2 Personal factors as antecedents and moderators in the context of work-life/family interaction among IBTs (Studies I-II)

Besides work-related factors, certain personal factors were also studied. These included career preferences, gender, and parental status. *Internationalism* was examined as an expected important career anchor among employees working in the area of international business. Internationalism was found to be positively related to WLE but not to WLC. Therefore, IBTs with a stronger career orientation toward internationalism reported more WLE. It is likely that internationalism is a personal resource that is relevant in the context of international work as high levels of internationalism and a job involving international elements may lead to a good person-occupation fit (Danziger & Valency, 2006; Hardin et al., 2001; Igbaria et al., 1991). Therefore, IBTs’ jobs both challenge their personal lives, and offer good opportunities to fulfill their needs in working life for those who are internationally oriented. From this opportunity, WLE (and no WLC) is likely to follow.

Furthermore, the interaction effect between frequency of business travel and internationalism made a significant contribution to WLC, supporting the view that a good fit between internal career orientation and job is important and generates positive outcomes (Carlson & Wadsworth, 2003). The study findings supported this view as they showed that travelers with a strong orientation to internationalism reported lower WLC in situations marked by a high frequency of travel than did those with low levels of internationalism. The findings also showed that IBTs with high internationalism experienced even more WLC if the frequency of trips was low than if the frequency was high. This finding can be interpreted as indicating that if the fit between career orientation and job is not good, IBTs in particular may perceive the outcomes to be negative. Therefore, those ranking high in internationalism may expect frequent travel, but if that expectation is not met, they may be disappointed and have a negative perception of the situation. This finding can also be interpreted with the help of the expanded JD-R theory (Schaufeli & Taris, 2014): personal resources are likely to buffer against negative effects of job demands on the ill-health process. In this case, high levels of internationalism significantly reduced the negative effects of highly frequent travel on WLC. However, internationalism did not moderate the relationship between international business trips of long duration and WLC. This finding suggests that when trips are long, the work-life interaction is clearly challenged and a good person-job fit does not ameliorate the situation.

International orientation did not moderate the association between travel frequency or travel duration and WLE. IBTs being well matched to their jobs did not help generate WLE when the job was marked by very frequent travel or trips of long duration. These null findings may relate to the fact that travel-specific job resources
were not taken into account. Therefore, studying only the interaction effect between internationalism and travel-specific job demands (frequency and duration of business trips) on WLE did not contribute to the motivational process of the JD-R model. Instead, travel-specific job resources might be able to intensify the effect of internationalism on WLE.

*Gender* was taken into account because the international work context has been described as a male dominated and highly gendered field (Gripenberg et al., 2013; Hearn et al., 2008). All data used in this study were provided by a male-dominated sample, which may indicate that international business travel is related to male-dominated jobs, or that men are more eager to accept positions involving international business travel. The findings of this study showed that there was no difference in the level of WFC between male and female IBTs. Earlier empirical studies on the differences in WFC among men and women in general as well as among IBTs have been mixed. Under COR theory, it would be likely that WFC is at a higher level among men than women because men typically spend more time at work (Statistics Finland, 2014), which should result in a loss of resources and be reflected in higher WFC. However, it is possible that women spend more time on household duties (Statistics Finland, 2014) that deplete their resources and that also increases the conflict between work and family. Not finding any difference between men and women may also be a result of the Finnish cultural context. For instance, the Gender Inequality Index (United Nations Development Programme, 2014) shows that gender equality is at a very high level in Finland, and earlier studies have shown that greater gender equality leads either to a situation in which experiences do not differ between the sexes, or indicates that men experience greater WFC than women (Ruppanner & Huffman, 2013).

Parental status was also studied as an antecedent for WFC as being a parent has been shown to relate to higher levels of WFC among employees in general (Eby et al. 2005; Frone, 2003; Duxbury et al., 1994; Winslow, 2005), but this issue is unclear among IBTs. A significant relationship between parental status (i.e., children living at home) and WFC was found. Therefore, those IBTs having children living at home had higher levels of WFC than those without children. This finding is in line with COR theory: having children living at home means loss of resources such as time and energy and, accordingly, leads to increased WFC.

Furthermore, studying the three-way interaction between the number of travel days, gender, and parental status showed that WFC was highest among women with dependent children compared to all other IBTs under the condition of the long duration of international business travel. Therefore, parenthood appears to have a different effect on the WFC experiences of male and female IBTs depending on the intensity of business travel. This finding can be interpreted with the help of COR
theory (Hobfoll, 2001): the female group experiencing the highest WFC may suffer from having fewer resources and being more vulnerable to resource loss. In particular, it has been found that even in Finland women spend more than twice as much time on childcare as men (Statistics Finland, 2014) and assuming this to be the situation for female IBTs as well, a high number of international business travel days per year consumes individuals’ already scarce resources and therefore leads to WFC. However, women with dependent children were able to travel to a considerable extent before their levels of WFC overtook those of men with dependent children.

4.1.3 Work-family conflict as a mediator (Study III)

The findings of Study III showed that the duration of international business travel, studied as a specific job demand (JD-R model), did not predict sleep problems directly over a one-year period but did do so indirectly through WFC. This mediation effect indicates that employees with a high number of travel days do not necessarily suffer from sleep problems. However, if such employees also experience a high level of WFC as a consequence of a great deal of travel, they are at greater risk of sleep problems. It is worth remembering that the occurrence of sleep problems at T1 was controlled for in the model tested, which means that WFC at T1 predicted an increase in sleep problems at T2. As the incidence of sleep problems was moderately stable over time, it makes it difficult to identify cross-lagged effects because there is not so much variance remaining to be explained. The findings of this study support the view of one previous empirical study by Jensen (2013) that, while not identifying a direct link between travel and exhaustion, did find the relationship to be mediated by WFC.

Even though the prior literature has indicated that high frequency and duration of business travel may directly increase the risk of ill health among travelers (Burkholder et al., 2010; Patel, 2011), it seems that the health consequences of international business travel are not always easy to detect (Westman & Etzion, 2002). This study, together with Jensen (2013), suggests that it is the time spent abroad and the worry related to being away from home and family that increase IBTs’ risk of experiencing WFC and that the increased WFC may, in turn, lead to ill health (Amstad, Meier, Fasel, Elfering, & Semmer, 2011).

Therefore, this study adds to the understanding of the mechanisms through which specific job demands may lead to health impairment (Schaufeli & Taris, 2014) and health outcomes such as sleep problems. The discovery of mechanisms leading to sleep problems is important as it has been shown, for example, that impaired sleep plays a role in the development of exhaustion in occupational burnout (Ekstedt et al., 2006;
4.2 Methodological evaluation of this study

The current study, as with every empirical study, has some limitations that should be acknowledged.

First, Studies I and II had a cross-sectional study design, meaning that no reliable conclusions on the causal direction of the effects can be drawn. Therefore, it could be possible that experiencing WLC and WFC may lead IBTs to stay longer on their business trips or be more willing to travel in order to avoid the negative consequences of WLC and WFC at home. For instance, decreased marital satisfaction as a consequence of WFC (e.g., Kinnunen et al., 2004) may lead to IBTs spending even more time on their travels (because home life is not satisfactory). Therefore, longitudinal studies are needed to explore the causal direction between international business travel and work-family/life conflict.

Study III was based on a full two-wave panel design, which is recommended for exploring causal relations (Kelloway & Francis, 2013). However, we acknowledge that using at least three measurement points to study mediation would have been the best option in terms of research design (MacKinnon, 2008). A period of one year was used, as in some other studies that have studied prevalence and consequences related to sleep problems (e.g., Jansson-Fröjmark & Linton, 2008). Nevertheless the absence of a direct relationship between travel days and sleep problems suggests that there may be alternative time periods appropriate for examining the effects of business travel on sleep problems. Therefore, future studies might employ different time lags and study designs. For instance, examining daily diary studies (Vincent, Walsh, & Chiang, 2013) in different phases of business travel (pre-trip, on-trip, and post-trip) over several weeks might reveal, for example, how traveling between different time zones can give rise to sleep problems among IBTs. Earlier studies have reported an increase in sleep problems after both westward and eastward trans-meridian work-related flights (Härmä, Suvanto, & Partinen, 1994). It is worth mentioning that as an ad-hoc analysis, the possible effect on sleep problems of traveling over time zones was also tested in Study III. However, statistically significant differences in sleep problems were not found between the three IBT groups, that is, those traveling mainly 1) to locations close to their home country time zone, 2) to locations with a greater time difference to the east and 3) to locations with a greater time difference to the west. Furthermore, a longer cohort study adopting a 5- or 10-year study design (Åkerstedt, Nordin, & Söderström et al., 2012), depression (Baglioni et al., 2011), and other diseases, such as diabetes (Nilsson et al., 2004).
Alfredsson, 2012) may be useful to reveal the effects of business travel on sleep in general. In addition, although the study had a full two-wave panel design it was not used to its full potential, as reversed and reciprocal causality were not examined (Kelloway & Francis, 2013).

Second, all studies were based on self reports, so common method variance may have affected the findings, particularly in the cross-sectional studies. Artifactual covariance between dependent and independent variables may be produced because the respondent providing the measure of these variables is the same (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, it has been argued that it is an oversimplification to assume that common method variance automatically affects variables measured by the same method (Spector, 2006). In order to reduce common method bias in this study, the questions comprising the scales were kept simple and concise and different scale endpoints were used (Podsakoff et al., 2003). However, future studies should collect data from different sources, for instance, from IBTs’ partners, supervisors, and other organizational representatives (e.g., travel managers). Furthermore, utilization of registry data on travel days or absence through illness would provide an alternative to self-reported data.

Third, in order to evaluate the practical importance of the results, the explanation rate of each study is worth looking at. In Study I, the sample size was relatively small and it may be considered too small for discovering moderator effects that are difficult to detect (e.g., McClelland & Judd, 1993). Nevertheless, one significant moderator effect was observed. In Study I, the whole model explained 54% of the variance in WLC and 25% of that in WLE. Therefore, the tested model captured WLC better than WLE. This is very likely to be a result of studying the demands related to international business travel and ignoring the resources that may contribute to WLE. In Study II, 19% of the variance in WFC was explained by the model, whereas in Study III, the whole model explained 40% of the variance in WFC at T2 and 44% of the variance in sleep problems at T2. The lowest explanation rate in Study II may relate to the fact that only three factors (besides the control variables of age and marital status) were examined, that is, travel, gender, and parental status. Therefore, other significant contributors to WFC were missing from the model, such as psychosocial work characteristics.

Fourth, both samples used in this study were dominated by IBTs with long experience traveling, which limits the generalizability of the findings. In addition, one limitation worth mentioning is the fact that the data were collected from Finland, which, while small geographically, is in economic terms a highly globalized country, which also limits the generalizability of the study findings. Furthermore, in Study I–due to the way the data were collected–a response rate could not be calculated and it is not known how well the respondents represented all business travelers in the
organizations. In Studies II and III the response rates were fairly good (56% at T1 and 69% at T2) and it could be shown that the respondents represented the whole sample in terms of gender and age. The attrition analyses also revealed that dropping out did not occur based on the study variables.

Finally, although the measures used in this study were adopted from earlier studies and many of them were validated measures (WLC, WLE, ERI); one single-item measure of sleep problems was also used. Therefore, the reliability of the measure could not be evaluated. However, as shown earlier, this single-item measure correlated strongly with the 5-item scale (Partinen & Gislason, 1995, p. 30) focusing on sleep problems. This suggests that this single question can be used as an instrument to study sleep problems. Single-item measures have been applied successfully also in other studies (Elo, Leppänen, & Jahkola, 2003; Kirves, 2014), even though the use of validated measurement instruments is preferable.

4.3 Avenues for further research

Although some directions for future studies have already been outlined based on the methodological comments, there are several other potential avenues for studying work and family/personal life conflict and enrichment among IBTs. First, this study examined conflict and enrichment only in the direction from work to family/life, although both conflict and enrichment are bi-directional phenomena. Therefore, in the future family-to-work and family-to-life conflict and enrichment should be taken into account to form a complete picture. The decision to focus only on the direction was based on work-related factors such as business travel, which was the main target of this study, are known to contribute to work-to-family/life conflict (Michel et al., 2011).

Second, according to the antecedent–outcome models of work-family conflict (Frone et al., 1992; see Kinnunen et al., 2014), three main job-role stressors (role overload, role conflict, and work-time demands) are found to be critical antecedents to WFC. In this particular study, only work-time demands caused by international business travel (frequency and duration of business trips) were studied and future studies should take into account other job-role stressors related to work travel. For instance, research on travel-related role overload as an antecedent to WFC would be worth studying. An example of such a situation would be an IBT returning from traveling being faced by an accumulation of tasks demanding attention, a situation likely to increase WFC and/or WLC. In addition, the possible effects of different travel destinations should be taken into account. For instance, maintaining contact with family members or friends while traveling may be challenging owing to time differences, and is therefore likely to cause an increase in WFC and/or WLC.
Third, social support has been found to be negatively related to WFC (see Kossek et al., 2012, for a meta-analysis). Following COR theory, studying the role of social support could provide important knowledge on IBTs’ experiences. In particular, future studies could benefit from studying several sources of social support simultaneously. There is one study (Mäkelä, De Cieri, & Mockaitis, 2015) showing evidence that support gained from the family is an even more important antecedent of satisfaction with work-related international travel than support gained from supervisors. More studies focusing on the role of social support in relation to WFC or WLC but also WFE or WLE among IBTs is warranted.

Fourth, under the JD-R model, both ill health and motivational processes are important. This particular study did not focus on job resources, such as social support. Therefore, more research should focus on travel-specific job resources and their role in the motivational process of the JD-R model. In addition, studying the role of both travel-related job demands and resources on burnout and work engagement would provide important knowledge about the positive and negative sides of work travel. Although positive factors related to international business trips have been identified, such as variety of tasks, life-style, personal development (Demel & Mayrhofer, 2010; Welch et al., 2007) and opportunities for respite (Westman & Etzion, 2002), knowledge of the outcomes of these job resources remains scarce. So far, earlier research has shown that control over travel, that is, employees’ ability to decide when they travel and how much they travel (Espino, 2002; Jensen, 2013), is negatively related to burnout and WFC (Jensen, 2013). Similarly, an organization’s restitution culture has been reported to be negatively related to both burnout and WFC (Jensen, 2013). Restitution culture refers to an organization’s attitude toward its employees’ need for rest after long periods of travel, and whether the employer permits flexible working hours or other mechanisms to aid recuperation. The importance of organizational practices related to business travel has been recognized in earlier literature (Collings et al., 2007; Harvey, Mayerhofer, & Hartmann, 2010; Mayerhofer et al., 2004), but empirical evidence on how it functions as a job resource is still missing. Therefore, future studies might address this gap in the literature.

Fifth, personality tendencies and traits were not the focus of this study; however, internal career orientation in terms of internationalism was found to play a role in IBTs’ experiences. Future studies should study the role of personality in IBTs’ experiences of WFC, WLC, WFE, and WLE. One interesting personality concept in this regard is psychological capital, defined as an individual’s positive psychological state consisting of self-efficacy, optimism, hope, and resiliency (Luthans, Youssef, & Avolio, 2007). There is already some empirical evidence (Karatepe & Karadas, 2014) that psychological capital is negatively related to WFC. Studying direct or moderating
effects of these kinds of personal tendencies may reveal if some IBTs are specifically at a risk of WLC and WFC or have greater likelihood of experiencing WLE and WFE.

Finally, this study showed that WFC might mediate the relationship between travel-related job demands and IBTs’ health. More studies exploring the different mechanisms leading to IBTs’ ill health or well-being and health (JD-R model) are merited and the role of WFC, WLC, WFE, and WLE in these processes should be taken into account. For example, in addition to the duration of business travel used as an indicator of travel-related job demands in this study, future studies should include other demands related to business travel (e.g., safety risks, work overload and differences in time zone) and explore if sleep problems are a direct consequence of these kinds of demands or if WFC and WLC have a mediating role. In addition, it has been shown that there are individual differences in how people adapt to jet lag (for a review see, Arendt, 2009) and therefore, studying the role of individual traits, such as diurnal preference (morningness vs. eveningness) could provide new knowledge about sleep problems among IBTs. Furthermore, studies focusing on other health outcomes, such as psychological and physical disorders, should be explored. In addition, outcomes related to family, for example marital and parental satisfaction or distress, would be worth examining especially in the context of family-to-work/life conflict and enrichment.

4.4 Implications of the study

This study has both theoretical and practical implications. First, this study shows that both the negative (conflict) and positive (enrichment) sides of work-life interaction are present in IBTs’ lives. In general, when studying interactions between individuals’ life spheres it is worth taking account of both conflict (role stress) and enrichment (role accumulation). In addition, it is wise to broaden the aspects of personal life beyond traditional family life to include private life in order to understand the phenomena more fully.

Second, this study contributes to the knowledge about the antecedent–outcome perspective of WFC literature and stress theories (JD-R, ERI, and COR). From the viewpoint of the JD-R model’s health impairment process (Bakker & Demerouti, 2007), this study provided evidence that international business travel functions as a job demand related to WFC. WFC, in turn, functions as a mechanism leading to ill health. In terms of COR theory (Hobfoll, 2001, 2002), it can be said that intensive business
travel may lead to resource loss, which is further linked to WFC. In addition, this study highlighted the importance of individual-level differences (e.g., gender and parental status) when studying the accumulation of loss or gain of resources. The ERI model (Siegrist, 1996; Siegrist et al., 2004) received support as ERI, as an indicator of general psychosocial work environment, played an important role in IBTs’ experiences. Therefore, when travel-specific demands are studied, these general work circumstances should be taken account.

Several practical implications from this study can be drawn. Although IBTs have been acknowledged to be an increasingly important segment of the MNC workforce (Collings et al., 2007; Tahvanainen et al., 2005), there is evidence that organizations’ human resource management (HRM) practices largely overlook that (Harvey et al., 2010; Mayerhofer et al., 2004). It has been argued that, for instance, compensation, rewards, and family issues are not as well managed among IBTs as they are among other types of international personnel (typically expatriates) in MNCs (Collings et al., 2007). Therefore, the current research has implications for HR managers, especially in MNCs, indicating that they should improve policies and practices related to business travel. The results of this study suggest that both IBTs and their employers should monitor the length of international business trips and seek to ensure that the duration of trips be kept as short as possible. For instance, organizations could develop an IT system to monitor an employee’s international travel days. When a critical number of travel days is accrued (say, 30 in the preceding six months) the system could automatically trigger a process involving HRM and a supervisor or occupational health expert to check for the risk of WFC (and therefore other health problems, for instance, sleep problems).

Second, efforts to enhance the psychosocial work environment on a general level by paying attention to the balance between effort and reward and workload would bring benefits. Organizational practices such as regularly monitoring the workload of employees by, for instance, instituting regular one-to-one reviews with a supervisor would probably benefit both IBTs and employers. Such reviews could help IBTs to organize their tasks to address unsustainable workloads. Besides keeping efforts at a reasonable level, it would be crucial to increase resources available at work, such as support and control.

Third, it is important to develop general HR practices and policies that offer the opportunity to balance work and family lives; for instance, IBTs with small children may have different needs than IBTs who are not married and/or do not have children. However, even though women with dependent children experience more WFC than other travelers when the intensity of travel is high, organizations apparently need not be so wary of appointing women to positions requiring business travel unless the intensity of travel is extreme. They should also provide opportunities to cope with the
challenges related to long duration travel by, for example, providing help or financial support for household duties.

Finally, taking account of an internal career orientation toward internationalism when recruiting for a job involving international business travel would benefit both employers and employees over time. The findings of this study may also prove helpful to occupational health care professionals with clients whose work includes travel. Regularly tracking the general workload and the intensity of travel and discussing related risk factors, such as WFC, and potential health effects, such as sleep problems, could also help travelers take better care of themselves.
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WORK-TO-LIFE CONFLICT
AND ENRICHMENT AMONG
INTERNATIONAL BUSINESS
TRAVELERS: THE ROLE
OF INTERNATIONAL CAREER
ORIENTATION

LIISA MÄKELÄ, ULLA KINNUNEN,
AND VESA SUUTARI

The present study examines the direct and moderating effects of an international career orientation in the relationship between frequency and duration of international business traveling and work-to-life conflict and enrichment. In addition, the effort-reward imbalance that potentially features in the international business traveler’s job was examined in relation to work-to-life conflict and enrichment. The study was conducted among 232 Finnish people in jobs requiring international business travel. A moderated hierarchical regression analysis shows that travel of considerable duration and a pronounced effort-reward imbalance had direct links to work-to-life conflict. In contrast, low effort-reward imbalance and a strong international career orientation had direct links to work-to-life enrichment. In addition, having a strong orientation to an international career decreases work-to-life conflict when a job requires very frequent traveling, but the moderation effect was not found in relation to duration of traveling. Our findings indicate that interventions aimed at reducing work-to-life conflict and increasing work-to-life enrichment among international business travelers should focus on fostering a balance between efforts and rewards at work. The extent of employees’ internationalism should also be considered when recruiting people into jobs involving international business travel. © 2014 Wiley Periodicals, Inc.

Keywords: international business traveler, work-to-life conflict, work-to-life enrichment, effort-reward imbalance, career orientation
Introduction

In the global economy, having highly skilled workers who are internationally mobile is crucial to facilitate intraorganizational knowledge transfers and also to conducting business negotiations and other important operations. Advances in international transportation and communication technology have led to increased international business travel, and work assignments involving international geographical mobility have become common (Bergström, 2010; Collings, Scullion, & Morley, 2007; Ramsey, Leonel, Gomes, & Monteiro, 2011; van der Klis & Karsten, 2009).

Studies of international business travelers (IBTs) have increased in line with globalization. Nevertheless, our knowledge of IBTs is still rather limited. Earlier empirical studies have mostly been based either on small-scale qualitative studies (Demel & Mayrhofer, 2010; Mayerhofer, Hartmann, & Herbert, 2004; Mayerhofer, Müller, & Schmidt, 2010) or on antecedents investigating the well-being of IBTs (Konopaske, Robie, & Ivancevich, 2010; Westman & Etzion, 2002).

One finding cited repeatedly in earlier studies is that work including international business travel affects the private lives of IBTs. However, to the best of our knowledge there is only one study focusing on the work-family conflicts of IBTs (Westman, Etzioni, & Gattenio, 2008) but none focusing on work-life conflict and enrichment. These phenomena are, however, important mediators in the interplay between work and private life (e.g., Frone, Yardley, & Markel, 1997; Wayne, Grzywacz, Carlson, & Kacmar, 2007) and are especially relevant in the context of the globalized work environment and work involving irregular working hours and long absences from home (Meurs, Breaux, & Perrewe, 2008). Studying the phenomena of work-life conflict and enrichment could offer answers to the question of why the well-being of IBTs or their family members is affected. Consequently, this study contributes to the existing work-life literature among IBTs by focusing on work-life conflict, defined as a situation in which compliance with the demands of work makes compliance with those of private life more difficult (Greenhaus & Beutell, 1985). In addition, we take the positive effects, that is, work-life enrichment, into account—a situation in which experience gained from a job improves the quality of life for the individual in the personal life sphere (Greenhaus & Powell, 2006).

The key issue in our study is to understand the role of the psychosocial work environment—including the frequency and duration of traveling—in producing work-life conflict (WLC) and work-life enrichment (WLE) among IBTs. In addition to elements directly related to traveling, it is known that the demands (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011) and resources (Zimmerman & Hammer, 2010) of work are the best contributors to WLC and WLE. In order to provide a more holistic view of elements affecting IBTs’ WLC and WLE, we approach the more general level of psychosocial work environment via an effort-reward imbalance (ERI) model (see Siegrist, 1996) in our study.

Furthermore, we examine the possible moderator effects of an international career orientation (internationalism) on the relationship between elements related to international business traveling and WLC and enrichment, because it is likely that an individual’s own internal career orientation may have a role in that process (Carlson, Derr, & Wadsworth, 2003). It has also been shown that employees themselves select this kind of international career because they find it fits well with their characters or circumstances (Bergbom et al., 2011; Konopaske et al., 2010).

Thus, the contribution of this study is threefold. First, as far as we know, it is the first to focus on the work-life interface of IBTs, taking into account both positive and negative sides of the phenomenon. Second, utilizing the effort-reward imbalance model in the context of international work is a novel occupational context for ERI studies and expands the understanding of the different elements.
that may affect WLC and WLE of IBTs. Third, this study provides evidence on whether a personal career orientation toward the international business environment moderates the relationship between frequency and duration of business travel and WLC and WLE.

Understanding Work-Life Interface Among IBTs: Frequency and Duration of Business Travel

Work and personal life dynamics have been approached from the perspectives of role stress (Greenhaus & Beutell, 1985) and resources theory (see Barnett & Hyde, 2001; Fisher, Bulger, & Smith, 2009; Frone, 2003). The first suggests that multiple roles impose conflicting expectations associated with the roles and pressures on an individual, and can therefore cause psychological conflict and role overload (Greenhaus & Beutell, 1985). In addition, this theory treats individual resources (e.g., time and energy) as finite; therefore, their depletion will result in strain on the individual. The second perspective treats resources as capable of renewal by activities in different life domains (Fisher et al., 2009). This approach leads to the view that having multiple roles is generally beneficial for individuals. In the present study, we focus only on WLC and WLE, although both are bidirectional phenomena. Thus, private life can also affect the work domain both negatively and positively, producing life-to-work conflict and enrichment. The reason for focusing only on the work-to-life direction of the interaction is the fact that WLC is far more common than life-to-work conflict (Fisher et al., 2009), which means that it plays a greater role in people’s lives.

These relationships between work and private life have been studied mostly from the perspective of work and family roles, but it has also been suggested that a broader definition of the nonwork dimension is required (Fisher et al., 2009; Guest, 2002; Sturges & Guest, 2004). That definition should also include roles other than those meeting traditional family responsibilities, that is, free time and private life roles. The definition that extends private life beyond family responsibilities alone is that adopted in the current study. Adopting a broader perspective on nonworking life was seen as important in the context of examining international business travelers because a family is not an ever-present in the life of an IBT. Moreover, it is likely that an IBT’s social life is affected by traveling because typically that activity is unpredictable and time consuming.

There is some evidence that certain specific elements of international business travel play a key role in an IBT’s health and well-being, thus affecting the work and personal life interface (Burkholder, Joines, Cunningham-Hill, & Xu, 2010). For instance, elements such as where, when, how often, and for how long they travel have been found to increase travelers’ stress levels and create issues with family life (Bergbom et al., 2011; Espino et al., 2002). Frequent business travel disturbs everyday routines, including eating and sleeping habits, hobbies, and social activity. It also adds pressure to work commitments, and so causes stress for IBTs (Demel & Mayrhofer, 2010; Mayerhofer, Hartmann, & Herbert, 2004; Mayerhofer, Hartmann, Michelish-Riedl, & Kollinger, 2004).

It has been shown that the frequency and/or duration of business trips are central to the problems caused by traveling (Bergbom et al., 2011; Burkholder et al., 2010; Espino et al., 2002). In earlier studies, the frequency and duration of travel has been studied either using the number of trips (e.g., during the previous 12 months) and number of traveling days (e.g., during the previous 12 months) or a combination of the two (e.g., one to five trips of fewer than 5 days during the past 12 months). These studies have provided evidence that increasing the frequency and duration of trips increases the risk of ill health among travelers, linked with such symptoms as increased alcohol consumption, sleep deprivation, and feelings of insecurity about the ability to keep pace with the workload (Burkholder et al., 2010). Earlier research has also shown that increased

Adopting a broader perspective on nonworking life was seen as important in the context of examining international business travelers because a family is not an ever-present in the life of an IBT.
trip frequency is related to dissatisfaction with traveling, greater stress, and problems maintaining social networks (Bergbom et al., 2011; Westman, Etzion, & Chen, 2008). Overly frequent trips also have a negative effect on the well-being of travelers’ families (Dimberg et al., 2002; Espino et al., 2002). However, it has also been shown that frequent trips, the possibility of controlling travel, and satisfaction with trips may be positively related to an IBT’s vigor (Westman, Etzion, & Gattenio, 2008). The same study identified a crossover effect from IBTs’ vigor on their spouses’ vigor. A further finding notes how IBTs experience travel stress before, during, and after their trips (DeFrank, Konopaske, & Ivancevich, 2000), and the results of one small-scale quantitative study (Westman & Etzion, 2002) suggest that while the stress level is rather high in all three stages of traveling, it is highest before the trip and decreases during and after the trip. Since stress is shown to be lower after business trips than before and during the trip, it was suggested that travel functions similarly to a vacation, offering the possibility of a respite from everyday concerns for travelers. Somewhat similar findings were reported when work-family conflict and family-work conflict were studied taking account of gender (Westman, Etzion, & Chen, 2008). Work-family conflict (WFC) and family-work conflict (FWC) remained relatively stable for men during the different stages of a trip, but for women they were lowest during the trip itself and highest upon returning home. Therefore, on the one hand, very frequent business travel may increase conflicts between work and personal lives for IBTs, but on the other hand, may also have positive effects. Therefore, we propose the following hypothesis:

Hypothesis 1: Highly frequent travel (i.e., a large number of international business trips during the previous 12 months) is positively associated with WLC (1a) and negatively related to WLE (1b).

We found only a few prior studies directly accounting for the duration of business travel. However, there is some evidence that time spent away from the home country may play an essential role in work-life interface issues. For instance, IBTs are often described as absent spouses and/or parents, and IBTs’ families are required to cope with any problems arising during the absence (Mayerhofer, Hartmann, & Herbert, 2004; Welch & Worm, 2006). It has also been shown that travelers experience higher level of stress, negative experiences concerning family issues, and problems in maintaining other social relations when the number of days spent traveling increases (Bergström, 2010; Espino et al., 2002). IBTs’ days away from home have been found to have a statistically significant relationship to the stress levels and health of IBTs, and also to spousal stress and their children’s behavior reported by IBTs’ spouses (Espino et al., 2002). Therefore, international business travel of long duration may increase WLC and decrease WLE as the next hypothesis suggests:

Hypothesis 2: Traveling of long duration (i.e., a high number of international business travel days during the previous 12 months) is positively associated with WLC (2a) and negatively associated with WLE (2b).

The ERI Model in the Context of International Business Travelers’ Work

In addition to the elements related to business travel, the broader psychosocial work environment of IBTs plays a crucial role in their work-life interaction, as shown in earlier studies concerning employees (see Michel et al., 2011, for a meta-analysis). The ERI model is based on the idea of social exchanges and balanced reciprocity (Siegrist, 1996), and the core idea is that there should be a balance between efforts put into work and the rewards gained from it. Efforts in the ERI model relate to the demands of the job and other responsibilities employees have, and rewards include promotion aspects, job security, and esteem in addition to remuneration. A failure of reciprocity causes strong negative emotions and sustained stress reactions, and in the long term they can adversely affect the physical and mental health of individuals (see van Vegchel, De Jonge, Bosma, & Schaufeli, 2005,
for a meta-analysis). Conversely, a good balance between efforts and rewards leads to better outcomes, such as higher levels of work engagement and job satisfaction (Hyvönen, Feldt, Tolvanen, & Kinnunen, 2010; Kinnunen, Feldt, & Mäkikangas, 2008). The ERI model has proved useful in many different kinds of work contexts, especially in the world of modern, globalized business (Siegrist, Wege, Pühlhofer, & Wahrendorf, 2009).

Besides assisting the study of the occupational well-being and health of employees, the ERI model is also a theoretical framework relevant to the study of interactions between the work and personal lives of employees (Franche et al., 2006; Kinman & Jones, 2007; Willis, O’Connor, & Smith, 2008). It has been reported that high ERI and negative work-family spillover (NWFS), a slightly different concept from WFC, have a direct relation to symptoms of depression, and the effect of high ERI on symptoms of depression was mediated by increased NWFS (Franche et al., 2006). It has also been shown, in both a cross-sectional (Kinman & Jones, 2007) and longitudinal (Willis et al., 2008) settings, that there is a clear relation between the components of the ERI model and WLC: both high effort and low rewards were important predictors of WLC. To the best of our knowledge, there are not yet any published studies where WLE has been studied as an outcome in the context of the ERI model. However, earlier studies have shown that work-domain resources, such as autonomy, variety, and learning opportunities at work, contribute to WLE (Grzywacs & Butler, 2005; Voydanoff, 2004). Therefore, it is likely that high ERI contributes negatively to WLE. Our third hypothesis suggests:

Hypothesis 3: High ERI is positively associated with WLC (3a) and negatively with WLE (3b).

The Role of International Career Orientation

Individual differences related to jobs and career preferences have been studied through internal career orientations, including, for example, the utilization of career anchors (Schein, 1978, 1996). Internationalism was a late addition to Schein’s original eight-anchor typology. Internationalism is defined (Suutari & Taka, 2004) as a preferred anchor for those who are “primarily excited by working in an international task environment; who want to develop their professional competences in an international environment and thus, enhance career opportunities; and who are interested in searching for new experiences through getting to know unfamiliar countries and different cultures” (p. 836).

Internationalism is a potentially important predictor of adaptation to work that includes international aspects like international assignment (Cerdin & Le Pargneux, 2009, 2010; Tornikoski, 2008). The role of the person-occupation fit among IBTs has also been suggested to merit further study (Westman & Etzion, 2002). Previous studies have shown that good fit between one’s career anchor and job environment is important due to negative outcomes associated with a mismatch and positive outcomes stemming from an appropriate match. A good fit between internal career orientation and job settings has been found to relate to high job satisfaction, a strong commitment to the organization, and weak intention to leave (Danziger & Valency, 2006; Hardin, Stocks, & Graves, 2001; Igbaria, Greenhaus, & Parasuraman, 1991).

As this internationalism anchor refers to the aspects typical of international work, its role in the process of work-life interaction of IBTs seems evident. In fact, it has been shown that internal career orientation affects employees’ experiences of work-family conflict, and suggested that people considering themselves well matched to their jobs may benefit from reduced work-family conflict (Carlson et al., 2003), and probably an increase in work-life enrichment. Therefore, we expect:

Hypothesis 4: International orientation is negatively associated with WLC (4a) and positively associated with WLE (4b) among international travelers.

Furthermore, we expect that internationalism may play a moderating role in the relationship between international traveling and work-life interaction among IBTs. The Stressor
Reactivity Model (Bolger & Zuckerman, 1995) suggests that we may expect individual differences in the relationship. Stressor reactivity indicates the extent to which an individual is likely to express strain reactions (i.e., high levels of conflict and low levels of enrichment in our study) in the situation perceived as stressful (i.e., under conditions of highly frequent travel or long duration in our study). We can expect that individuals strongly oriented to an international career may experience less conflict and enjoy enrichment when faced with these stressors than would individuals scoring low on a measure of internationalism. Thus, those exhibiting internationalism acclimatize better to international business travel, which helps them to maintain their work-life balance, that is, to exhibit less WLC and more WLE. This means that the link between the travel-related stressors and work-life interaction can be moderated by internationalism as follows:

Hypothesis 5: Highly frequent travel (i.e., a high number of international business trips during the previous 12 months) shows a stronger positive association with WLC (5a) and a stronger negative association with WLE (5b) among employees with a low international orientation compared to those scoring high on international orientation.

Hypothesis 6: International business travel of long duration (i.e., a high number of international business travel days during the previous 12 months) shows a stronger positive association with WLC (6a) and a stronger negative association with WLE (6b) among employees with low international orientation compared to those scoring high on international orientation.

Method

Procedure and Respondents

The data (N = 232) were gathered during May and August 2011 using a web-based survey questionnaire, and were obtained from two different sources. First, a Finnish trade union (Finnish Association of Graduates in Economics and Business) invited its members to take part in the survey via its newsletter and an announcement on its website and social media channels (LinkedIn and Facebook). The invitation garnered responses from 84 people, and after excluding those respondents not reporting any international business travel during the previous 12 months (n = 9), the final sample size was 75. Second, three multinational companies (MNCs) operating in various global locations participated in the study. Two companies were recruited by personally contacting HR managers in the company, and one company enrolled in the study after an open invitation presented at a networking event for HR staff of MNCs. All the companies operated in the energy sector, two of them being manufacturing companies and one a supplier company. The companies employed 10,000, 18,000, and 11,700 people worldwide, respectively. Companies sent an invitation to their most frequent travelers to participate in the survey via e-mail, eliciting responses from 157 travelers.

Of our respondents, 71 percent were men, 86 percent had a partner, and 54 percent had children living at home. The respondents had an average of two children living at home. The majority of our respondents (63 percent) had a university degree, and 41 percent held a supervisory position. Most often, our informants held positions in sales and marketing and general administration. The reported experience of being an IBT ranged from 26 percent who had up to 5 years’ experience, 24 percent who had more than 5 but less than 10 years’ experience, and 51 percent who had more than 10 years’ experience. Of the respondents, 65 percent named Europe as the most common destination they traveled to; South America was mentioned next often (13 percent), followed by Asia (12 percent).

Measures

Psychosocial Work Environment

The frequency and duration of international business travel were evaluated based on the
informants’ answers to the two questions: “How many work trips have you made abroad within the last 12 months?” (frequency) and “How many days of work travel abroad have you had during the last 12 months?” (duration). The answers to both questions were round numbers.

The components of the ERI ratio were measured using a Finnish version (Kinnunen et al., 2008) of the ERI scale developed by Siegrist et al. (2004). Effort was measured by six items that refer to demanding aspects of the psychosocial work environment (e.g., “I am under constant time pressure due to a heavy workload”). The items were rated on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). The total score for effort varied between 6 and 24; the higher the score, the more effort was experienced. The Cronbach’s alpha for the effort scale was .74. Reward was measured by 11 items, comprising three subscales: esteem (e.g., “I receive the respect I deserve from my superiors”), career opportunities (e.g., “My job promotion prospects are poor”), and job security (e.g., “My job security is poor”). The rating and scoring were the same as for the effort items. The total score for reward varied between 11 and 44; the higher the score, the more rewarding the job is perceived to be. The Cronbach’s alpha for the reward scale was .85. To compute the effort-reward imbalance ratio, the effort score was placed in the nominator and the reward in the denominator. As the number of items in the nominator and denominator categories was unequal (6 and 11, respectively), the reward score was multiplied by a correction factor of 0.5454. A value close to zero indicates a favorable condition, in which effort is relatively low and reward is relatively high, whereas values beyond 1.0 reflect a large amount of effort made that was not matched by the reward received. The logarithmic ERI ratio was used as a continuous variable in the analysis (e.g., Kinnunen et al., 2008; Siegrist et al., 2004). The Finnish ERI measure has shown good factorial validity; that is, the items measure the two factors of effort and reward adequately and separately (Kinnunen et al., 2008).

**International Career Orientation**

Internationalism was measured by five items (e.g., “I will feel I am successful in my career only if I manage to work in an international environment”) from the scale of Cerdin and Le Pargneux (2010). The items were rated on a 5-point Likert scale (1 = completely disagree, 5 = completely agree). The Cronbach’s alpha for the internationalism scale (range 1–5) was .81.

**WLC and WLE**

Work-life interaction was measured with eight items from the scale of Fisher et al. (2009). The items were rated on a 5-point Likert scale (1 = completely disagree, 5 = completely agree). Work-life conflict was measured by all five items in the original scale (e.g., “My personal life suffers because of my work”). The Cronbach’s alpha for the conflict scale (range 1–5) was .90. Work-life enrichment was measured by all three items of the original scale (e.g., “Because of my job, I am in a better mood at home”), and the enrichment scale’s (range 1–5) Cronbach’s alpha was .83.

**Controls**

The background variables of gender (men/women), age (in years), having a partner (no/yes), and having children living at home (no/yes) were controlled for because there is evidence (see Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Fisher et al., 2009) that they are related to the outcome measures used in this study.

**Results**

**Descriptive Results**

Means, standard deviations, and correlations between study variables are presented in Table I. WLC was reported more often than WLE (p < .05). The informants had made an average of 16 trips with an average total of 75 days over the year. The intercorrelations showed, first, that the indicators of international business traveling frequency related positively to WLE but not to WLC, whereas duration related positively to WLC but not to
WLE. The ERI ratio correlated with both WLC (positively) and WLE (negatively), and internationalism was positively related to WLE. WLE and WLC had a moderate mutual association. Control variables showed only minor relations, but having a partner was negatively related to WLC and being older was positively related to WLE.

The longer the trips lasted and the greater the imbalance between efforts and rewards at work, the higher the level of WLC.

**Testing the Research Hypotheses**

A moderated linear hierarchical regression analysis was used to test research Hypotheses 1 through 6 with the following procedure: first, control variables were entered in step 1 to control for their effects; second, the effort-reward ratio was entered in step 2; next, specific elements of traveling, that is, the frequency and duration of trips, were entered in step 3; and then internationalism was entered in step 4; finally, the two interaction terms of frequency and duration of traveling with internationalism were entered in step 5. In calculating the interaction terms, the variables were standardized in order to avoid multicollinearity (Cohen, Cohen, West, & Aiken, 2003).

As Table II shows, WLC was explained by high duration rates (a high number of travel days abroad) of trips and high ERI but not by highly frequent trips or internationalism. Thus, the longer the trips lasted and the greater the imbalance between efforts and rewards at work, the higher the level of WLC. In addition, one of the interaction terms made a significant contribution to the explained variance. The interaction term between frequency of traveling and internationalism was significant. This significant interaction is illustrated in Figure 1 and shows that travelers with a strong orientation to internationalism reported lower WLC levels in situations marked by a high frequency of traveling than did those with low levels of internationalism, as was expected. However, when trips were low in frequency, they had higher WLC than those low in internationalism. This model explained 54% of the variance in WLC, and the best single predictor was (high) ERI.

The results for the WLE revealed that only low ERI and internationalism significantly explained the variance of WLE (see Table II).

**TABLE I** Means, Standard Deviations, and Correlations of the Study Variables (N = 216–232)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender (men/women)</td>
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<td>—</td>
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<td>—</td>
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<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>2. Age (in years)</td>
<td>42.0</td>
<td>9.6</td>
<td>—.10</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>3. Having a partner (no/yes)</td>
<td>—</td>
<td>—</td>
<td>—.04</td>
<td>.14*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
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<tr>
<td>4. Having children living at home (no/yes)</td>
<td>—</td>
<td>—</td>
<td>—.19*</td>
<td>.36**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Frequency (times)</td>
<td>15.6</td>
<td>14.9</td>
<td>—.05</td>
<td>.17*</td>
<td>.11</td>
<td>.12</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>6. Duration (days)</td>
<td>75.0</td>
<td>76.2</td>
<td>—.31**</td>
<td>.13</td>
<td>—.12</td>
<td>—.18*</td>
<td>.08</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>7. ERI (continuous log transformed ratio)</td>
<td>—.0043</td>
<td>.31</td>
<td>—.04</td>
<td>.04</td>
<td>—.07</td>
<td>—.03</td>
<td>—.01</td>
<td>.14*</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8. Internationalism</td>
<td>3.2</td>
<td>.86</td>
<td>.05</td>
<td>.07</td>
<td>—.11</td>
<td>—.04</td>
<td>.21**</td>
<td>.00</td>
<td>.11</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>9. WLC</td>
<td>3.0</td>
<td>.90</td>
<td>—.09</td>
<td>.07</td>
<td>—.16*</td>
<td>—.09</td>
<td>.08</td>
<td>.45**</td>
<td>.62**</td>
<td>.10</td>
<td>—</td>
</tr>
<tr>
<td>10. WLE</td>
<td>2.9</td>
<td>.82</td>
<td>—.04</td>
<td>—</td>
<td>.19*</td>
<td>.06</td>
<td>.02</td>
<td>.15*</td>
<td>.00</td>
<td>—.41**</td>
<td>.18*</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01.
The lower the imbalance between efforts and rewards at work and the greater the travelers’ internationalism, the higher was the level of WLE. In addition, age made a significant contribution to WLE; older IBTs experienced higher WLE. None of the interaction terms proved significant. This model explained 25 percent of the variance in WLE, and again (low) ERI was the best single contributor.

Discussion

The purpose of this study was to examine the effects of psychosocial work characteristics typical of international business travel (described by elements of traveling and ERI) on WLC and WLE. Beside these, we examined the direct link between internationalism and WLC and WLE as well as the possible moderator role of internationalism in the relationship between international business travel and WLC and WLE.

Main Findings

Hypothesis 1, suggesting the frequency of international business travel related directly to WLC and WLE, was not supported, although earlier studies have shown evidence of stress generally increasing and social networks suffering owing to frequent travel (Bergbom et al., 2011; Westman, Etzion, & Gattenio, 2008). However, it is worth considering other factors that might influence WLC and WLE.
mentioning that at the correlational level, contrary to our expectations, a high travel frequency was slightly positively related to WLE, suggesting that traveling seems not only to cause stress for travelers. Hypothesis 2, suggesting that the duration of business travel is related to WLC and WLE, gained support only in relation to WLC. The longer the duration of international business travel, the more work-life conflict travelers reported. This finding is in line with earlier studies (Bergström, 2010; Espino et al., 2002) showing evidence of family problems related to a traveler’s long absence from home (see also Mayerhofer, Hartmann, Michelitsh-Riedl, et al., 2004).

Therefore, our findings suggest that when it comes to the work-life interface, the length of time spent away from home is more important than how often one travels. One possible explanation may be that business trips may also offer some respite from daily routines (Westman & Etzion, 2002; Westman, Etzion, & Gattenio, 2008), and may therefore have positive effects. Among the IBTs responding in our study, traveling was very intensive; for instance, the average number of trips over the previous 12 months was 16, whereas in the studies conducted by Westman and colleagues, that number was 4.2 (Westman, Etzion, & Chen, 2008) and 9.11 (Westman, Etzion, & Gattenio, 2008). However, when the trips are long lasting, then work-life balance is clearly challenged in terms of higher WLC.

Consistent with Hypothesis 3, lower ERI decreased WLC (3a) and strengthened WLE (3b). The findings on WLC are in line with previous studies. Great efforts and low rewards have been found to predict WLC (Kinman & Jones, 2007; Willis et al., 2008). Our findings concerning WLE are in line with those previous studies showing that work-related resources particularly contribute to work-family enrichment (Grzywacs & Butler, 2005; Zimmerman & Hammer, 2010). More specifically, the findings of this study showed that when rewards (i.e., esteem, career opportunities, and job security) are perceived to be higher than efforts (i.e., demands, time pressure) at work, WLE follows. Overall, our study indicated that ERI was an important predictor of both WLC and WLE in the context of IBT work.

Hypothesis 4, concerning the relation of internationalism to work-life interaction, gained partial support. Our findings showed that IBTs with a greater orientation to internationalism reported more WLE (4b), but internationalism was not related to (lower) WLC as expected (4a). One possible explanation for the hypothesis not being supported may be the specific nature of this kind of international career, as it demands regular absences from the home country. That might explain why even IBTs whose internal career orientation and job fit together well find that fit does not solve the problems emerging in their personal lives, and so experience WLC. However, having an orientation to internationalism contributed to experiencing WLE, that is, feeling energetic and in a good mood in the personal life sphere because of the job. This finding supports the view that WLC and WLE are different concepts, not merely ends of the same continuum (Fisher et al., 2009). Thus, it is likely that IBTs’ jobs provide not only challenges to their personal lives in the form of long-duration traveling, but also good opportunities to fulfill needs in the personal life sphere for those who are internationally oriented.

Only one of our two interaction hypotheses (Hypotheses 5 and 6) found support. Consistent with our Hypothesis 5a, people demonstrating a high degree of internationalism experienced less work-life conflict under conditions marked by highly frequent travel than those who scored low on the internationalism measure. This finding is in line with the perception that good fit between internal career orientation and job is important and generates positive outcomes (Carlson et al., 2003). Interestingly, international career-oriented IBTs experienced more WLC if the frequency of trips was low than if the frequency was high. This finding may also be interpreted with the help of the fit concept. In this case, the fit between career orientation and job may not be good: IBTs strongly oriented to internationalism may expect frequent travel but, if that expectation
is not met, may perceive outcomes negatively. However, international orientation did not moderate the association between travel frequency and WLE, as was expected (5b). An IBT being well matched to his or her job did not help generate WLE where the job was marked by highly frequent traveling. It might be that those who travel a great deal sacrifice opportunities to enrich their personal lives in the way their international orientation might otherwise permit them to.

Nevertheless, Hypothesis 6, proposing that internationalism may buffer the negative effects of international business trips of long duration, did not gain support. This finding suggests that when trips are long, work-life balance, especially in terms of high work-life conflict, is clearly challenged and a good person-job fit does not ameliorate the situation.

**Limitations**

The current study has some limitations that should be acknowledged. Above all, the findings come from a study of cross-sectional design, meaning that we can draw no reliable conclusions on the causal direction of the effects. Longitudinal studies would be required to confirm the connections between psychosocial work environment of IBTs and the WLC and WLE they experience. In addition, the relatively small dataset was based on self-reports, so common method variance may have affected our findings. However, it has been argued that it is an oversimplification to assume that common method variance automatically affects variables measured with the same method (Spector, 2006). Nevertheless, future studies should acknowledge this in their research design and, for instance, use several sources for data collection, perhaps by questioning spouses and supervisors, too.

It is also known that moderator effects are difficult to detect (e.g., McClelland & Judd, 1993); therefore, our sample may be considered too small for detecting moderator effects. On the other hand, the moderator effect observed can be considered significant. In addition, our sample was a convenience sample, and was dominated by IBTs with long experience of traveling, which limits the generalizability of our findings. Another limitation worth mentioning is the fact that our data were collected from Finland, which, while small geographically, is in economic terms a highly globalized country. Moreover, our informants mainly traveled to other European countries. Focusing only on international traveling in this context is relevant but future studies should also pay attention to traveling inside large and diverse home countries like the United States, China, or Australia. In addition, cultural differences between home and destination countries would be worth taking into account.

**Conclusions**

Our findings contributed to a better understanding of WLC and WLE as experienced by IBTs. First, our study revealed that business travel of long duration appears to be more harmful in terms of increasing WLC than frequent trips. The balance between efforts and rewards at work is very important in this particular work context affecting both enrichment and conflict experiences. Our findings also show that an internal career orientation toward internationalism plays an important role in IBTs’ work-life interaction, directly increasing WLE and moderating the relationship between frequency of traveling and WLC, although a moderating effect was not found in relation to duration of traveling.

From a theoretical perspective, our study adds to the knowledge about the role of both the negative (conflict) and positive (enrichment) sides of work-life interaction in IBTs’ lives, showing that conflict was more common and better understood by the phenomena (frequency and duration of traveling, ERI, and internationalism) examined in our study. The Effort-Reward Imbalance Model (Siegrist, 1996; Siegrist et al., 2004) received support in a new context, that is, in a job with international business traveling. Based
on the Stressor Reactivity Model (Bolger & Zuckerman, 1995), internationalism as a factor produced individual differences in the relationship between highly frequent traveling and work-life conflict: IBTs strongly oriented to an international career experienced reduced conflict under conditions of highly frequent traveling. Consequently, a good fit between one's career anchor (internationalism) and job environment (an international job) produced better work-life balance.

Although IBTs have been acknowledged to be an increasingly important segment of the MNC workforce (Collings et al., 2007; Meurs et al., 2008; Tahvanainen, Welch, & Worm, 2005), there is evidence that HRM practices are largely overlooking the special needs of this group (Mayerhofer, Hartmann, & Herbert, 2004; Mayerhofer et al., 2010). It has been argued that, for instance, compensations, rewards, and family issues are not so well managed among IBTs as they are other types of international personnel (typically expatriates) in MNCs (Collings et al., 2007). Therefore, as a practical implication for HRM managers, especially in MNCs, we suggest that they should improve policies and practices related to business travel. Our results suggest that both IBTs and their employers should monitor the length of international business trips especially and seek to ensure that the duration of trips does not adversely affect personal life any more than necessary. Furthermore, efforts to enhance the psychosocial work environment on a general level by paying attention to the balance between efforts and rewards would bring benefits for IBTs. As supervisors play an important role in developing the psychosocial work environment, HRM should plan and carry out leadership training for supervisors of IBTs focusing on these issues. In addition, it is important to develop general-level HR practices and policies that offer the opportunity to balance work and personal lives. Taking account of an internal career orientation toward internationalism when recruiting for a job involving international business travel would, over time, benefit both employers and employees.

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References


Work-family conflict faced by international business travellers

Do gender and parental status make a difference?

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Abstract

Purpose – The purpose of this paper is to examine the direct and moderating effect of gender and parental status on the relationship between international business travel days and work-to-family conflict (WFC) among international business travellers (IBTs) on the basis of the conservation of resources theory.

Design/methodology/approach – The study was conducted among 1,366 Finnish people in jobs demanding international business travel and a moderated hierarchical regression was utilised in data analysis.

Findings – An increase in the number of international business travel days and being a parent is positively related to WFC. Women with dependent children experience a lower level of WFC than do men with dependent children. However, a significant interaction effect between international business travel days, parental status and gender was found that indicates that the volume of travel days increases the level of WFC for those women who have children more than it does for women who do not have children. For men, increased numbers of travel days raises levels of WFC, as does having children, but there is no interaction between travel days and parental status among men. An increased number of travel days was least critical for WFC among women without dependent children and most critical for WFC among women with dependent children. However, women with dependent children were able to travel to a considerable extent before their levels of WFC overtook those of men with dependent children.

Practical implications – The findings indicate that organisations should pay particular attention to developing policies and practices that take account of the family status of the traveller. In addition, to assist IBTs to cope with their WFC, attention should be paid to the intensity of work-related travel. However, gender seemed not to play a particularly important role in WFC, indicating that organisations need not be wary of recruiting both men and women into roles involving international business travel.

Originality/value – This is the first study focusing on IBTs WFC that simultaneously takes account of how the intensity of business travel and both gender and parenthood are related to it.

Keywords Gender, Work-family conflict, International business travellers, Parenthood

Paper type Research paper

Introduction

International work is an important aspect of the majority of professional positions in companies, and that requires a global mobility of employees that takes many forms

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in modern organisations. In addition to being a feature of traditional long-term expatriation, mobility is necessary to many shorter-term assignments such as virtual, commuter and project assignments, and also to international business travel (Suutari et al., 2013; Tahvanainen et al., 2005). International business travel is obviously the most common form of international mobility, albeit expatriation assignments have clearly received far more research attention than it has. The importance of international travel is increasing further (Economist Intelligence Unit, 2010) as transportation and communication systems enable employees to keep in touch and work more easily around the world, making longer-term relocation less necessary. At the same time, increased integration aims within MNCs increase the use of international teams, projects and management groups that in turn require international travel. Similarly, markets and customers are increasingly global, which increases the need for international marketing efforts that often involve international travel. Despite such developments, research focusing on international business travellers (IBTs) remains very limited.

To date, most research on IBTs has emerged from the field of travel medicine (Patel, 2011) or has focused on the psychological health of the target group (Jensen, 2013; Westman and Etzion, 2002; Westman et al., 2004). Several health-related problems (e.g. infections) are reported to be common among international workers (Patel, 2011) and earlier studies have shown that travel for work may cause psychological stress, strain and related outcomes, for instance, burnout (Jensen, 2013; Westman and Etzion, 2002; Westman et al., 2004) and sleep problems, the last relationship mediated by work-to-family conflict (WFC) (Mäkelä et al., 2014). In addition, travelling can have effects other than heightening stress for the employee, as it may also provide respite from daily routines (Westman et al., 2008).

Existing research on international employees in general and IBTs specifically (Mäkelä and Suutari, 2011), has shown that jobs involving global mobility affect their private and family lives. To the best of our knowledge, there is little empirical research on the conflict between IBTs’ work and family/private life (Jensen, 2013; Mäkelä et al., 2014, 2015; Westman et al., 2008). These issues are however very important in the context of the globalised work environment and work involving irregular working hours and long absences from home (Meurs et al., 2008; Schütter and Boerner, 2013).

Despite the scarcity of research focusing on the interface of IBTs’ work and family life, these issues have been widely studied in domestic career settings. Research focusing on negative work-family interactions has mainly been based on role stress theory and the scarcity approach to multiple roles (see for a review Kinnunen et al., 2014). In essence, the various roles people have in modern societies, for instance as employees, parents or spouses, have been found to cause conflicting role expectations and pressures that can generate psychological conflict. In addition, time and energy are limited individual resources and the competing demands of the work and family spheres, may diminish those resources and create strain and stress for the individual (Eby et al., 2005). The interaction between the two life spheres is bi-directional (i.e. working life can affect family and family can affect working life) and the effect can be either positive or negative (Kinnunen et al., 2014). However, earlier studies have reported that effects flowing from the work domain to the family domain are more commonly reported than conflict spreading from the family to the work domain (e.g. Frone, 2003; Kinnunen and Mauno, 1998).

Studies have provided mixed evidence on how the interface between work and family differs between women and men (e.g. Duxbury et al., 1994; Frone et al., 1992). For instance,
there is evidence that WFC has become more common especially among men and parents (Nomaguchi, 2009) and that parenthood is related to a higher level of WFC especially among women (Duxbury et al., 1994). When studying WFC in the context of international work, gender and parenthood are relevant because earlier literature has described international work as a male dominated and highly gendered phenomenon (Gripenberg et al., 2013; Hearn et al., 2008). There are only a few studies focusing on the interface between IBTs’ work and private lives, but they do offer evidence that highly intensive travelling increases the risk of WFC (Jensen, 2013; Mäkelä et al., 2014, 2015). It has also been reported that experiences of WFC may be dependent on gender (Westman et al., 2008) but there are also findings suggesting gender does not predict WFC (Jensen, 2013), or more general work-life conflict among IBTs (Mäkelä et al., 2014b). Furthermore, parental responsibility may increase the risk of WFC among business travellers in general (Jensen, 2013), a group that includes domestic travellers and commuters alongside IBTs. However, there is a scarcity of research studying how parental status and gender (fathers, mothers and non-parent females and males) are related to WFC among IBTs and therefore more research is warranted.

In light of the above, the aim of this study is to examine the direct and moderating effect of gender and parental status on the relationship between the intensity of international business travel and WFC among IBTs. Therefore, this study contributes by providing new knowledge concerning how the level of WFC is affected by the number of travel days, together with care responsibilities, and how this relationship differs between men and women. We have selected the essential variables for this study based mainly on the earlier literature concerning WFC in the international work context and theoretically our study is based on the conservation of resources (COR) theory (Hobfoll, 2001, 2002). COR theory has been shown to suit the study of WFC (Demerouti et al., 2004) and is also applied in the context of international business travel (Westman et al., 2008). However, this study contribute to COR theory by testing it in an occupational context in which it has been very rarely studied.

According to COR theory, individuals aim to gain, maintain and protect that which they value. These valued things are called resources and the actual or threatened loss of those resources leads to diminished well-being. Resources can include for instance, energy or time, or can be linked to personal characteristics (e.g. self-esteem) (Hobfoll, 2001). People possessing fewer resources will be more vulnerable to resource loss than those with greater resources. In addition, it has been shown that the more resources are available, the greater will be the opportunities to acquire new resources (Hobfoll, 2001).

The paper begins with by reviewing the literature on WFC in the context of international business travel, with a particular focus on the gender and parenthood perspectives. The methodology of the study is then explained and its empirical findings reported. We close our study with discussion and conclusions sections.

**WFC, intensity of international business travel, gender and parenthood**

WFC has been defined as: “a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus and Beutell, 1985). Earlier research has identified various antecedents for WFC and, for instance, found a demanding job to increase WFC (Kinnunen et al., 2014). In the present study, we focus on the intensity of business travel as a situation likely to decrease the time (resource) available for family life, and thus, in the line with COR theory, deplete resources and lead to increased WFC.
Work involving international travel means the traveller is frequently absent from home and this may generate family problems associated with the parent and/or spouse role (Mayerhofer et al., 2004; Mäkelä et al., 2012; Welch and Worm, 2006). People absent from home because they are travelling cannot fully participate in the everyday routines of the household and share family responsibilities. Being separated from one’s family is likely to have negative effects on the work-family balance of IBTs (DeFrank et al., 2000).

In addition to the time IBTs spend away from home, their WFCs are typically related to irregular working hours and the requirement to be available around the clock even when they are not travelling (Mäkelä et al., 2012). Work tasks involving frequent travel typically absorb a great deal of the time and energy of IBTs, and therefore it may be an issue for the traveller to spend enough time with their family or to participate in social activities (Shaffer et al., 2012). Strain, such as fatigue caused by frequent travel may generate considerable stress, and therefore negatively affect the family life of IBTs.

Although it is obvious that IBTs’ work is likely to affect their personal lives, there are only a few quantitative studies that have focused on WFC (or the closely related concept of WLC) and they have reported that the intensity of business travel increases the risk of WFC (Jensen, 2013; Mäkelä et al., 2014b).

Based on the above, we hypothesise:

**H1.** An increase in the number of international business travel days logged over the previous 12 months will be positively related to WFC.

Next, we next turn our attention to those studies documenting instances of WFC from the gender perspective that are relevant in the context of international business travel.

**WFC and gender**

Earlier literature examined the role of gender on WFC in studies conducted in domestic career settings, but the findings are not unanimous. In the context of COR theory, it is likely that WFC is at a higher level among men than it is among women because men typically spend more time at work (see e.g. Statistics Sweden, 2007), resulting in a loss of resources. It has also been shown that men experience WFC slightly more than women (Byron, 2005 meta-analysis), but there are also recent studies that support the view that women are more vulnerable to WFC than men (Leineweber et al., 2013). In addition, some research reports no differences between the WFC experience of men and women (Kinnunen et al., 2004). Others indicate that the cultural context and the related concept of gender equality does affect how men and women experience WFC in different ways: greater gender equality has been found to lead either to a situation in which experiences do not differ between the sexes or to men experiencing greater WFC than women (Ruppanner and Huffman, 2013).

Earlier studies focusing on the interface between IBTs’ work and private lives and involving a gender perspective have reported that WFC appeared to be slightly more common among women than among men (Westman et al., 2008). When work-to-personal life conflict among IBTs was studied (Mäkelä et al., 2014b), it was found that gender was not a significant predictor of WLC. In light of these mixed conclusions, more research is needed to verify the impact of gender on the level of WCF experienced by IBTs, and to analyse which factors might explain the diversity of the findings. As the review indicates, there are many conflicting empirical findings on the impacts of gender on the WFC experience both in domestic and international career settings.
Owing to the inconsistent previous empirical findings we did not pose a hypothesis, but instead set the following research question:

*RQ1.* Is there a difference in the level of WFC among male IBTs and female IBTs?

Apart from the direct impact of gender, we argue next that parenthood may affect the experience of WFC among IBTs.

**WFC and parenthood**

Having multiple roles can to some extent be beneficial, but having too many roles or roles that are too demanding may also make a person vulnerable to role overload or role conflict (Barnett and Hyde, 2001). Parental status, and in particular, having children living at home is likely to mean loss of resources (see, COR theory) such as time and energy and accordingly to increased WFC (Demerouti *et al.*, 2004). Research has shown that demands related to family roles generally contribute to WFC (Beutell, 2010), and in particular that being a parent is related to higher levels of WFC (Duxbury *et al.*, 1994; see for a review Eby *et al.*, 2005; Frone, 2003; Winslow, 2005). It follows that besides looking at gender differences in general, it may be important to take into account the situation of travellers to determine if parenthood and the family can alter their experiences of WLC.

In the context of international business travel, parenthood affects the intensity of travel, in that business travellers with young children travel less than those without children (Gustafson, 2006). In that way, travellers and/or organisations seem to consider the family situation when planning work-related travel. It has also been found that being a parent increases the risk of WFC among travellers (Jensen, 2013; Nicholas and McDowall, 2012) while no such relationship was identified between parental status and general work-life conflict (a term embracing parts of the personal life other than family) among IBTs (Mäkelä *et al.*, 2014b). In addition, it has been found that one important reason behind the travel stress experienced by IBTs is that they worry how their travelling affects their family (Striker *et al.*, 1999), and it is likely that this finding may also support the view that parenthood increases WFC among IBTs. Therefore, the following hypothesis was formed:

*H2.* WFC will be greater among parents than among non-parents.

**WFC and interaction between the intensity of travel, gender and parental status**

Although earlier studies focusing on IBTs have not yet provided empirical evidence on how experiences of WFC vary if the intensity of business travel and both gender and parental status are considered at the same time (i.e. the three-way interaction: intensity of travelling × gender × parental status), some findings from earlier research on other travellers may be relevant. Earlier studies have shown that men typically travel more than women (Bergström Casinowsky, 2013; Roehling and Bultman, 2002) and are quick to delegate their share of the domestic tasks to their wives when they travel. However, female travellers are found to take an active role in organising the “traditional female tasks” even as they travel (Kollinger-Santer and Fischlmayr, 2013). In line with this, the relative share of domestic responsibility is very similar among women who travel for work and non-travelling women, despite female travellers having less time available at home (Bergström Casinowsky, 2013). When considering the intensity of travel and gender, we may assume that increased travelling days is a more critical factor for women than for men because the basic assumption of COR theory is that if losses of resources accumulate, there is an increased risk of stress.
It would seem therefore that for women the loss of resources, along with the time and energy spent on travel and on domestic work, puts them at greater risk of WFC compared to men, who are quicker to delegate their domestic tasks when they travel.

Again following the COR theory, it is likely that for people who have children living at home, any increase in travelling days is more critical, because of the increased loss of resources, than it would be for those who do not have dependent children. Furthermore, when considering WFC among men and women with and without dependent children, we have earlier studies showing that mothers and fathers experience WFCs differently. For instance, it has been found that mothers more often report conflicts between their family life and their working life than fathers do (Dilworth, 2004; Toivanen and Bergbom, 2013) and men’s WFC is not significantly associated with paternal involvement with children (Jacobs and Gerson, 2004). This leads us to conclude that women with dependent children may be more vulnerable to WFC than men with children, or indeed men and women without children living at home.

Intensity of travelling may also affect WFC differently when gender and parental status are taken into account even though earlier empirical studies have not apparently focused on that question. So far it has only been shown that the intensity of travel may vary among men and women, and that parental status is one of the elements affecting it. Mothers are found to travel less than childless women do, but being a father has not been found to make a difference in the intensity of travel among men (Gustafson, 2006; Roehling and Bultman, 2002). Therefore, we assume that particularly for women with dependent children who travel frequently are at greater risk of enhanced WFC.

These findings suggest that gender and parental status may moderate the relationship between travel intensity and WFC, and we therefore hypothesise:

\[ H_3 \] An increase in the intensity of travel (the number of travel days in the previous 12 months) shows a stronger positive association with WFC among women who have children living at home compared to other IBTs (men with dependent children/women and men without dependent children).

\section*{Methodology}

\subsection*{Sample}

\textit{Procedure and respondents.} The data \((n = 1,366)\) were collected in the course of a larger research project entitled “International work-related travel and its effects on the health and well-being of workers” conducted by the Finnish Institute of Occupational Health. The data were collected between 2008 and 2009 through electronic surveys of employees in five organisations operating internationally. The four private organisations operated in the ICT, automation, developing and consulting business sectors. The fifth organisation was a public organisation operating internationally. In three of the five organisations, 1,333 (56 per cent) employees answered a survey sent to 2,382 employees. In one of those three organisations, the questionnaire was sent to all employees who had logged at least one day of international travel in the preceding year, and also to a smaller number of employees who had not travelled during that time. In two of the three organisations, the questionnaire was sent to employees chosen at random from among those who had spent at least one day travelling in the preceding year or half year. In addition, the questionnaire was sent to a smaller number of employees in both organisations who had not logged any travel days during the past year. In the remaining two organisations of the five, 192 people
agreed to participate and eventually 183 of those (95 per cent) completed the survey. Therefore, 1,516 employees completed the survey in total. For this particular study, we excluded those employees who reported no travel days from the sample in order to focus only on the experiences of IBTs. In addition, three employees were excluded from the sample as outliers because they reported too many travel days (300-365 per year). Taking these issues into account, the final sample of the study consists of 1,366 employees.

The sample was male dominated (72 per cent). Of our participants, 87 per cent of the men and 68 per cent of the women were married or cohabiting. On average they had 2.0 children living at home (SD = 0.86). Of the males, 63 per cent had children, whereas only 50 per cent of female travellers had children (statistically significant difference, \( p < 0.001 \)). The participants’ mean age was 42.3 years (SD = 8.74). They had been working in their organisation for an average of 11.4 years (SD = 8.04) and in their current job requiring international travel for 5.8 years (SD = 5.98). The participants included 29 per cent who held a supervisory position.

**Measures**

Intensity of international business travel, that is, the number of travel days during the previous 12 months, was measured through the question: “Estimate how many days you have spent on international business trips in the past 12 months”. This measure reflects the total duration of travel per year. The number of travel days reported during the previous 12 months varied between one and 250.

Gender was measured as a binary variable, where 0 = male and 1 = female.

Parental responsibility was measured by asking whether the employee had children living at home (a binary variable, where 1 = yes and 0 = no).

WFC was measured by three items (e.g. My work keeps me from my family activities more than I would like). The items were adopted from the scale of Carlson et al. (2000) and were rated on a five-point Likert scale anchored with completely disagree (1) and completely agree (6). The Cronbach \( \alpha \) for the WFC scale (range 1-5) was 0.88.

Controls: age and marital status (a binary variable, where 1 = married or cohabiting and 0 = single) were also controlled for since those may affect WFC.

**Results**

*Descriptive results*

Means, standard deviations and correlations between study variables are presented in Table I. Overall, the level of WFC was moderate, averaging 2.9. The intercorrelations showed, first, that the number of travel days during the previous 12 months

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<tr>
<td>1. Age</td>
<td>42.3</td>
<td>8.7</td>
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<td>2. Marital status</td>
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<td>-</td>
<td>0.58*</td>
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<td>3. Travel days in past 12 months</td>
<td>42.4</td>
<td>37.9</td>
<td>0.041</td>
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<td>4. Gender (1 = f)</td>
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<td>-0.08*</td>
<td>-0.22**</td>
<td>-0.18**</td>
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<td>5. Parental status</td>
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<td>-</td>
<td>0.06*</td>
<td>0.36**</td>
<td>0.08*</td>
<td>-0.12**</td>
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<tr>
<td>6. Work-family conflict</td>
<td>2.9</td>
<td>1.1</td>
<td>-0.00</td>
<td>0.04</td>
<td>0.38**</td>
<td>-0.15**</td>
<td>14**</td>
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</table>

**Notes:** \( n = 1,146-1,366 \). \(* p < 0.05; ** p < 0.01\)
(on average 42 days) was positively related to WFC. Gender was also related to WFC, that is, being a female related negatively to WFC. Similarly, not being a parent related negatively to WFC. Our control variables were not significantly related to WFC. In addition, men travelled for significantly ($p = 0.000$) more days (mean = 46.7; SD = 39.8) than women did (mean = 31.4, SD = 30.0) within a year. They also made more trips within a year (mean = 10.3, SD = 9.3 for men and for women = 7.9, SD = 7.0, $p = 0.000$).

**Testing the research hypotheses**

A moderated linear hierarchical regression analysis was used to test research and $RQ1$ with the following procedure: first, control variables were entered in step one to control for their effects; second, gender, parental status and number of international business travel days were entered in step two; third, the two-way interaction terms of the study variables were entered in step three; and then, the three-way interaction term of the study variables was entered in step four.

The intensity of travelling (travel days during the previous 12 months) was significantly related to WFC (see Table II). Thus, $H1$ was supported, because the longer the trips lasted the higher the level of WFC. The answer to our $RQ1$ was that there was no difference in the level of WFC among male and female IBTs as we did not find a significant relationship between gender and WFC. WFC was, however, explained by parental status; those with children having a higher level of WFC than those without children, thus supporting $H2$. The interaction term between gender and parental status made a significant contribution to the explained variance ($p = 0.004$) and showed that mothers experienced a lower level ($β = −0.180$) of WFC than fathers. The three-way interaction term ($β = 0.099$) made a significant contribution to the explained variance ($p = 0.049$) and indicated that travel days had a significant impact on the level of WFC for women with children, supporting $H3$.

Figure 1 illustrates the interaction effect of gender, parental status and intensity of travel on WFC (fewer than 2 per cent of participants logged more than 150 travel days).

<table>
<thead>
<tr>
<th>Step 1: controls</th>
<th>$β$</th>
<th>$ΔR^2$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.397***</td>
<td>0.001</td>
<td>0.00</td>
</tr>
<tr>
<td>Age</td>
<td>−0.021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse (yes)</td>
<td>−0.008</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2: study variables</th>
<th>$β$</th>
<th>$ΔR^2$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (female)</td>
<td>0.069</td>
<td>0.181***</td>
<td>0.18</td>
</tr>
<tr>
<td>Children (Yes)</td>
<td>0.181***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel days</td>
<td>0.374***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3: two-way interactions of study variables</th>
<th>$β$</th>
<th>$ΔR^2$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender × children</td>
<td>−0.180**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender × travel days</td>
<td>−0.089</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children × travel days</td>
<td>0.030</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Step 4: three-way interactions of study variables</th>
<th>$β$</th>
<th>$ΔR^2$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender × children × travel days</td>
<td>0.099*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table II.** Results of hierarchical regression analyses for WFC

**Notes:** $β$, standardised $β$-coefficient from the final step; $ΔR^2$, change in explanation rate in each step; $R^2$, explanation rate.
It is evident that the increase in intensity of travel was most critical for those women with dependent children, and the effect was weakest for those women without dependent children. Increases in the number of travel days increased the level of WFC in a similar way both for men with children and those without children; however, men with dependent children had higher levels of WFC.

We also controlled for the effects of age and marital status among IBTs, and found neither to be related to WFC. This model explained 19 per cent of the variance in WFC.

Discussion and conclusions

The purpose of this study was to examine the direct and moderating effect of gender and parental status in the relationship between international business travel days and WFC among IBTs. By studying all three variables and their interaction effects, the current research contributes to the field of global mobility by not only looking for the differences in WFC between gender or the effects of care responsibilities but also in that it provides new knowledge concerning how the level of WFC is affected by the number of travel days, together with care responsibilities, and how this relationship differs between men and women. We have conducted our study with the help of COR theory (Hobfoll, 2001, 2002) and we also contribute to COR theory by testing it in a new occupational context. Specifically, this study contributes to existing literature on global mobility, first, by providing evidence that in line with COR theory being at risk of losing a considerable volume of their available resources might increase WFC among IBTs. Furthermore, our study shows that a high intensity of international business travel days, and being a woman with dependent children, have the greatest impact on WFC for IBTs. However, it is worth mentioning that women without dependent children were at the lowest risk of WFC. Women with dependent children were able to travel quite extensively before their level of WFC overtook that of men with dependent children (see Figure 1). Therefore, our study challenges the myths and stereotypes related to women’s ability to do international jobs.
Second, our study adds to the knowledge of WFC by showing that functioning in the complex international work environment (typified here by international business travel days) increases the risk of WFC in line with COR theory (Hobfoll, 2001, 2002). However, the factors responsible for consuming work-related resources might work differently for different people, and therefore individual level risk factors merit attention. In sum, our main hypothesis (H3) proposing that an increase in the intensity of travel shows a stronger positive association with WFC among women who have dependent children than for other IBTs was supported.

Furthermore, our first hypothesis (H1), suggesting that an increase in the intensity of international business travel would be positively related to WFC was supported. This finding is in line with previous studies (Jensen, 2013; Mäkelä et al., 2014, 2015; Westman et al., 2008) and confirms that time spent away from home and family constitutes the loss of important resources that has negative outcomes; among IBTs one such outcome is an increase in WFC. In this study, the intensity of business travel was approached as a continuum of travel days, but future studies should also focus specifically on how different kinds of travelling affect WFC. For instance, is there a difference in WFC if one is travelling five times per year but staying away for 14 days or travelling twice a month but staying away for three days?

We also posed one research question in this study (RQ1) focusing on whether the gender of the IBT is related to WFC and we did not find gender to be related to WFC. This finding may have been affected by the Finnish cultural context in which this study was conducted. According to the Gender Inequality Index (United Nations Development Programme, 2014) gender equality is at a very high level in Finland, and earlier studies have shown that greater gender equality leads either to a situation in which experiences do not differ between the sexes, or indicates that men experience greater WFC than women (Ruppanner and Huffman, 2013). In the context of international business travel, it has been suggested that men might experience higher levels of WFC than women because the intensity of travel for men is typically higher than for women (Gustafson, 2006). In our study, the interaction term between travel days and gender did not significantly contribute to WFC, indicating that this proposition may be accurate. However, it is worth mentioning that in our sample, men travelled significantly more than women did. This finding may reflect gender differences in travellers’ willingness to accept frequent travel and those choices may in turn affect their WFC experiences. However, in the face of so many conflicting findings on the impact of gender on WFC experiences, future research should aim to elicit the reasons, and to control for other possible intervening factors such as the travellers’ personalities, job situations or the industries they work in, to account for the fact some jobs and industries are more male dominated and others more female dominated.

Consistent with our second hypothesis (H2), parents experienced higher levels of WFC than those travellers who did not have children living at home. This finding is line with earlier literature (Duxbury et al., 1994; Frone, 2003; Winslow, 2005; see for a review Eby et al., 2005) with the focus on domestic career settings and on the international career context (Jensen, 2013; Nicholas and McDowall, 2012) and supports the view that undertaking several roles brings psychological pressures, and in the IBT context, increases the risk of WFC, a finding supporting COR theory.

Moreover, the interaction term between gender and parental status showed that mothers experienced lower levels ($\beta = -0.180$) of WFC than fathers, but as shown above, taking into account the number of travel days (the three-way interaction) revealed that WFC was highest among women with dependent children compared to other IBTs. This finding indicates that parenthood appears to have a different effect.
on the WFC experiences of male and female IBTs required to undertake high or low intensity business travel. The results show that for women without dependent children, an increase in travel days does not exert as strong an effect on their WFC as is the case for other types of traveller. This finding may reflect the social expectations of an IBT’s partner. Literature has shown that women in responsible jobs more often have a career-oriented partner than their male counterparts do (Heikkinen et al., 2014), and this may lead to the women having less responsibility for the care of children, and the career-oriented partner of the female IBT having a reduced expectation that she will be at home, which may considerably reduce the WFC experienced. On the other hand, male IBTs may accordingly more often have a partner who is more family than career oriented, and therefore report their female partners as reacting more negatively to the absence of the male partner, leading to the men experiencing higher levels of WFC when they cannot meet the expectations of their partner. To better capture this phenomenon, future studies should take account of the employment situation of the partners of IBTs. Example indicators might include weekly working hours, organisational position and his/her commitment to the job.

It is important to note some limitations of the current study. First, our sample was based on self-reports, so common method variance may have affected our findings. It has also been argued that it is an oversimplification to assume that common method variance automatically affects variables measured with the same method (Spector, 2006). Nevertheless, future studies might use several sources of data, perhaps including the family of IBTs. Second, the cross-sectional design of our study precludes causal conclusions on the associations found. Reversed causality can thus not be excluded. For instance, it could be that those experiencing more WFC were taking more business trips. Thus longitudinal studies that could shed light on the causal relations are needed. Moreover studies, utilising different methodologies, such as diaries, would be worthwhile in the future.

We can also derive some practical implications from our research findings. The results of this study support the view that intensive international travel is associated with WFCs, in particular when the length of the trips increases. Such implications should be taken into account in travel planning in order to avoid both personal and family-level negative impacts to whatever extent is possible. Moreover, even though women with dependent children experience more WFC than other travellers when the intensity of travel is high, organisations apparently need not be so wary of appointing women to positions requiring business travel unless the intensity of travel is extremely high. In addition, it is important to develop general HR practices and policies that offer the opportunity to balance working and family lives, and especially those taking account of the family status of the traveller.

References


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The relationship between international business travel and sleep problems via work-family conflict

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Abstract

Purpose – The purpose of this paper is to study well-being among the internationally mobile work force by exploring the relationships between international business traveling, work-family conflict (WFC), and health issues. In this study, these relationships are examined on the basis of the health impairment process of the job demands-resources model. More specifically, the study examines the role of WFC as a mediator between international business travel and sleep problems using a full panel design.

Design/methodology/approach – The data for this study are drawn from Finnish employees whose work involved international business travel (n = 868) and who answered two surveys with a one-year time lag.

Findings – The results showed that international business travel in terms of the number of travel days per year, while not predicting sleep problems directly over time, did significantly increase WFC, which in turn increased sleep problems. Thus, WFC functioned as a mediator in the relationship between business travel and subsequent sleep problems.

Practical implications – The results indicate that family-friendly HR policies and practices might help international business travelers (IBTs) reduce levels of WFC, which could in turn protect them from harmful health effects, particularly sleep problems.

Originality/value – The study examines the understudied professional group of IBTs and contributes to the knowledge on their well-being and WFC issues.

Keywords Personal health, Family, Labour mobility, Globalization

Paper type Research paper

Introduction

The modern globalized economy has increased the volume of work undertaken in an international context. International business travel is an important part of the international working environment and one that is increasing. Employees traveling abroad to work often make a very important contribution to their companies’ success (Inkson and Myers, 2003; Ramsey et al., 2011). In order to meet the expectations of their employers, international business travelers (IBTs) need to complete their tasks...
efficiently and perform well in their jobs abroad. However, working in an international context involves elements such as working in geographically and/or culturally distant environments and long absences from home that can create stress and strain, and adversely affect travelers’ well-being (Meurs et al., 2008; Ramsey et al., 2011).

The majority of the research focusing on IBTs thus far has been conducted within the field of travel medicine (Patel, 2011). Despite that, the subject of the quality of sleep related to business traveling has not been examined. Sleep problems are one of the most commonly reported types of health problem among the adult population (Groeger et al., 2004; Kronholm et al., 2008; Stranges et al., 2012), and it is very likely that job demands related to the international work environment affect sleep patterns such as getting to sleep, staying asleep, and finding that sleep fails to refresh among business travelers.

Alongside health problems, work-family conflict (WFC) as it affects IBTs has also been examined. WFC is a form of inter-role conflict in which the role pressure from one domain (e.g. work) makes participation in another domain (e.g. family life) more difficult (Greenhaus and Beutell, 1985). Earlier studies have shown that business traveling is related to travelers’ WFC (Jensen, 2013; Mäkelä et al., 2015; Westman et al., 2008).

The contribution of this study is twofold. First, the present study contributes to earlier literature on international careers by providing evidence of the well-being of the important but understudied group of international employees, IBTs. In particular, this longitudinal study contributes to the earlier literature by showing how international business travel (in the form of the duration of traveling in terms of the number of traveling days per year) as a specific job demand is related to sleep problems over time. This knowledge would be of practical value, for example, in occupational health care and human resource management. Second, by examining WFC as a potential mediator in this relationship we theoretically extend the health impairment process of the job demands-resources (JD-R) model on which we base our study (Bakker and Demerouti, 2007; Demerouti et al., 2001).

**JD-R model**

Based on the JD-R model, the psychosocial environment can be divided into two categories, job demands and resources, which explain processes leading to either employee ill-health or well-being (Bakker and Demerouti, 2007; Demerouti et al., 2001). Job demands are defined as being aspects of the job that require sustained physical or psychological effort and are thus related to several physiological and/or psychological costs, whereas job resources refer to the characteristics of the job that may be instrumental in achieving work goals, mitigating the effect of job demands, and stimulating personal growth and development (Demerouti et al., 2001). According to the JD-R model, job demands lead via the health impairment process to ill-being. In other words, if employees continually face highly demanding tasks, their mental and physical resources will soon be exhausted, and that will deprive them of energy (Kinnunen et al., 2011). Having adequate job resources, in turn, leads via the motivational process, to well-being, including engagement and commitment to work.

In the present study, our focus is only on the aspects that impair health (see Figure 1). More specifically, we examined international business travel as a potential job demand capable of leading to health impairment. Having a job involving international business travel typically means irregular working hours and working across different time zones, which are examples of physical and psychological job demands that can have negative effects on employee health and well-being (Blau, 2011; Kemmerer et al., 1998; Liese et al., 1997). To the best of our knowledge, there is only one
study acknowledging the relationship between business travel and sleep (Burkholder et al., 2010). That study focuses on quantity of sleep and reports that those who travel more are more likely to suffer from sleep deprivation than those who do not travel, or whose travel is not very intensive. Sleep problems including diminished quality of sleep as well as sleep deprivation are signs of impairment of health. For example, it has been shown that occupational burnout is characterized by impaired sleep and it has been suggested that impaired sleep may play a role in the development of fatigue or exhaustion in burnout (Ekstedt et al., 2006). Therefore, sleep problems as they relate to international business travel warrant more attention.

The current study expands present knowledge about the health impairment process in business travelers by examining WFC as a mediator in the relationship between international business travel and sleep problems (the quality of sleep) over time (Figure 1). Below we discuss the relationships involved in the impairment process in more detail and based on earlier studies, emphasizing longitudinal studies whenever feasible.

**International business travel and WFC**

WFC is related to the situation when demands from one life domain interfere with participation or performance in another life domain (Greenhaus and Beutell, 1985). WFC is known to be bi-directional, that is, work affects family life, and family life affects working life. However, conflict arising from working life affecting employees’ family life (WFC) is a more common situation than conflict arising from family life and affecting working life (FWC) (see Frone, 2003; Geurts and Demerouti, 2003; Jansen et al., 2003; Kinnunen and Mauno, 2008, for reviews). The antecedents of WFC are typically factors related to working life, such as international business travel, and far less often related to family life (Michel et al., 2011). For these reasons, the present study focuses on WFC alone.

Studying WFC is important, especially in the context of the globalized work environment, where work often involves irregular working hours and long absences from home (Beutell, 2010; Jensen 2013; Meurs et al., 2008). There are at least three earlier studies focussing on work-family or work-life interaction among IBTs (Jensen, 2013; Makelä et al., 2015; Westman et al., 2008). Westman et al. (2008) reported that the number of trips did not predict WFC but the level of WFC varied among women during pre-, on- and after-trip stages to an extent that was statistically significant. Women experienced higher levels of WFC after the trip than in the pre- and on-trip phases, whereas men’s levels of WFC did not vary between the trip phases, and were lower overall than those of female travelers. However, the small number of respondents (n = 66, 70 percent males) and the limited intensity of the participants’ traveling (4.2 trips/year) may have affected the results of that particular study.

**Figure 1.**

Health impairment process examined on the basis of the JD-R model

**Note:** Workload in parentheses is controlled for travel days

**Sources:** Modified from Demerouti et al. (2012) and Ito and Brotheridge (2012)
The second cross-sectional study by Mäkelä et al. (2015) showed that the duration of business trips, that is, number of traveling days during the past 12 months, in particular, was related to high work-to-life conflict (i.e. conflict in the personal life in general, including aspects other than family-related ones). Jensen’s cross-sectional study (2013), which included domestic travelers and commuters alongside IBTs, revealed that (high) business travel frequency (measured by company specific register data) and (low) control over travel explained a significant proportion of the variance in WFC. Among different traveler groups, WFC was highest among commuters and lowest among national travelers, with the rate of WFC of IBTs falling between the two. Due to the cross-sectional research designs, these last two studies are of limited value in demonstrating causal relations. Therefore, further studies using longitudinal designs are still needed.

**WFC and sleep problems**

Earlier studies have shown that WFC is a risk factor associated with several health outcomes (Peeters et al., 2009; see also Allen et al., 2000; Amstad et al., 2011; Eby et al., 2005, for reviews). According to longitudinal studies, WFC has predicted subsequent physical ailments (Fronc et al., 1997), reduced well-being (Grant-Vallone and Donaldson, 2001), and fatigue, psychological distress and depression (Jansen et al., 2003; Kinnunen et al., 2004). One longitudinal study by Lallukka et al. (2013) examined the relationship between WFC and taking medication to aid sleep, and showed that for women, WFC was associated with the subsequent use of medication to aid sleep after adjustment for prior medication. However, the association weakened after adjustment for work-related factors (physical and psychosocial working conditions). No connection between WFC and taking medication to aid sleep was found among men.

In cross-sectional studies (Lallukka et al., 2010; Nylén et al., 2007; Sekine et al., 2006), WFC and interference from work to home life (a concept closely related to WFC) have been seen as possible triggers for stress reactions that may disturb physiological systems and thus have negative health effects, for example, problems with sleep. It has been reported that interference from work to home is positively associated with sub-optimal sleep quality (as an early indicator of stress) for full-time workers and also for female part-time workers (Nylén et al., 2007). A lack of cases meant that a significant relationship could not be established for part-time male workers. Moreover, WFC has been found to increase the risk of poor sleep quality (Sekine et al., 2006). High WFC is also found to increase sleep complaints among middle-aged women and men (Lallukka et al., 2010). In addition, it has been shown that the allocation of time to working or to the family is related to reduced sleeping time (thus, the quantity of sleep) (Barnes et al., 2012). Thus, people seem to borrow from sleeping time in order to spend more time with the family and/or to devote to working.

Although earlier research has offered some evidence of the connection between business travel and WFC (Jensen, 2013; Mäkelä et al., 2015; Westman et al., 2008) and between WFC and sleep problems (Lallukka et al., 2010; Sekine et al., 2006), there is a need for further studies taking all these aspects into account simultaneously from a longitudinal perspective. There is also a lack of studies utilizing research designs employing mediation models (Williams et al., 2006). As far as we know, there is only one cross-sectional study examining the relationships between business traveling, WFC, and emotional exhaustion. In that study, Jensen (2013) found that business travel frequency was not directly related to emotional exhaustion, but that the relationship was indirect, in that it was mediated by WFC. Research revealing the mechanisms by
which traveling leads to sleep problems is absent. Therefore this study aims to contribute to the earlier literature by studying if international business travel is linked to WFC, and through such a link, increases the risk of sleep problems. Revealing such mechanisms will help shape intervention actions targeting the problem in occupational health care and human resource management.

**The present study**

In this study, we examine WFC as a mediator between international business travel and sleep problems using a full panel design, that is, all variables have been measured twice at both time points with a one-year time lag (see Figure 2 in detail). Based on prior studies and the JD-R model’s health impairing process, we set the following two hypotheses:

\[ H_1. \text{ The number of international business travel days 12 months before T1 and between T1 and T2 predicts WFC at T1 and T2, respectively.} \]

\[ H_2. \text{ WFC at T1 predicts sleep problems at T2 after traveling days before T1 and T2 are taken into account.} \]

Since the aim of the study is to examine the indirect, that is, the mediating role of WFC, we also hypothesize:

\[ H_3. \text{ The relationship between international business travel before T1 and sleep problems at T2 is indirect, that is, mediated by WFC at T1.} \]

**Methods**

*Participants and procedure*

This study is a part of a larger research project entitled “International work-related travel and its effects on the health and well-being of workers” conducted by the Finnish Institute of Occupational Health. The data were collected between 2008 and 2010 through electronic surveys of employees in five organizations operating internationally. The four private organizations operated in ICT, automation, developing, and consulting. The fifth organization was a public organization operating internationally. The data were collected in two phases. The first phase started in one organization in autumn 2008 and in other organizations in early 2009. The questionnaires were first sent to selected participants in each organization (at time
point T1). One year on (T2), participants received the same questionnaires via the same process.

In three of the five organizations, 1,333 (56 percent) employees answered the first survey originally sent to 2,382 employees. In one of those three organizations, the questionnaire was sent to all employees who had logged at least one day of international travel in the preceding year, and also to a smaller number of employees who had not traveled during that time. In two of the three organizations, the questionnaire was sent to randomly chosen employees from among those who had spent at least one day traveling in the preceding year or half year. In addition, the questionnaire was sent to a smaller number of employees in both organizations who had logged no travel days during the past year. In the remaining two organizations of the five, a total of 192 people indicated their willingness to participate and eventually 183 (95 percent) employees completed the survey. Therefore, 1,516 employees completed the first survey. Of those, 1,046 employees completed the second survey after one year. Employees who reported either no travel days at the first measurement point (n = 135) or did not answer the questions regarding WFC (i.e. they had no family) at both measurement points (n = 168) were excluded from the sample. In addition, five employees were excluded from the sample as outliers because they reported too many travel days (300-365) per year. Taking these issues into account, the final sample of the study consisted of 868 employees.

The sample was male dominated (76 percent) and most of the participants (91 percent) were married or cohabiting. On average they had 2.72 children living at home (SD = 0.82). The participants’ mean age was 42.79 years (SD = 8.33). They had been working in their organization for an average of 11.47 years (SD = 7.74) and in their current job requiring international travel for 6.12 years (SD = 6.01). Of the participants, 31 percent held a supervisory position.

**Attrition analyses**

In analyzing the sample attrition, we first compared the respondents to the first survey (n = 1,333) with the non-respondents (n = 1,049) in terms of registered business travel days, although the comparison was possible in only three organizations. The information we received from these three organizations on international business trips related to different periods: Two organizations provided the registered number of international travel days for a 12-month period spanning 2007-2008 (i.e. covering the period before the first measurement) and the third company provided the number of travel days for a six-month period in 2008. Respondents and non-respondents differed in the two organizations, as respondents had logged more international travel days during the year than the non-respondents (t(1,321) = 2.60, p < 0.01; t(634.946) = 4.97, p < 0.001). There were no differences in travel days across the six-month period in the third organization, and neither were there any differences between respondents and non-respondents with regard to gender in any of the three organizations, nor with regard to age in the two organizations that provided information on age. A lack of information on the non-respondents in the remaining two organizations meant it was impossible to conduct attrition analysis there.

Attrition analysis was also conducted by comparing the respondents of the longitudinal sample (n = 868) with the non-respondents (n = 470), that is, those who took part only in the first survey. The drop-outs did not differ from respondents significantly in terms of gender, supervisory position, international business trips, travel days, WFC or sleep problems, but respondents (M = 42.79 years) were significantly older than non-respondents (M = 41.67 years).
Measures
International business travel was measured using the number of days of travel 12 months before T1 and the days of travel between T1 and T2. The data were derived from the participants' answers to the question placed in both surveys: “Estimate how many days of international travel you have had during the past 12 months?” This measure reflects the total duration of traveling per year. The number of travel days varied between 1 and 250 at T1 and 0 and 200 at T2. Of the employees, 4.3 percent at T1 and 23.5 percent at T2 had fewer than five days of travel per year.

WFC was measured by three items (e.g. “My work keeps me from my family activities more than I would like”). The items were adopted from the scale of Carlson et al. (2000) and were rated on a five-point Likert scale anchored with completely disagree (1) and completely agree (5). The Cronbach’s α for the WFC scale (range 1-5) were 0.89 at T1 and 0.89 at T2.

Sleep problems at T1 and T2 were measured by a single question “How often have you experienced sleeplessness or reduced sleep quality (trouble falling asleep, waking up several times per night, waking up far too early, waking unrefreshed) during the past three months?” Responses were given along on a five-point scale anchored with not at all/rarely (1) and very often/all the time (5). The form of this question derives from the items of the Basic Nordic Sleep Questionnaire (Partinen and Gislason, 1995).

Controls. we controlled for the following other factors affecting sleep quality and WFC: gender, age, relationship status (yes/no), children (yes/no). These demographic variables have been related to both sleep problems (Lallukka et al., 2010) and to WFC (Jansen et al., 2003; Kinnunen et al., 2004). We also controlled for health behaviors in the analyses using body mass index (BMI) (kg/m²), alcohol consumption (units/week), smoking currently (yes/no), smoking previously (yes/no), physical exercise (0 = cannot exercise, 5 = exercising four to seven times a week) as sleep problems can be a symptom of any of these conditions (Harvey, 2001). In addition, we took into account holding a supervisory position (yes/no) and workload as possible antecedents for both sleeping problems (Åkerstedt, et al., 2002) and WFC (Michel et al., 2011). Workload was measured using three items (e.g. “My job requires working very hard”; Cronbach’s α = 0.78) from the Job Strain Questionnaire (Karasek, 1979). The extent of agreement was recorded on a five-point scale anchored with completely disagree (1) and completely agree (5). All control variables were measured at T1.

Statistical analyses
Correlation analysis of the study variables was performed with IBM SPSS Statistics 20 and the mediation path model was tested with AMOS 20.0 software. The data set of complete observations (n = 832) was used in the mediation analysis, because the estimation of indirect effects in the mediation model with a bootstrap procedure requires complete data.

The product of coefficients method of mediation analysis was applied in this study because the widely used causal steps approach of mediation suffers from the lack of power in detecting indirect effects (MacKinnon et al., 2007). A longitudinal path analysis from travel days through WFC to sleep problems (see Figure 2) was performed to investigate direct and indirect effects. The maximum likelihood method was used to estimate regression weights of direct effects, but the 95 percent confidence intervals (CI) of regression weights were achieved by a bootstrap process using the bias-corrected percentile method with 5,000 bootstrap samples. Estimates and the significance tests of indirect effects were also analyzed using the bootstrap method. If the CI excluded zero,
then the indirect effect was considered statistically significant at the 0.05 level. The effects of control variables were taken into account by regressing them on WFC and sleep problems at T1 meaning their influence on T2 was also controlled for (Little et al., 2007).

**Results**

*Descriptive results*

Employees recorded more travel days 12 months before T1 ($M = 43.87$, $SD = 47.61$, Median = 35) than at T2 ($M = 27.26$, $SD = 31.38$, Median = 17) ($t(857) = 15.36$, $p < 0.001$). WFC was also statistically at a higher level at T1 ($M = 2.96$, $SD = 1.08$) than at T2 ($M = 2.72$, $SD = 1.03$) ($t(867) = 7.72$, $p < 0.001$), while sleep problems remained at about the same level at T1 ($M = 2.91$, $SD = 1.10$) and T2 ($M = 2.86$, $SD = 1.14$) ($t(866) = 1.38$, $p = 0.170$).

Travel days were positively correlated with WFC at both measurement points and across time, whereas correlations with sleep problems remained weak or non-significant (see Table I). However, WFC was positively correlated with sleep problems. Travel days, WFC, and sleep problems showed moderate stability across time. Of the control variables, workload had the highest positive correlations with WFC. Workload also correlated positively with travel days and sleep problems. The other controls played minor roles.

*Testing the mediation model*

The mediation model was constructed on the basis of the hypothesized model shown in Figure 2. The model fit of this mediation model was evaluated with several model fit indices using standard cut-off values. In a $\chi^2$ test, a non-significant result indicates a good model fit, but the test is not valid with a large sample and therefore more weight was given to RMSEA (< 0.06 indicates a good fit), SRMR (< 0.08 indicates a good fit) and NFI, TLI and CFI (> 0.95 indicates a good fit) (e.g. Brown, 2006; Hu and Bentler, 1999). In addition, the Bollen-Stine bootstrap $p$-value for the $\chi^2$ was calculated. The model fit of the constructed mediation model proved good ($\chi^2 = 49.51$, $df = 36$, $p = 0.066$; Bollen-Stine bootstrap $p = 0.123$; RMSEA = 0.021; SRMR = 0.0156; NFI = 0.979; TLI = 0.977; CFI = 0.994) offering support to the hypothesized model. The results of the mediation model analysis are shown in Figure 3. The estimates for the direct effects of the tested model are discussed first, and are followed by the results for the indirect effects.

*Direct effects*

Figure 3 shows that travel days, WFC, and sleep problems between the two measurement times were moderately stable across one year (see also Appendix 1 for all regression coefficients). The analysis further revealed that travel days did not have a significant direct effect on sleep problems at T1 or T2, which might be explained by the lack of power in detecting a direct effect between the independent and dependent variable in the mediation analysis (Kenny and Judd, 2014). However, there is no requirement for the significant direct effect between the independent variable (travel days) and the dependent variable (sleep problems) in modern mediation analysis such as the product of coefficients method used in this study (MacKinnon et al., 2007). Travel days (pre T1) did have a significant positive effect on WFC at T1 ($\beta = 0.34$, $p < 0.001$). In addition, the number of travel days (pre T2) was significantly connected to high
### Table I. Correlations and descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>7</th>
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<th>11</th>
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<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
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</thead>
<tbody>
<tr>
<td>1. Travel days (pre T1)</td>
<td>43.87 (35.61)</td>
<td>–</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>2. WFC (T1)</td>
<td>296 (1.08)</td>
<td>0.40***</td>
<td>–</td>
<td></td>
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<td></td>
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<tr>
<td>3. Sleep problems (T1)</td>
<td>2511 (1.18)</td>
<td>0.05</td>
<td>0.18***</td>
<td>–</td>
<td></td>
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<tr>
<td>4. Travel days (pre T2)</td>
<td>272.6 (31.38)</td>
<td>0.60***</td>
<td>0.32***</td>
<td>0.02</td>
<td>–</td>
<td></td>
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<tr>
<td>5. WFC (T2)</td>
<td>272 (1.03)</td>
<td>0.28***</td>
<td>0.61***</td>
<td>0.17***</td>
<td>0.25***</td>
<td>–</td>
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<tr>
<td>6. Sleep problems (T2)</td>
<td>286 (1.14)</td>
<td>0.07*</td>
<td>0.18***</td>
<td>0.67***</td>
<td>0.06</td>
<td>0.25***</td>
<td>–</td>
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<tr>
<td>7. Gender (woman)</td>
<td>24.5</td>
<td>–</td>
<td>–0.19***</td>
<td>–0.15***</td>
<td>0.14***</td>
<td>–0.13***</td>
<td>–0.08*</td>
<td>0.06</td>
<td>–</td>
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</tr>
<tr>
<td>8. Age</td>
<td>427.9 (83.3)</td>
<td>0.08*</td>
<td>–0.04</td>
<td>0.08***</td>
<td>0.10***</td>
<td>–0.04</td>
<td>0.08*</td>
<td>–0.06</td>
<td>–</td>
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<td></td>
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</tr>
<tr>
<td>9. Having children</td>
<td>64.6</td>
<td>–0.08***</td>
<td>0.14***</td>
<td>–0.05</td>
<td>–0.07</td>
<td>0.08*</td>
<td>–0.02</td>
<td>–0.07*</td>
<td>–0.07*</td>
<td>–</td>
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<tr>
<td>10. Having a relationship</td>
<td>95.4</td>
<td>0.03</td>
<td>0.05</td>
<td>–0.06</td>
<td>–0.02</td>
<td>0.02</td>
<td>–0.02</td>
<td>–0.17***</td>
<td>–0.03</td>
<td>0.01</td>
<td>–</td>
<td></td>
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<tr>
<td>11. Supervisor position</td>
<td>30.9</td>
<td>0.10**</td>
<td>0.10***</td>
<td>–0.06</td>
<td>0.06</td>
<td>0.07*</td>
<td>–0.03</td>
<td>–0.07*</td>
<td>0.13***</td>
<td>0.07*</td>
<td>0.02</td>
<td>–</td>
<td></td>
<td></td>
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<tr>
<td>12. Workload</td>
<td>322 (0.80)</td>
<td>0.12***</td>
<td>0.46***</td>
<td>0.15***</td>
<td>0.11***</td>
<td>0.34***</td>
<td>0.17***</td>
<td>0.04</td>
<td>–0.03</td>
<td>0.10***</td>
<td>0.01</td>
<td>0.11***</td>
<td>–</td>
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<tr>
<td>13. Current smoker</td>
<td>16.7</td>
<td>0.13***</td>
<td>0.09***</td>
<td>–0.01</td>
<td>0.05**</td>
<td>0.07*</td>
<td>0.02</td>
<td>–0.14***</td>
<td>–0.04</td>
<td>–0.04</td>
<td>0.04</td>
<td>0.02</td>
<td>0.02</td>
<td>–</td>
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<tr>
<td>14. Previous smoker</td>
<td>25.3</td>
<td>0.02</td>
<td>–0.06</td>
<td>0.06</td>
<td>–0.01</td>
<td>–0.05</td>
<td>0.06</td>
<td>0.06</td>
<td>0.12***</td>
<td>0.00</td>
<td>–0.03</td>
<td>–0.00</td>
<td>–0.06</td>
<td>–0.35***</td>
<td>–</td>
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<tr>
<td>15. BMI</td>
<td>2597 (378)</td>
<td>0.11***</td>
<td>0.12***</td>
<td>0.05</td>
<td>0.04</td>
<td>0.08*</td>
<td>0.09***</td>
<td>–0.21***</td>
<td>0.12***</td>
<td>–0.02</td>
<td>–0.01</td>
<td>–0.03</td>
<td>0.07*</td>
<td>0.08*</td>
<td>0.09***</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>16. Weekly alcohol consumption</td>
<td>5.19 (5.13)</td>
<td>0.11***</td>
<td>0.08*</td>
<td>0.10***</td>
<td>0.07*</td>
<td>0.08**</td>
<td>0.14***</td>
<td>–0.17***</td>
<td>0.08*</td>
<td>0.02</td>
<td>–0.04</td>
<td>0.01</td>
<td>0.06</td>
<td>0.20***</td>
<td>0.08*</td>
<td>0.10***</td>
<td>–</td>
</tr>
<tr>
<td>17. Physical exercise</td>
<td>340 (112)</td>
<td>–0.07</td>
<td>–0.15***</td>
<td>–0.04</td>
<td>–0.02</td>
<td>–0.11***</td>
<td>–0.02</td>
<td>0.10***</td>
<td>–0.02</td>
<td>–0.04</td>
<td>0.02</td>
<td>0.05</td>
<td>0.03</td>
<td>–0.11***</td>
<td>0.09*</td>
<td>–0.20***</td>
<td>–0.03</td>
</tr>
</tbody>
</table>

**Notes:** All controls variables (7-17) were measured at T1. *p < 0.050; **p < 0.010; ***p < 0.001
levels of WFC at T2 ($\beta = 0.17, \ p < 0.001$). There was a small ($\beta = 0.06, \ p = 0.034$) but significant positive effect between WFC at T1 and sleep problems at T2 when controlling for previous sleep problems.

Of the control variables, having children ($\beta = 0.11, \ p < 0.001$) and a high workload ($\beta = 0.42, \ p < 0.001$) increased WFC at T1, while regular physical exercise ($\beta = -0.11, \ p < 0.001$), being a woman ($\beta = -0.06, \ p = 0.031$) and being older ($\beta = -0.06, \ p = 0.044$) reduced WFC at T1. In addition, holding a supervisory position ($\beta = -0.08, \ p = 0.013$) diminished sleep problems at T1, whereas being a woman ($\beta = 0.15, \ p < 0.001$), a high workload ($\beta = 0.14, \ p < 0.001$), high weekly alcohol consumption ($\beta = 0.14, \ p < 0.001$) and being older ($\beta = 0.09, \ p = 0.013$) increased sleep problems at T1. Relationship status, smoking, and BMI did not have a significant effect either on WFC or sleep problems.

Indirect (mediator) effects

When testing the indirect effects with a bootstrap procedure, the hypothesized indirect effect from travel days (pre T1) through WFC at T1 to sleep problems at T2 was statistically significant ($p = 0.040$) although the effect was small (unstandardized estimate for specific indirect effect = $0.001$, 95 percent CI = $0.000-0.001$). This significant indirect effect indicates that WFC at T1 mediates the effect of travel days on sleep problems at T2. Thus, the high frequency of travel days 12 months before T1 increases WFC at T1 which in turn increases sleep problems at T2 one year later. WFC seems to be a full mediator between travel days and sleep problems, but Kenny and Judd (2014) advise it is unwise to draw strict conclusions about full or partial mediation because there is lack of power in detecting a significant direct effect between independent and dependent variables. Overall, the hypothesized model explained 40 percent of the variance in WFC at T2 and 44 percent of the variance in sleep problems at T2.

Discussion

Main findings

The current study examined the relationship between international business travel and sleep problems, and tested whether the relationship was mediated through WFC over a one-year follow-up period. The contribution of this study is twofold: first, it contributes to the literature on international careers by providing evidence that international business travel is a job demand that can lead to sleeping problems in line with the
health impairment process of the JD-R model (Demerouti et al., 2001) among IBTs. Second, although international business travel was not found to have any direct effect on sleep problems over time, extended international business travel significantly increased WFC among IBTs, which in turn predicted subsequent sleep problems. Thus, our main hypothesis (H3) anticipating mediation via WFC was supported, although the mediation effect was not strong. Theoretically, our findings extend the health impairment process of the JD-R model by revealing this mediation mechanism.

Furthermore, in line with previous studies (Jensen, 2013; Mäkelä et al., 2015; Westman et al., 2008) and our hypothesis (H1), more time spent on international business travel was related to high WFC at both measurement points. It is worth mentioning that we used the total number of days spent on international business trips per year as the indicator of international business travel. Thus, our study suggests (as did the aforementioned study by Mäkelä et al., 2015) that the duration of travel makes an important contribution to WFC. In the study by Mäkelä et al., it was even more important than the number of trips. It is interesting to note that in Jensen’s study (2013) of a wide range of business travelers, IBTs were not those with the highest level of WFC. In fact, regular domestic commuters had the highest recorded levels of WFC. Jensen suggests this finding might be explained by the frequency of departures and returns among this group of travelers. It also suggests that the frequency of trips is important.

Moreover, our hypothesis (H2) anticipating a positive link between WFC and sleep problems over time was also supported in line with the previous (mostly cross-sectional) studies (e.g. Lallukka et al., 2010, 2013). Thus, our results showed that role conflicts between work and family are likely to have negative health effects in terms of sleep problems over a one-year period. It is worth remembering that the occurrence of sleep problems at T1 was controlled for in our model, which means that WFC at T1 predicted an increase in sleep problems at T2. As the incidence of sleep problems was moderately stable over time, it makes it difficult to identify cross-lagged effects because there is not as much variance remaining to be explained.

As mentioned above, the results of this study showed that international business travel, as a specific job demand, did not predict sleep problems directly over time, but did so indirectly through WFC. This mediation effect indicates that employees with a high number of traveling days each year do not necessarily suffer from sleep problems. However, if such employees also experience a high level of WFC as a consequence of a great deal of traveling, they are at a greater risk of sleep problems. Jensen (2013) found a similar pattern of results when studying the mediator role of WFC in the relationship between frequency of traveling and emotional exhaustion. This relationship was mediated by WFC, and there was no direct link between traveling and exhaustion. In line with the study by Westman and Etzion (2002), it appears that the consequences of international business travel are not always critical if the focus is on the travelers’ health. However, it is the dual aspects of the time IBTs spend abroad, and the worry related to being away from home and family that increase their risk of experiencing WFC.

Several variables were included in the mediation model to control for their effect. The analysis revealed that a high workload was the most important single predictor of WFC, increasing it considerably. The finding is in line with previous studies (see Michel et al., 2011, for a meta-analysis) and also relevant in the context of traveling for work (Jensen, 2013). In addition, having children and being young increased travelers’ WFC to some extent. These results are also in line with an earlier study concerning business
travelers (Jensen, 2013) and others affected by WFC in general (Jansen et al., 2003; Kinnunen et al., 2004). Furthermore, WFC was at a lower level among travelers who exercised regularly, a finding that may relate to the fact that regular physical activity is important to well-being (Daley and Parfitt, 1996; Dubbert, 2002) and suggesting exercise may boost resources available to deploy to meet work and family commitments. Moreover, our study showed that women experienced less WFC than men when traveling, which is a finding contrary to those in previous studies on traveling. Most have reported that either WFC is higher overall among female travelers than it is among their male counterparts (Westman et al., 2008) or that gender is not a significant predictor of travelers’ work-life conflict (Jensen, 2013; Mäkelä et al., 2015). The contradictory findings might be explained by the fact that in our sample, female respondents traveled less frequently than men did.

In line with previous studies (Elovainio et al., 2009; Åkerstedt et al., 2009), our results supported the view that a high workload also contributes to sleep problems. In addition, gender (being female) and age (being older) were associated with sleep problems in line with earlier studies (Elovainio et al., 2009; Lallukka et al., 2010). Of the previously reported risk factors relating to health behavior, only alcohol consumption increased sleep problems in our study (Harvey, 2001).

Our study contributes to current knowledge of the JD-R model by providing evidence about international business travel as a job demand. We also contribute to the earlier literature by studying the quality of sleep experienced by IBTs rather than the quantity of sleep they get (Burkholder et al., 2010). Our results enhance the current body of research by showing the important role of WFC as a mediator between international business travel and sleep problems over a one-year period. Thus, our study adds to the understanding of the mechanisms through which specific job demands may lead to health impairment and outcomes like sleep problems. The link between international business travel and sleep problems would not have been found without testing the mediation role of WFC.

Strengths and limitations
This study has several strengths including its use of a full two-wave panel design, which is recommended for exploring causal relations (Kelloway and Francis, 2013). In addition, we adopted mediation models to examine the mechanisms leading to sleep problems, as recommended in earlier studies (Williams et al., 2006). Furthermore, our longitudinal sample was large and not selective on the basis of the associated study variables, WFC or sleep problems, which improves the generalizability of the results. Nevertheless, there are several limitations of this study that should be acknowledged. The first is that the data set was based on self-reports, so common method variance may have affected our findings. However, it has been argued that assuming that common method variance automatically affects variables measured with the same method can be an oversimplification (Spector, 2006), and our longitudinal design mitigates this threat. Nevertheless, in future studies data collection methods other than self-reports, perhaps register-based measures of business trips and physiological indicators of sleep or other health issues, should also be integrated with self-report measures. The second limitation is that sleep problems were measured with a single-item measure, the reliability of which cannot be evaluated. Third, regarding the time lag, we used a period of one year, but it has not been established theoretically whether that period is appropriate for examining the effects of business travel on sleep problems. Therefore, future studies might employ different time lags. Our one-year
period did reveal the mediation effect via WFC on sleep problems, but it is possible that a longer or shorter time period might expose the direct effects of business travel on sleep problems more effectively, perhaps by revealing acute or chronic sleep disorders. The fourth limitation relates to the measurement points. We acknowledge that using at least three measurement points to study mediation would have been the best option in terms of research design (MacKinnon, 2008). We suggest that in future, mediation research adopts this recommendation of using three measurement points when planning the data collection. In addition, with regard to international business travel, future research focusing on its special demands and resources and possible alternative health-related issues other than sleep problems would be welcome.

Practical implications
The findings of this study suggest that organizations employing IBTs should pay particular attention to the workload of those employees and the options available to them to combine their work and family roles. Organizational practices regularly monitoring the workload of employees, for instance, by instituting regular one-to-one reviews with a supervisor would probably benefit both IBT and employer. Such reviews can help IBTs to organize their tasks to address an unsustainable workload. Second, HR policies and practices related to international business travel, focussing particularly on the duration of business trips, might help IBTs to reduce their levels of WFC. For instance, organizations could develop an IT system to monitor an employee’s international travel days. When a critical number of travel days are accrued (say 30 in the preceding six months) the system could automatically trigger a process involving HRM, a supervisor or an occupational health expert checking for the risk of WFC (and via that to sleep problems). A decrease in WFC can protect IBTs from harmful health effects, and the issues caused by sleep problems in particular. Moreover, our findings may also prove helpful to occupational health care professionals with clients whose work includes traveling. Regularly tracking the general workload and the intensity of travel and discussing the related risk factors, such as WFC, and the potential health effects, like sleep problems, could also help travelers take better care of themselves.

References


Further reading


Appendix 1. Regression coefficients of direct effects

<table>
<thead>
<tr>
<th></th>
<th>B (95% CI)</th>
<th>Std. β</th>
<th>SE</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traveling days (pre T1)</td>
<td>0.49 (0.40-0.58)</td>
<td>0.65</td>
<td>0.023</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Traveling days (pre T2)</td>
<td>0.01 (0.00-0.01)</td>
<td>0.17</td>
<td>0.001</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>WFC T1</td>
<td>0.54 (0.48-0.59)</td>
<td>0.56</td>
<td>0.027</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>WFC (T2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traveling days (pre T2)</td>
<td>0.00 (0.00-0.00)</td>
<td>0.04</td>
<td>0.001</td>
<td>0.145</td>
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<tr>
<td>WFC (T1)</td>
<td>0.06 (0.02-0.12)</td>
<td>0.06</td>
<td>0.029</td>
<td>0.034</td>
</tr>
<tr>
<td>Sleeping problems (T1)</td>
<td>0.67 (0.61-0.72)</td>
<td>0.65</td>
<td>0.027</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Sleeping problems (T2)</td>
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</table>

Table AI.
Relations between traveling days, WFC and sleeping problems across time.

Notes: B, regression coefficient; 95% CI, 95 percent confidence interval for B; Std. β = standardized regression coefficient; SE, standard error.
<table>
<thead>
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<th>WFC (T1)</th>
<th>Sleeping problems (T1)</th>
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</thead>
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<tr>
<td></td>
<td>B (95% CI)</td>
<td>Std. β</td>
</tr>
<tr>
<td>Traveling days (pre T1)</td>
<td>0.01 (0.01–0.01)</td>
<td>0.34</td>
</tr>
<tr>
<td>Gender (Woman)</td>
<td>-0.16 (-0.31– -0.01)</td>
<td>-0.06</td>
</tr>
<tr>
<td>Age</td>
<td>-0.01 (-0.02–0.00)</td>
<td>-0.06</td>
</tr>
<tr>
<td>Having children</td>
<td>0.26 (0.13–0.38)</td>
<td>0.11</td>
</tr>
<tr>
<td>Having a relationship</td>
<td>0.16 (-0.12–0.41)</td>
<td>0.03</td>
</tr>
<tr>
<td>Supervisor position</td>
<td>0.04 (-0.08–0.17)</td>
<td>-0.02</td>
</tr>
<tr>
<td>Workload</td>
<td>0.56 (0.49–0.64)</td>
<td>0.42</td>
</tr>
<tr>
<td>Smokes cigarettes</td>
<td>0.03 (-0.14–0.19)</td>
<td>0.01</td>
</tr>
<tr>
<td>Don’t smoke cigarettes anymore</td>
<td>-0.06 (-0.20–0.08)</td>
<td>-0.02</td>
</tr>
<tr>
<td>BMI</td>
<td>0.01 (-0.01–0.03)</td>
<td>0.04</td>
</tr>
<tr>
<td>Weekly alcohol consumption</td>
<td>0.00 (-0.01–0.02)</td>
<td>0.02</td>
</tr>
<tr>
<td>Physical exercise</td>
<td>-0.11 (-0.16– -0.05)</td>
<td>-0.11</td>
</tr>
</tbody>
</table>

Notes: B, regression coefficient; 95% CI, 95 percent confidence interval for B; Std. β, standardized regression coefficient; SE, standard error.
About the authors
Dr Liisa Mäkelä is an Assistant Professor in the Department of Management at the University of Vaasa, Finland. Her research interests lie in international careers, work-life balance issues, occupational well-being, gender and leadership. She has published in these areas both internationally and nationally articles in journals, including Human Resource Management, Gender, Work and Organization, International Human Resource Management and Thunderbird International Business Review. Dr Liisa Mäkelä is the corresponding author and can be contacted at: llbm@uva.fi

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