

International business travelers' job exhaustion: effects of travel days spent in short-haul and long-haul destinations and the moderating role of leader-member exchange

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Abstract

Purpose – The purpose of the present study is to examine the general and travel-specific job exhaustion of international business travelers (IBTs). The study employs a JD-R model to explain general and travel-specific job exhaustion (IBTEhx) through international business travel as demand and leadership (LMX) as a resource buffering the demands of international business travel.

Design/methodology/approach – The study was conducted among Finnish service company employees who had taken at least one international business trip during the previous year. The data ($N = 569$), collected in 2015, were analyzed with path models.

Findings – The results suggest that a higher number of international business travel days is related to a higher level of job exhaustion, especially the exhaustion related to international business travel. Moreover, a high-quality LMX was found to be linked to lower levels of both types of exhaustion. Interestingly, for those IBTs' with a low-quality LMX, even a high number of long-haul international business travel days was not connected with IBTEhx.

Originality/value – The contribution of our study is threefold. First, this study contributes to JD-R theory and the ill-health process by focusing on a job-specific well-being indicator, IBTEhx, in addition to general exhaustion. Second, specific job demands related to international business travel, particularly the duration of business travel spent in short-haul and long-haul destinations, contributes to the literature on global mobility. This study sheds light on the potential effects on IBTs of different types of business travel. Third, our study contributes to the leadership literature and the importance of acknowledging the context in which LMX occurs.

Keywords International business travelers, Long-haul business trips, Short-haul business trips, Job exhaustion, Leader-member exchange, Job demands-resources model

Paper type Research paper

Introduction

The internationalization of business has increased enormously in recent decades owing to advances in communication technology, falling trade barriers and highly developed transportation (Economist Intelligence Unit, 2015; Economist, 2015). However, the COVID-19 crisis has forced organizations to temporarily curtail the short-term global mobility of



employees (GBTA, 2020). Nonetheless, organizations are still operating in a global business environment, and global geographical mobility among employees has played an important role in the success of those organizations (Gustafson, 2014; Haynes, 2010; Kesselring, 2015). One important group of such employees are international business travelers (IBTs), who should be seen as an important resource for companies (Collings *et al.*, 2009; De Cieri *et al.*, 2007). Therefore, it is important to extend the understanding of how business travel affects IBTs' job exhaustion, which has in turn been linked to many important organizational outcomes in domestic studies, such as performance (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001).

International business travel typically involves long working hours, time spent in airports and on airplanes, and operating in stressful and risk-laden work environments (Gustafson, 2014; Mäkelä and Kinnunen, 2016). It is therefore unsurprising that reports indicate that the more time IBTs spend traveling, the more they suffer from physiological and psychological problems (Bergström, 2010; Jensen and Knudsen, 2017, see for a review Patel, 2011). The intensity of business travel thus seems to be one critical factor affecting the exhaustion of IBTs. Studies focusing on business travel intensity have typically addressed either the number of business trips (Bergbom *et al.*, 2011a; Dimberg *et al.*, 2002; Espino *et al.*, 2002; Jensen, 2013; Jensen and Knudsen, 2017; Niessen *et al.*, 2018; Westman *et al.*, 2009) or the total number of international business travel days (Bergström, 2010; Espino *et al.*, 2002; Mäkelä *et al.*, 2014; Rundle *et al.*, 2018), but the aspect of how far they need to travel and how long they need to stay before affecting outcomes has rarely been studied.

Geographical distance plays an important role in tourism travel and different characteristics (e.g., in terms of motivation and consumer behavior) affect travel to more distant destinations (long-haul travel) and travel to closer destinations (short-haul travel) (see, e.g., Bianchi *et al.*, 2017), but the findings are not directly applicable in the context of business travel because the reasons for traveling are very different and, for instance, IBTs have little say in whether to travel to a particular destination (Rezaei *et al.*, 2018). However, it has been suggested that long-haul business trips may have stronger effects on IBTs' health and well-being than short-haul trips (Burkholder *et al.*, 2010) but to date, there does not seem to have been any published research shedding more light on this assertion. Therefore, the current research aims to contribute to current knowledge by studying the effects of the duration (number of international business travel days) of international business travel to short-haul and long-haul destinations on exhaustion among IBTs.

Earlier studies concerning IBTs' work well-being have reported that intensive international business travel (Bergbom *et al.*, 2011a; Burkholder *et al.*, 2010; Jensen and Knudsen, 2017; Mäkelä *et al.*, 2014; Patel, 2011; Striker *et al.*, 2000) or travel-related psychological demands (Mäkelä and Kinnunen, 2016) are job demands that increase the risk of travel stress and job exhaustion as a core component of burnout. However, these studies have focused mainly on general indicators of IBTs' work well-being, but it has been suggested that well-being indicators that are directly travel-related may be more relevant when studying this kind of specific group of employees (Mäkelä and Kinnunen, 2016). For instance, job demands associated with international business travel and resources have been found to predict the variance of the IBT specific indicator of work well-being (travel-related job satisfaction) far more accurately than general ones (exhaustion and vigor) (Mäkelä and Kinnunen, 2016). Therefore, in this study, we focus not only on general job exhaustion, referring to feelings of strain and fatigue that occur as a consequence of a person's work (Maslach *et al.*, 2001; Salmela-Aro *et al.*, 2011), but also on exhaustion related to international business travel (IBTExh). To provide new insights into the effects of international business travel, this research will study the association of the duration of international business travel to short-haul and long-haul destinations (travel days/past 12 months) and the total number of travel days on IBTExh and general exhaustion.

Furthermore, the way in which people are led in organizations is an important job resource (Harms *et al.*, 2017; Schaufeli and Taris, 2014). Leadership in the context of international business travel is an understudied phenomenon although it relates to many topical questions in modern working life. Leadership increasingly happens in the context of distance working (Antonakis and Atwater, 2002; Bligh and Riggio, 2013), or virtual teams (Zander *et al.*, 2012; Nurmi and Hinds, 2016) in which supervisor and subordinate do not physically work in the same place. The global COVID-19 pandemic has prompted a radical growth in remote working as many organizations have been forced to switch to virtual channels and ways of working (Carroll and Conboy, 2020; Waizenegger *et al.*, 2020) – a change in direction that has both added physical distance and heightened dispersion among people. Being on an international business trip is time spent in different and changing locations that might be very far away (e.g., on a long-haul trip) thus IBTs and their supervisors are very often working at a physical distance from one another. In particular, the longer the duration of trips and the further away the destination, the greater is the distance between the supervisor and the subordinate.

One stream within the field of leadership that warrants more research in the international context, is leader-member exchange theory (LMX) (Pellegrini, 2015). The research on LMX in international contexts is mainly concentrated on viewpoints on cultural issues (e.g., Rockstuhl *et al.*, 2012) and the influence on working relationships of the international work context and its characteristics has been neglected. One very recent study showed that functional distance – operationalized with the quality of the dyadic leader-member exchange relationship (LMX) (e.g., Graen and Uhl-Bien, 1995) – is an important predictor of expatriates' satisfaction with their job abroad (Mäkelä *et al.*, 2019). It is, therefore, possible that LMX, a concept taking account of mutual trust, loyalty, and the reciprocal contribution to work (Liden and Graen, 1980; Uhl-bien and Maslyn, 2003), might offer a relevant route to studying leadership in the context of international employees who typically work quite autonomously with responsibilities around the globe. Moreover, the theoretical discussion on LMX should be expanded to international work contexts, and especially in the context of intense international business travel since that often creates a physical distance between leader and the subordinate.

The current research explores whether LMX quality affects IBTs' general job exhaustion and IBTEh. Moreover, in light of job demands-resources (JD-R) theory (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001) that holds that job demands and job resources exert individual effects on work well-being, but job resources can potentially buffer the negative effects of job demands (affecting ill-health), we also study if LMX is a job resource with the potential to buffer the negative effects of the duration of international business travel to short-haul and long-haul destinations.

The contribution of the current research is threefold; first, this study contributes to JD-R theory and the ill-health process by focusing on a job-specific well-being indicator, IBTEh, in addition to general exhaustion. Second, specific job demands related to international business travel, in particular, the duration of business travel to short-haul and long-haul destinations, contribute to the literature on global mobility. Third, our study contributes to the leadership literature and the importance of acknowledging the context in which LMX occurs. Next, the relevant literature is reviewed, and hypotheses are developed.

International business traveling as a job demand

The JD-R model accepts that each form of work makes specific demands on the worker that can be physical, emotional, or cognitive strain arising from the work (Bakker and Demerouti, 2007; Bakker *et al.*, 2014; Demerouti *et al.*, 2001). High job demands lead to reduced well-being, in the form of, for instance, burnout through the ill-health process (Demerouti *et al.*, 2001;

Salmela-Aro *et al.*, 2011). In other words, if employees continually face highly demanding tasks, their mental and physical resources will be consumed, and those employees will feel exhausted. Job resources are characteristics of the job that may be instrumental in achieving work goals and are important as they mitigate the negative effects of job demands (Demerouti *et al.*, 2001).

In this study, we focus on the ill-health process and investigate the primary symptom of burnout – exhaustion (Maslach *et al.*, 2001) – because it is often a result of over-demanding work circumstances and the intense strain caused by specific working conditions (Demerouti *et al.*, 2001, 2002). In addition, we aim to contribute to JD-R theory by showing the importance of studying not only the demands and resources specific to certain jobs but also job-specific outcomes, here related to IBTs' well-being. Therefore, as a job-specific indicator, we also study IBTExh, which we define as feelings of strain and fatigue that *occur during (or owing to) international business travel*. This construct is closely linked to the concept of general job exhaustion but aims to capture IBTs' experiences specifically related to travel. This is important because international business travel may also involve many positive elements, for instance, in providing a respite from routine work challenges (Westman and Etzion, 2002). Therefore, it is possible that although IBTs' are exhausted from the demands of their job in general, their experiences may be different with regard to their international business travel.

In general, international business trips have been associated with various job demands (Gustafson, 2014; Jensen and Rundmo, 2015; Mäkelä and Kinnunen, 2016; Rezaei *et al.*, 2018). International-business-travel-related job demands are linked to traveling itself, such as problems with travel logistics, unexpected travel delays, and air travel such as the physical discomfort involved (Bergbom *et al.*, 2011b; Ivancevich *et al.*, 2003). Furthermore, there are demands related to travel destinations, that is, change of time zone, cultural and climate differences between home and host countries, and risks related to health and safety (Bergbom *et al.*, 2011b; DeFrank *et al.*, 2000; Gustafson, 2014; Ivancevich *et al.*, 2003; Patel, 2011; Rezaei *et al.*, 2018). Moreover, work requirements can be very demanding on a business trip because research shows that mobile employees work long hours (Hyrkkänen and Vartiainen, 2005; Hyrkkänen *et al.*, 2011) and suffer from excessive time pressure, and workload (Gustafson, 2014).

Objective features of the trips, such as the duration (number of travel days) and frequency of trips (number of business trips) have also been studied as an indicator of the demands caused by travel (Jensen, 2013; Jensen and Knudsen, 2017; Liese *et al.*, 1997; Mäkelä *et al.*, 2015a, b; Mäkelä *et al.*, 2014; Niessen *et al.*, 2018; Westman and Etzion, 2002). It has been reported that the more intensive is IBTs' travel (as measured by frequency and/ or duration), the more common are problems such as increased alcohol consumption, sleep deprivation and feelings of insecurity about the ability to keep pace with their workload (Burkholder *et al.*, 2010; Rundle *et al.*, 2018). Increased trip frequency has been associated with dissatisfaction with traveling, greater stress, problems maintaining social networks and work-family conflict (Bergbom *et al.*, 2011b; Jensen, 2013; Jensen and Knudsen, 2017; Niessen *et al.*, 2018; Westman *et al.*, 2009).

Moreover, the duration of business travel has been suggested to be an even more important job demand for IBTs than is the frequency of trips (Mäkelä *et al.*, 2013). 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 *et al.*, 2002; Mäkelä *et al.*, 2013, 2015b). One study showed that long-duration business trips increase the risk of job exhaustion among IBTs (Mäkelä and Kinnunen, 2016).

In light of the above, the time a person has to spend on business trips seems to be an essential job demand for a job involving international business travel and is therefore likely to contribute to the exhaustion experienced during business trips. In addition, time spent

traveling is time away from the office base; which can cause a backlog of work tasks, important decision-making events and information-sharing opportunities being missed, limited opportunities to communicate with peers and supervisors, and also to build and maintain social relationships at work (Bergström, 2010). In the domestic work context, a lack of social support, lack of feedback and not being able to participate in decision-making increase the risk of burnout (Maslach *et al.*, 2001). Therefore, the duration of business trips could contribute to IBTs' general job exhaustion too. Thus, following JD-R theory and earlier empirical evidence we hypothesize:

- H1a.* The duration of international business trips is positively related to exhaustion related to international business travel (IBTExh) and general job exhaustion.

We found only one study exploring the issues affecting short-haul and long-haul business travelers (Ho and McKercher, 2014). That study focused on business travelers as consumers and the characteristics (e.g., gender and age) of short-haul and long-haul business travelers, it does not, therefore, enhance the understanding of IBTs' work well-being. Although we did not find empirical evidence on the different effects of business trips to short-haul and long-haul destinations on IBTs' exhaustion, earlier literature has suggested that long-haul business trips may affect IBTs' well-being more strongly than short-haul trips (Burkholder *et al.*, 2010). Moreover, according to JD-R theory, job demands may accumulate, which might increase the probability of job exhaustion (Van Woerkom *et al.*, 2016). Business trips to long-haul destinations involve long flights, often significant time differences, and may also be linked to greater cultural distance compared to business trips to short-haul destinations (Bergbom *et al.*, 2011a; Rezaei *et al.*, 2018). Therefore, it might be assumed that as JD-R theory suggests, the accumulation of job demands, that is, trips longer in duration and distance, also intensifies job exhaustion among IBTs and therefore we hypothesize:

- H1b.* The duration of business trips to long-haul destinations has a stronger positive relation to job exhaustion (exhaustion related to international business travel (IBTExh) and general job exhaustion) compared to trips to short-haul destinations.

Moreover, when studying specific work contexts, such as international business travel as here, it is logical to focus not only on general indicators of job demands, job resources and related outcomes but also on concepts relating specifically to that context; for example, job demands relating to international business travel (risks associated with travel destinations and general travel-related demands) and resources (HR support for international business travel) have been found to be a far better predictor of the variance of the IBT specific indicator of work well-being (travel-related job satisfaction) than general ones (exhaustion and vigor) (Mäkelä and Kinnunen, 2016). Therefore, it is possible that job demands directly focusing on travel are better predictors of travel-related exhaustion than general exhaustion and thus we also test the following hypothesis:

- H1c.* International business travel duration has a stronger association with job exhaustion related to international business travel (IBTExh) than with general job exhaustion.

Leader-member exchange as a job resource in the context of international business travel

According to the JD-R model, all jobs also involve resources that are instrumental to achieving work goals (Schaufeli and Taris, 2014). Job resources are linked to the positive sides of work well-being, and high levels of resources are linked to, for example, lower levels of perceived exhaustion (Bakker and Demerouti, 2007; Bakker *et al.*, 2014). The impact of leadership on, for example, job resources, and well-being outcomes should be more

thoroughly studied (Bakker and Demerouti, 2017). Therefore, one important job resource to study is the way in which people are led in organizations (Breevaart *et al.*, 2015; Schaufeli and Taris, 2014) and the essential role of leadership has also been recognized in the context of work that forces supervisors and subordinates to work at a physical distance from each other (Antonakis and Atwater, 2002; Bligh and Riggio, 2013; Mäkelä *et al.*, 2019; Zander *et al.*, 2012), that is also the case for international business travel. A functioning dyadic relationship with one's supervisor is perceived to be a particularly valuable resource and has the potential to mitigate emotional exhaustion (Huang *et al.*, 2010; Lai *et al.*, 2018; Thomas and Lankau, 2009).

A fundamental aspect of leadership is the dyadic relationship between employee and leader, which is examined through LMX theory (Dienesch and Liden, 1986; Liden and Graen, 1980). The LMX concept originates from the idea that leaders develop exchange relationships with their subordinates, which are unique and vary in quality (e.g., Graen and Uhl-Bien, 1995). High-quality LMX is characterized by mutual trust, liking, respect, interaction and support (Dienesch and Liden, 1986; Gertner and Day, 1997; Graen and Uhl-Bien, 1995; Liden and Maslyn, 1998).

The quality of LMX has been linked to positive outcomes for the subordinate, such as obtaining information on work tasks or organizational issues (Feldman, 1986; Graen *et al.*, 1990; Kacmar *et al.*, 2003). The relationship quality within an LMX has been linked to subordinate burnout (exhaustion being a core component), with low-quality relationships increasing the risk (Huang *et al.*, 2010; Thomas and Lankau, 2009). Moreover, LMX has been seen as an important job resource in the context of international work, as the functional closeness between supervisor and expatriate (i.e., a high-quality LMX) increases satisfaction with an expatriate job (Mäkelä *et al.*, 2019). However, face-to-face interactions and communicative exchanges have been raised as important factors in the development and maintenance of functioning LMX relationships (Omilion-Hodges and Baker, 2017), and therefore the context of international work, characterized by physical distance among other aspects, poses challenges for LMX relationships and their role as an important resource.

Moreover, the context in which the LMX-relationships are situated should be considered, because different contexts (e.g., one involving great physical distance) can affect the relationships and their outcomes (Kangas, 2020). Research has called for a contextual view to be applied to LMX theory (Liden *et al.*, 2016) and also to leadership literature (Oc, 2018). Currently, the literature offers little on the role of leadership and LMX in the context of international business travel. Only one study explores the effect of supervisory support during business trips alongside family support during business trips on satisfaction with work-related travel (Mäkelä *et al.*, 2015a). That study reported a statistically significant positive correlation between supervisor support and satisfaction with work-related travel. However, in the regression analysis, supervisory support was not found to contribute to IBTs' satisfaction with work-related travel, whereas family support did. While Mäkelä, De Cieri and Mockaitis did not find supervisor support during business trips was as important as family support, it is worth noting that the aforementioned study takes quite a narrow view of leadership; it is therefore possible that a more comprehensive approach to leadership – reflected in the quality of the LMX – might be an important job resource for IBTs and be linked to both their exhaustion in general and that felt during business trips.

Therefore, a high-quality LMX as a job resource, may have an impact on the level of exhaustion experienced by IBTs, and we hypothesize:

- H2.* High-quality LMX is related to lower levels of exhaustion and exhaustion related to international business travel (IBTExh).

Leader-member exchange buffering the effects of the duration of business trips

According to the JD-R model, the interaction between job resources and job demands influence the development of well-being at work (Bakker and Demerouti, 2007) and job

resources are likely to buffer the effect of job demands on negative well-being, such as burnout (Bakker *et al.*, 2014; Demerouti *et al.*, 2001). One essential situational variable to buffer job demands is social support (Schaufeli and Taris, 2014), and for the individual, one of the important sources of organizational-related social support is the immediate supervisor (Rousseau and Aubé, 2010).

A high-quality LMX will incorporate a more comprehensive approach to leadership than social support alone and has the potential to buffer the negative effects of the duration of trips on exhaustion among IBTs. An example of such negative effects would be when IBTs who are away from headquarters for significant periods have reduced access to information and are thus less involved in key decision-making (Ivancevich *et al.*, 2003; DeFrank *et al.*, 2000). However, people in a high-quality LMX are usually provided with more information (Sias, 2005), instrumental help and emotional support (Hsu *et al.*, 2010) by their immediate supervisor, which might buffer the negative effects of the long duration of trips, especially on general job exhaustion. Furthermore, the more time IBTs spend abroad, the more they also risk encountering challenging work situations while abroad (Hyrkkänen and Vartiainen, 2005). They may also experience loneliness and isolation from their work community (Burkholder *et al.*, 2010; Rezaei *et al.*, 2018) as studies of virtual teams have revealed that remote team members feel isolated (Breu and Hemingway, 2004; Cramton, 2001). Having a high-quality LMX may lower the threshold of asking for help in problematic situations or contacting a supervisor to strengthen social ties at work. Such situations might buffer the negative effects of long-duration business trips on IBTExh. Therefore, following the assumption from JD-R theory that job resources can buffer the negative effects of job demands we hypothesize that:

H3a. The adverse association of international business travel duration with job exhaustion and job exhaustion related to international business travel (IBTExh) is stronger among employees with a low-quality LMX than among those with a high-quality LMX.

In addition, the JD-R model indicates that job resources deliver their full potential particularly when employees are facing very intense job demands (Bakker and Demerouti, 2007). In addition, HR support from a person's employer during business trips is especially beneficial when the travel destination is associated with considerable risk (Mäkelä and Kinnunen, 2016). As suggested earlier, long-haul business trips are likely to involve even more demanding elements than short-haul trips. The benefits of a high-quality LMX are especially important in situations requiring an IBT to work in a long-haul destination marked by high cultural distance and great physical distance from the home office, for example. Therefore, a high-quality LMX, typified by experiences of trust, loyalty and open communication, might be especially important in the context of long-haul business travel, and we therefore hypothesize:

H3b. LMX buffers the effects of trip duration more strongly for long-haul international business travel than it does for short-haul international business travel.

Method and data

Sample

The sample ($N = 570$) was collected in 2015 from a Finnish software and service company operating in several countries and employing over 13,000 people. The web-based questionnaire was sent to only those employees who had made at least one international business trip during the previous year. The sample comprises employees of 21 nationalities living in 19 countries. Most of the participants were men (77%) and the mean age was 42.45 ($SD = 9.50$). Among the sample, 80% were married or cohabiting and 65% had children.

A majority of respondents had worked in a role requiring travel for some time (10.16 years, SD = 8.18). Almost half (40%) were in the middle levels of the hierarchy in their organization and lower-level positions were a little more common than higher-level positions. One outlier was excluded from the sample on the grounds of reporting 150 short-haul and 150 long-haul international business travel days in the previous year, which left 569 respondents in the final sample.

Measures

The duration of international business trips was evaluated based on the informants' answers to the questions: "How many international short-haul business travel days have you had during the past 12 months?" and "How many international long-haul business travel days have you had during the past 12 months?" The answers to both questions were round numbers and the total number of international business travel days was calculated by adding the two numbers together.

Leader-Member Exchange quality was measured with an eight-item LMX scale based on the validated LMX-UVA scale (Mäkelä *et al.*, 2019; Tanskanen *et al.*, 2019). Sample items include these: "We trust each other" and "We can genuinely listen to each other's opinions." Responses were given on a 5-point Likert scale anchored with *strongly disagree* (1) and *strongly agree* (5) and the Cronbach's alpha for the scale was 0.95.

We measured *job exhaustion* with the validated short version of the Bergen Burnout Inventory (Näätänen *et al.*, 2003; Salmela-Aro *et al.*, 2011). Respondents were instructed to think about their work in general while assessing the items: "I am snowed under with work"; "I often sleep poorly because of the circumstances at work" and "I constantly have a bad conscience because my work forces me to neglect my close friends and relatives" that were scored on a 6-point scale anchored with *never* (1) and *all the time* (6). The Cronbach's alpha for job exhaustion was 0.77.

To specifically capture the perceptions concerning IBTE_{exh}, respondents were instructed to think specifically about their international business trips while addressing the above-mentioned three items with similar scoring (1–6), sample item: *Thinking about my international business trips. When on a business trip, I am snowed under with work.* The Cronbach's alpha for IBTE_{exh} was 0.67, which is slightly below the recommended 0.70 value. However, inter-item correlation values varied between 0.35 and 0.46 which fit the recommendations made by Briggs and Cheek (1986).

A confirmatory factor analysis (CFA) was conducted with Mplus 8.0 (Muthén and Muthén, 1998–2017) with a robust maximum likelihood estimation to examine the validity of the measurement model. The CFA model included measurements of LMX, job exhaustion and IBTE_{exh}. Because the matching items of job exhaustion and IBTE_{exh} were similarly worded, the error variances between them were freed to be estimated (Brown, 2006). The modified measurement model produced satisfactory model fit ($\chi^2(71) = 324.83$, $p < 0.001$; RMSEA = 0.08; SRMR = 0.04; CFI = 0.92; TLI = 0.89) regarding the standard fit indices and their cut off values, where RMSEA and SRMR < 0.08 and CFI and TLI > 0.90 indicate a satisfactory fit (Hu and Bentler, 1999). Standardized item loadings were in general of a satisfactorily high level (>0.70), although three loadings were low (0.63, 0.62, 0.55).

Control variables

The background variables gender (female/male), age (in years), children (no/yes), marital status (married/cohabiting; living separately; single), organizational position (1–10, low to high), experience of work requiring business travel (in years) and domestic business travel duration during the past 12 months were controlled for because there is evidence that they are related to the outcome measures used in this study and could be possible confounding factors

Analysis strategy

The analysis was conducted in two phases. First, descriptive statistics were analyzed with IBM SPSS (IBM Corp, 2016). Then Mplus 8.3 (Muthén and Muthén, 1998–2017) was utilized to estimate path models with observed variables. A robust maximum likelihood (MLR) estimation was applied during the analyses. The hypotheses of the study were examined with main effect (step 1) and moderation effect (step 2) models where job exhaustion and IBTExh were investigated simultaneously. In addition, total international business travel duration was studied with separate models from the short-haul and long-haul international business travel duration. The control variables were adjusted in all models. H1b, H1c and H3b were examined by analyzing the differences of regression coefficients with the Wald test. With regard to the examination of moderation effects, the predictors were centered prior to formulating the interaction terms. The study variables held 0–43 (0–8 %) missing cases and multiple imputation for missing data was utilized in the analysis.

Results

Participants reported slightly more IBTExh ($M = 3.34$) than general job exhaustion ($M = 3.13$). Short-haul international business trips were clearly more common as respondents reported on average more than double the number of short-haul international business travel days ($M = 15.70$, range 0–150) than long-haul international business travel days ($M = 7.22$, range 0–120). In total, the mean of international business travel days in the previous year was 22.92 days. The numbers of short- and long-haul international business travel days did not correlate ($r = 0.00$), indicating they are completely independent. Male ($r = 0.14$) and those at the top of the organization hierarchy ($r = 0.11$) logged more short-haul international business travel days compared to female and those at the bottom of the organization hierarchy. Furthermore, younger ($r = -0.13$) and less experienced business travelers ($r = -0.10$) reported more long-haul travel days than older and more experienced respondents. International business travel duration correlated more strongly with IBTExh than general job exhaustion (see Table 1).

H1a proposed that IBT duration has an adverse association with general and IBT related job exhaustion. The examination of total international business travel duration (see Table 2) revealed a positive relationship with both general job exhaustion ($b = 0.05$, $p = 0.003$) and IBTExh ($b = 0.09$, $p < 0.001$) supporting H1a. Thus, a ten-day increase in IBT duration was connected with a 0.09-point increase in IBTExh.

A more detailed analysis separating short-haul and long-haul international business travel duration (see Table 3) indicated that while only short-haul IBT duration ($b = 0.06$, $p = 0.004$) was significantly associated with general job exhaustion the association did not significantly differ ($\chi^2(1) = 1.02$, $p = 0.313$) from the connection of long-haul IBT duration ($b = 0.03$, $p = 0.211$). Similarly, the associations of short-haul ($b = 0.08$, $p < 0.001$) and long-haul ($b = 0.09$, $p = 0.002$) IBT durations on IBTExh did not differ ($\chi^2(1) = 0.06$, $p = 0.807$). Consequently, H1b stating that long-haul IBT duration has a stronger effect on general exhaustion and IBTExh than short-haul IBT duration was not supported.

H1c proposed that IBT duration has a stronger association with IBTExh than with general job exhaustion. The hypothesis gained partial support as total IBT duration was associated significantly ($\chi^2(1) = 4.98$, $p < 0.001$) more strongly with IBTExh ($b = 0.09$, $p < 0.001$) than with general job exhaustion ($b = 0.05$, $p = 0.003$). In addition, long-haul IBT duration was also more strongly ($\chi^2(1) = 4.96$, $p = 0.026$) associated with IBTExh than with

	Mean (SD)	1	2	3	4	5	6
1. Job exhaustion	3.13 (1.05)	–					
2. IBTExh	3.34 (1.00)	0.62 ***	–				
3. Total IBT duration	22.92 (26.41)	0.13 **	0.22 ***	–			
4. Short-haul IBT duration	15.70 (21.61)	0.14 **	0.19 ***	0.82 ***	–		
5. Long-haul IBT duration	7.22 (15.28)	0.03	0.11 **	0.58 ***	0.00	–	
6. LMX	4.21 (0.71)	–0.10 *	–0.08	0.01	0.01	0.00	–
Men	0.77 (0.42)	0.01	0.01	0.13 **	0.14 **	0.03	–0.06
Age	42.43 (9.49)	0.10 *	0.16 ***	–0.08	0.00	–0.13 **	0.02
Has children	0.65 (0.48)	0.13 **	0.19 ***	0.02	0.05	–0.04	0.06
Married/cohabiting	0.80 (0.40)	0.02	0.07	0.02	0.02	0.00	0.07
Living separately	0.05 (0.22)	0.02	0.04	0.01	0.00	0.01	–0.02
Single	0.15 (0.36)	–0.03	–0.11 *	–0.03	–0.03	–0.01	–0.07
Organizational position	5.08 (2.07)	0.14 **	0.13 **	0.11 *	0.12 **	0.02	0.04
Experience of work requiring business travel	10.16 (8.11)	0.10 *	0.14 **	–0.05	0.01	–0.10 *	–0.01
Domestic business travel duration	12.65 (24.41)	0.12 **	0.16 ***	–0.04	0.00	–0.08	0.01

Note(s): Table presents mean and standard deviations (SD) and correlations of main study variables
 * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$

Table 1.
Descriptive statistics

	Job exhaustion		IBTExh	
	Step 1	Step 2	Step 1	Step 2
Intercept	3.18 ***	2.64 ***	3.19 ***	2.81 ***
Male	–0.07	–0.07	–0.11	–0.12
Age	0.00	0.00	0.00	0.00
Has children	0.29 *	0.28 *	0.31 **	0.31 **
Living separately	0.14	0.14	0.20	0.19
Single	0.13	0.13	–0.03	–0.03
Organizational position	0.05 *	0.05 *	0.03	0.03
Experience of work requiring business travel	0.01	0.01	0.01	0.01
Domestic business travel duration /10 days	0.05	0.05	0.06 **	0.06 **
Total IBT duration (/10 days)	0.05 **	0.05 **	0.09 ***	0.08 ***
LMX	–0.16 *	–0.16 *	–0.14 *	–0.14 *
LMX*Total IBT duration (/10 days)		0.01		0.02
R^2	0.08	0.08	0.13	0.13

Note(s): Table presents regression coefficients and their significance levels
 * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$

Table 2.
The connection of total
IBT duration on job
exhaustion and IBT job
exhaustion

general job exhaustion; however, with regard to short-haul IBT duration, there was no significant ($\chi^2(1) = 1.20, p = 0.274$) difference. Overall, the variance of IBTExh ($R^2 = 0.13$) was better explained by the model compared to that for general job exhaustion ($R^2 = 0.08$).

H2 proposed that employees with a low-quality LMX suffer from a higher level of job exhaustion than those with a high-quality LMX relationship. H2 was supported by the analysis because LMX had a significant negative connection with both general job exhaustion ($b = -0.16, p = 0.013$) and IBTExh ($b = -0.14, p = 0.021$).

H3a states that a high-quality LMX buffers the adverse effect of IBT duration on both the general and IBT-related job exhaustion. The analysis revealed that there were no significant interactions between total IBT duration and LMX on general or IBT-related job exhaustion. Moreover, LMX did not significantly buffer the adverse effect of short-haul IBT duration on

Table 3.
The connection of
short-haul and long-
haul IBT duration on
job exhaustion and IBT
job exhaustion

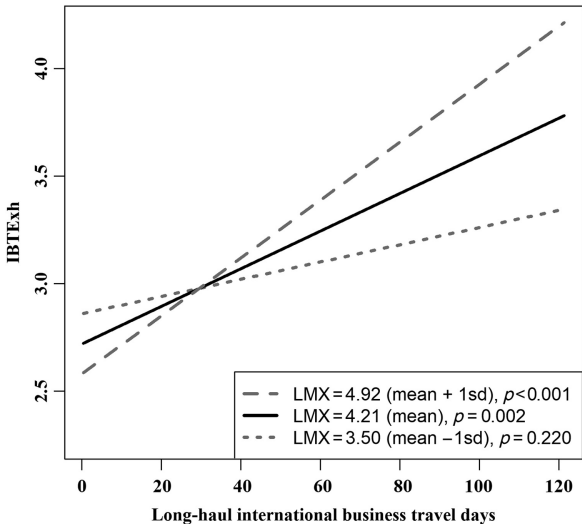
	Job exhaustion		IBTExh	
	Step 1	Step 2	Step 1	Step 2
Intercept	3.21 ***	2.66 ***	3.18 ***	2.79 ***
Male	−0.07	−0.08	−0.11	−0.12
Age	0.00	0.00	0.00	0.00
Has children	0.28 *	0.29 *	0.31 **	0.31 **
Living separately	0.14	0.13	0.20	0.18
Single	0.13	0.13	−0.03	−0.03
Organizational position	0.05 *	0.05 *	0.03	0.03
Experience of work requiring business travel	0.01	0.01	0.01	0.01
Domestic business travel duration (/10 days)	0.05	0.05	0.06 **	0.06 **
Short-haul IBT duration (/10 days)	0.06 **	0.07 **	0.08 ***	0.09 ***
Long-haul IBT duration (/10 days)	0.03	0.03	0.09 **	0.09 **
LMX	−0.16 *	−0.16 *	−0.14 *	−0.15 *
LMX*Short-haul IBT duration (/10 days)		−0.02		−0.02
LMX*Long-haul IBT duration (/10 days)		0.03		0.07 *
R ²	0.08	0.08	0.13	0.14

Note(s): Table presents regression coefficients and their significance levels
* $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$

general job exhaustion ($b = -0.02, p = 0.572$) or on IBTExh ($b = -0.02, p = 0.465$). In addition, the moderation effect between LMX and long-haul IBT duration on general job exhaustion was not significant ($b = 0.03, p = 0.249$). However, there was a significant moderation effect ($b = 0.07, p = 0.025$) between LMX and long-haul IBT duration on IBTExh, but the interaction was partly the opposite of that hypothesized. Thus, H3a was not supported.

The results of the only significant moderation effect indicate that for those with a high-quality LMX, the long-haul IBT duration was positively connected with IBTExh (see Figure 1). However, the long-haul IBT duration was significantly associated with IBTExh only for those having relatively high levels of LMX ($LMX > 3.77$). Even the simple slope

Figure 1.
LMX moderates the
association between
long-haul IBT duration
and IBTExh]



(association between long-haul IBT duration and IBTE_{Exh}) for those having LMX at one standard deviation below the mean was not statistically significant ($p = 0.220$). Thus, the association weakened and became nonsignificant as the quality of the LMX reduced. Consequently, the highest level of IBTE_{Exh} was found among those who had a high number of long-haul international business travel days and had a high-quality LMX. However, when interpreting the results of the moderation analysis it should be noted that most employees had logged only a few long-haul international business travel days (89% had fewer than 20 long-haul IBT days) and therefore the results related to the high level of long-haul IBT duration were uncertain.

However, a confidence interval examination (not shown in Figure 1 for clarity) revealed that within a low level of long-haul international business travel days (i.e., fewer than 20 days) the confidence intervals of the simple slopes did not overlap. Thus, with low level of long-haul IBT duration a high-quality LMX seemed beneficial for employees as those with a high-quality LMX relationship experienced less IBTE_{Exh} than those with a lower-quality LMX relationship. This result is supported also with simple slope test where simple slopes between those whose LMX was one standard deviation above and below the mean differed significantly ($p = 0.025$) from each other (Aiken and West, 1991).

H3b proposed that LMX more strongly buffers the adverse effect of long-haul than short-haul IBT duration. Regarding general job exhaustion, the moderation effects did not differ significantly ($\chi^2(1) = 1.41, p = 0.234$), but regarding IBTE_{Exh}, the moderation effects of long- and short-haul IBT duration on LMX differed significantly from each other ($\chi^2(1) = 4.30, p = 0.038$). However, as high-quality LMX boosted rather than buffered the adverse effect of a high number of long-haul IBT days on IBTE_{Exh}, H3b was rejected.

Discussion

The current study examined both job exhaustion and exhaustion related to international business travel (IBTE_{Exh}) among IBTs. The theoretical framework is built on the job demands-resources (JD-R) model (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001). Viewed as a travel-specific job demand, the duration of short-haul and long-haul business travel and the combination of the two were studied. Viewed as a job resource, LMX was examined alongside its possible buffering effect on the relationship between travel duration and IBTs' job exhaustion and travel-related exhaustion.

The finding that long-duration international business travel is associated with a higher level of job exhaustion and IBTE_{Exh} (H1a) aligns with earlier studies reporting negative effects of intensive business travel (Bergbom *et al.*, 2011a; Burkholder *et al.*, 2010; Jensen, 2013; Jensen and Knudsen, 2017; Mäkelä *et al.*, 2014; Rundle *et al.*, 2018) and confirms that one important job demand related to international business travel is the total number of travel days. Our study contributes to the current literature by exploring the effects of geographical distance to travel destinations. We found that geographical distance does not play an important role in how exhausted IBTs are during their business trips as the positive effect of the duration of long-haul international business trips on IBTE_{Exh} was only marginally stronger than the effect of short-haul international business travel duration. This finding can also be linked to earlier findings (Jensen and Rundmo, 2015), reporting that commuters are more prone to health impairment than are domestic business travelers or international business travelers.

In addition, in contrast to our expectations, long-haul IBT duration did not have a stronger adverse effect on job exhaustion than short-haul IBT duration (H1b). Regarding IBTE_{Exh}, the associations did not differ significantly and the effect of the duration of long-haul business trips on general job exhaustion was not statistically significant, but the duration of short-haul trips significantly increased the risk of such exhaustion. Although the effects of short- and

long-haul IBT duration did not differ significantly from each other, the finding indicates that short-haul trips may place more strain on everyday work requirements than long-haul trips do, thus increasing the risk of general job exhaustion. This finding might also be linked with studies reporting on positive aspects of business trips, which include their potential as a source of professional learning and career advancement (Gustafson, 2014) or to provide an opportunity for respite (Westman and Etzion, 2002). Perhaps long-haul trips to more distant cultural contexts and challenging environments involve even more developmental elements and thus help IBTs to cope with work in general. In addition, it may be possible that being in a different context and far away from the everyday environment offers an opportunity to mentally switch off and obtain some respite from general work demands. Future studies should therefore explore some underlying mechanisms, for instance, the development of career capital (see also, e.g., Dickmann *et al.*, 2018; Jokinen *et al.*, 2008) or recovery mechanisms (Sonnentag, 2018) owing to business trips, that may function differently in the context of the effects of short-haul and long-haul international business trips. This finding may also be interpreted in light of the debate on JD-R theory and the question of whether job demands should be divided into hindrance demands and challenging demands. Hindrance demands would encapsulate the elements of the job that cause strain and negative outcomes; whereas challenging job demands would be those offering development opportunities, for example, which are thus linked to positive outcomes (Bakker and Sanz-Vergel, 2013; Van den Broeck *et al.*, 2010).

In addition, it is worth mentioning that short-haul and long-haul destination travel days did not correlate. Therefore, future studies should explore if there are certain subgroups among international business travelers and if the mechanisms linked, for example, to their well-being and performance are dependent on travel profile (see the comparison between commuters, domestic travelers and IBTs by Jensen and Rundmo, 2015).

We found that the total duration of international business trips and specifically the duration of long-haul business trips had a greater effect on increasing IBTExh than general job exhaustion among IBTs (partially supporting H1c). This finding establishes the applicability of JD-R theory (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001) that highlights the importance of job-specific demands and resources. The findings above indicate that job-specific well-being indicators should also be acknowledged because doing so illuminates the mechanisms related to ill-health process, from antecedents to outcomes. Our finding also supports the idea of the matching principle (Chrisopoulos *et al.*, 2010) and also the importance of studying context-specific antecedent and outcome variables (Mäkelä and Kinnunen, 2016). One important contribution of our study is therefore to introduce a novel contextually relevant concept, that of exhaustion related to international business travel (IBTExh). In addition, we suggest that future studies of IBTs should also explore other travel-related indicators, for instance, travel-related work engagement or its dimensions such as vigor (Bakker and Demerouti, 2007). In addition, other job-specific well-being outcomes, such as those around remote work should be studied in the future.

In addition to the demands related to IBTs' work, the current research examined a resource available to support that work in the form of LMX. The role of leadership is an understudied phenomenon in both the international business travel context and in the literature on JD-R (Bakker and Demerouti, 2017). Our finding that a high-quality LMX was related to lower general job exhaustion and IBTExh (H2) aligns with those of previous studies conducted in a domestic context that directly connect the level of LMX with employee well-being (Agarwal *et al.*, 2012; Dulebohn *et al.*, 2012; Li *et al.*, 2012; Tanskanen *et al.*, 2019). The concept of the LMX also seems to be relevant to the study of leadership in the context of international work, which often entails supervisor and subordinate working at a physical distance (Golden and Veiga, 2008; Mäkelä *et al.*, 2019; Nurmi and Hinds, 2016). Therefore,

future studies should pay more attention to aspects related to LMX among IBTs, such as relationship development and organizational outcomes.

Our results did not indicate a high-quality LMX buffers the negative effects of high IBT duration on either general exhaustion or IBTEhx to a statistically significant degree (counter to H3a). H3b suggested that a high-quality LMX would buffer the negative effect of travel days on both types of exhaustion but more strongly for long-haul than for short-haul travel. Our results did not support this hypothesis.

However, the interaction was statistically significant for the relationship between duration of long-haul destination trips and IBTEhx but the effect was partly opposed to that anticipated. With those having a high number of long-haul travel days, a high-quality LMX did not buffer the adverse effect of long-haul IBT duration on IBTEhx but rather heightened. Thus, IBTEhx was at its highest among those who were in high-quality LMX relationships and reported a high number of long-haul international business travel days. It is however important to note that most employees reported rather few long-haul international business travel days per year and among them, those who had a high-quality LMX suffered less from IBTEhx compared to those with a low-quality LMX. It therefore appears that a high-quality LMX buffered the adverse effect of travel days on IBTEhx for those with a standard number of long-haul international business travel days, as expected and the unexpected moderation results relate to those IBTs reporting a large number of long-haul travel days.

The results suggest that those IBTs with a high-quality LMX suffered from being far away from their supervisors. This finding is difficult to interpret in light of JD-R theory and therefore we suggest that more attention should be directed to the context affecting employees' ill-health and motivational processes (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001). Prior literature offers some indication of the reverse effect of job resources in showing that in some situations and contexts, job resources can be a negative for employees (Biron and van Veldhoven, 2016; Van Veldhoven *et al.* 2020). Moreover, there is evidence that the context might alter the nature and process of the LMX (e.g., Kangas, 2020). Research has also hinted at a negative side of high-quality LMX relationships, which can on occasion have a negative influence on the well-being of the subordinate (Erdogan and Bauer, 2015; Lawrence and Kacmar, 2012). Examples are provided by Henderson *et al.* (2009) and Jiang *et al.* (2014) respectively of high-quality LMX relationships imposing greater expectations on the subordinate and prompting exhaustion. The potential for a high-quality LMX to trigger strain and stress during an international business trip suggests it would be worthwhile investigating whether job resources can be counterproductive in certain circumstances, for instance, if a high-quality LMX brings about negative outcomes if contact between the dyad partners is limited.

The other side of this surprising moderation result is the finding that adverse effects of long-haul IBT duration on IBTEhx decrease and become nonsignificant as the LMX quality reduces. This result suggests that long-lasting long-haul destination trips may not be as harmful or may even be beneficial for those in a low-quality LMX relationship, given that a proportion of IBTs do not experience excess IBTEhx or some even experience less IBTEhx the more time they spent far away from their supervisors. This interpretation is in a line with a recent study on expatriates, in which the physical distance, in particular, working in a different country to the supervisor, increased the expatriate job satisfaction of those expatriates with a low-quality LMX (Mäkelä *et al.*, 2019). An extreme interpretation could be to suggest that IBTs who do not get along well with their supervisor often travel to long-haul destinations because doing so provides an opportunity to be away from the supervisor. However, these findings remain speculative and should be studied more closely using a dataset with more employees whose work involves high levels of long-haul IBT duration and low-quality LMX relationships.

Overall, our study contributed to leadership literature by revealing that the geographical context in which the LMX occurs may play a crucial role in determining the effects of leadership. Therefore, more research should be undertaken to reveal the context in which the LMX might act as a buffering job resource and in which the effect might even be the opposite. The current study offers important empirical evidence on LMX relationships in the international context. Investigating LMX relationships in the context of IBT offers some important insights on work that is conducted in physically dispersed environments and under high pressure, answering calls to examine LMX relationships in relation to their contexts (Liden *et al.*, 2016; Liden and Antonakis, 2009). The context of IBT offers relevant insights into new, technology-driven work forms, which also offer new insights to complement LMX theory. Because the quality of LMX relationships is traditionally seen as relying on face-to-face communication and everyday interactions and communication, it is important to note that many work assignments require high mobility and virtual interaction. The results of this study strengthen the role of high-quality LMX relationships as determinants of work wellbeing and as an important resource in the international context too. Moreover, the results raise questions about the contextual elements influencing the LMX process and outcomes.

One important contextual element that is having a major impact on international work is the current COVID-19 pandemic, which has forced almost all organizations to reduce international business travel. It is impossible to predict whether international business travel will return to its pre-pandemic level when the crisis has abated. Nevertheless, the results of the current study shed light on the new, virtual, and physically dispersed working environment. People are forced to communicate and interact remotely and virtually, and physical distance between them might become the new normal. Therefore, we should aim to understand the complex process of working remotely in the international context and to identify the challenges brought by such an environment.

It is important to note some limitations of the current study. The main limitation is that the findings come from a cross-sectional design, meaning that we can draw no reliable conclusions on the causal direction of the effects. Two recent studies used longitudinal data and reported that business travel harms work to family dynamics and consequently impairs IBTs' well-being, in the form of causing exhaustion and health issues (Jensen and Knudsen, 2017; Niessen *et al.*, 2018). More longitudinal studies would be required to confirm the connections between different kinds of job demands and job resources in the context of IBTs' work and their work well-being. Second, the measures of total, short-haul, and long-haul IBT duration were heavily skewed to the left, which poses a risk that outliers influenced the results. However, post-hoc robustness tests were performed by applying logarithmic transformations to all analyses and the results remained the same, hence supporting the robustness of the results. In addition, the analyses utilized robust maximum likelihood estimation. Third, our measures were 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). In addition, it has been argued that the employee is the most important source of information on his or her work situation (e.g., Mostert, 2011). Nevertheless, future studies might use more varied sources of primary data such as an organization's records of the number of travel days or business trip destinations, or develop the ways in which self-reporting is conducted. For instance, recording the number of nights spent on long-haul and short-haul business travel might be more accurate than asking the number of days spent travelling.

Moreover, including the geographical distance and the context of international mobility is still rare in research on LMX, and therefore the effects of the location difference between supervisors and subordinates should be studied more extensively. In addition, travel

destinations should be studied more closely, and therefore, future IBT studies might benefit from paying more attention to the country contexts of travel.

From the practical viewpoint, organizations should monitor the intensity of the travel of each of their mobile employees, as long-duration trips seem to involve a risk of exhaustion during the trips. In general, organizations should help supervisors and IBTs to establish high-quality LMX and both parties of these dyads should contribute to developing and maintaining high-quality relationships. We suggest that supervisors and IBTs should maintain regular contact when an IBT is traveling and organizations should therefore facilitate that contact, for example, by using virtual communication platforms that are easily accessed globally. This would also be a relevant suggestion in virtual working environments established in response to the current COVID-19 pandemic, for example. Much international business travel has been replaced with virtual meetings, and therefore staff at all levels should be supported when communicating virtually in cross-cultural environments. However, it is noteworthy that IBTs who had a low-quality LMX and who were undertaking long-haul trips of long duration experienced less travel-related exhaustion than did their peers whose LMX quality was high. Based on that finding we suggest that organizations should acknowledge the importance of versatile job resources that may function differently in different kinds of work situations.

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