At the crossroads: Searching for new avenues in contextualized expatriate research

PhD dissertation

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Acknowledgements

I feel privileged to have had the opportunity to spend three years researching this interesting topic, improving my methodological and writing skills, travelling and sharing ideas with fellow researchers. Considering myself an expatriate, I have answered not just academic, but many of my personal questions too. Looking back, I have grown and learned from this experience. It was a long journey, with many ups and downs. There were even moments when I was losing hope that I will ever finish. At those moments of self-doubt, I relied heavily on the support and guidance of people within and outside of academia. It is to them, I would like to extend my gratitude in the following paragraphs.

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This dissertation aims to contribute to the study of expatriates, the highly-skilled employees that are working and residing in a different country, than the country of their origin. Finding a gap in the current literature, it argues that researchers should move beyond exploring solely personal characteristics and motivations of expatriates, to include also the higher levels of analysis. Expatriates are naturally embedded in their home and host countries and organizations, but also in the under-researched networks and teams that transcend the geo-political and organizational boundaries. The four articles, comprising this dissertation, therefore focus on expatriates’ immediate context, showcasing how the multilevel contextual factors influence expatriates’ outcomes. Although the first two papers analyze data collected across multiple national contexts, the last two articles focus on the Nordic context, especially Denmark. The complex Danish environment was a very suitable setting for exploring the team and network factors that influence expatriates, because of the partially internationalized context, with an increasing number of foreign employees (190,000 in 2016), working side by side with the host-country nationals. Moreover, many Danish organizations use the common language (English) and the host-country language (Danish) in parallel, creating an interesting linguistic environment.

The first two articles are looking back at expatriate research, figuring out whether we can contextualize our knowledge through the three-dimensional adjustment construct, which has been prevalent in the literature for almost thirty years. The first paper reveals the lack of proper definition that causes confusion around the measurement perspective of the scale. It concludes that the measurement perspective of the scale is possibly misspecified, leading to skewed results. Moreover, the dimensionality and internal consistency of the scale is likely driven by context-dependent response biases. Following the probing of psychometric properties, the second article analyzed the measurement invariance of the scale across different contexts and types of expatriates. Again, the adjustment scale failed short in terms of desirable invariance, which poses limitations on its use for comparative purposes.

Since it became clear that the adjustment scale is not appropriate for contextualization of expatriate research, the last two articles are then looking forward, searching for new avenues. The third paper has explored the team context applying the theoretical model of job resources and demands; meanwhile the fourth paper has inspected the network context of expatriates through the theoretical lens of information-seeking theory. Some of the results surprisingly suggest that the contextual effects are more important than the individual effects. For example, expatriates are
negatively affected by using a common language (English) at work, because of the higher cognitive load it causes. A similar effect would be expected if the common language was the host-country language or any other non-native language. However, the contextual effect of the team leader’s constant use of the common language is much more significant and affects expatriates in a positive way. Inclusive language management is not alleviating expatriates’ cognitive strain, but is shifting the power balance in the team, because it includes them in the organizational discourse. At the same time, the effect is opposite on host-country nationals that lose their linguistic advantage. Studying expatriates’ networks, some contextual effects are again different from individual effects. For example, expatriates do not receive more work information or emotional support from a relationship with a network member that has high host-country expertise. However, if on average they have many such individuals in their immediate network, they seem to receive higher work-information support in total. Expatriates also seem to gain more emotional support from other expatriates, not host-country nationals. On the other hand, this is not the case for work-information support that does not appear to be influenced by the network member’s origin.

Although each one of the four articles has a separate contribution to different areas in the expatriation field, such as language management and network analysis, all together they mainly contribute to contextualization of expatriate research. This dissertation points to the importance of context in theorizing about expatriates’ outcomes. Context should be included already in the early stages of the research design, data collection and measurement selection. The results of the studies have revealed how expatriates can be influenced by context, like the language management of their teams, but also vice versa, how they themselves impact the context, like the networks they build. All the articles have also used sophisticated methodological approaches to answer the given research questions, advancing the field in this perspective as well.
DANSK RESUMÉ

Denne afhandling sigter mod at bidrage til forskning i udstationering. Det vil sige studiet af højtuddannede medarbejdere, som arbejder og bor i et andet land end deres oprindelsesland. I den eksisterende litteratur argumenteres der for, at man ikke blot bør undersøge de udenlandske forskeres personlige motiver og karakteristika, men skal tage højde for konteksten. Udstationerede er naturligt tilknyttet både deres hjemland og værstslandet. Men de indgår også i netværk og teams. Disse repræsenterer forskellige kontekster som influerer de udstationeredes arbejdsliv. De fire artikler, der indgår i denne afhandling fokuserer derfor på, hvordan forskellige niveauer af kontekstuelle faktoer har indflydelse på de udstationerede situation i værstslandet.

De to første artikler undersøger anvendeligheden af den tredimensionelle tilpasningsskala, som har været fremherskende i litteraturen i næsten tredive år. Det første papir viser manglen på en ordentlig definition til at guide udformningen af skalaen og den betydning dette har på instrumentets operationalisering. Artiklen konkluderer, at der er store problemer ved at anvende denne tilpasningsskala. Dette er også temaet for den næste artikel, som viser problemerne ved at anvende skalaen på tværs af kultur og typer af udstationerede.

Da det blev klart, at tilpasningsskalaen ikke er egnet til kontekstualisering af udstationeringsforskningen, er de to sidste artikler et forsøg på at søge efter nye veje. Det tredje papir har udforsket team konteksten, mens det fjerde papir ser på de udstationeredes netværk. Resultaterne indikerer overraskende at de kontekstuelle effekter kan være vigtigere end de individuelle. For eksempel er udlændinge negativt påvirket af anvendelse af et fælles sprog (engelsk) på arbejdet. Den kontekstuelle effekt af teamlederes sprogledelse påvirker dog udlændingene på en positiv måde. Dette er dog modsat for de lokale. I forhold til netværk, så viser resultaterne at udlændingene får mere støtte fra andre udstationerede end fra de lokale. Det er dog ikke tilfælde i forhold til information om arbejdet, som ikke synes at påvirkes af nationalitet i netværket.

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CHAPTER 1.
Introduction

Due to globalization processes, such as progress in communication technologies, increasing mobility and change in labor demographics, staffing and managing human resources have become more complex and challenging than ever before (Oxford Economics, 2012). The “global war for talent” (Chambers, Foulton, Handfield-Jones, Hankin, & Michaels, 1998; Michaels, Handfield-Jones, & Axelrod, 2001) means that companies must compete for their future qualified employees on an international level, transferring domestic employees abroad or hiring foreign employees at home. These highly-skilled employees that are legally working and residing in a different country than their country of origin are also known as expatriates (Andresen, Biemann, & Pattie, 2015).

Since the 1960s, expatriates have been appearing in research with the number of articles steadily rising ever since (Dabic, Gonzalez-Loureiro, & Harvey, 2015). Some of the prevalent topics in the literature so far entail expatriates’ adjustment to the host location, willingness to stay on the assignment and ability to transfer knowledge between headquarters and subsidiaries (Kraimer, Bolino, & Mead, 2016). All of these topics are clearly interesting for the organizations that hire expatriates, representing a large corporate expense (Collings, Scullion, & Morley, 2007). It is, however, surprising that the majority of the published literature so far has been focusing almost exclusively on individuals, void of the context, in which they are embedded.

Expatriates do not exist in a vacuum - quite the opposite. They are naturally clustered around their home and host countries, organizations, networks and teams that can influence their experiences on a daily basis (Claus, Lungu, & Bhattacharjee, 2011). Expatriates make their decisions about staying abroad or repatriating depending on the attachment they have to the host and home communities and work places (Tharenou & Caulfield, 2010). If they feel supported by their organization (Kraimer & Wayne, 2004) and if they have a large and diverse network (Wang & Nayir, 2006), evidence suggests that they are more adjusted to their local environment. Although context is present in many expatriation studies, its possible influence is rarely explicit. If so, it usually remains limited to post-hoc comparison of expatriates’ experiences across countries (e.g. Selmer, 2007).

In this dissertation, it is argued that researchers should move beyond exploring personal characteristics and motivations of expatriates, to include also the higher levels of analysis (Doherty, 2013; Tams & Arthur, 2007). Greater contextualization of the research would be informative for
generalization of the results and instrumental for creation of a coherent future agenda, guiding the inclusion of context into expatriate studies. Moreover, exploring effects of context can be ultimately meaningful to managers who are interested in possible organizational, team or other higher level interventions (Bamberger, 2008). Accordingly, this dissertation aims to contribute to the study of expatriates, by focusing on their natural immediate context and by revealing the importance of context in determining their experiences abroad.

In line with the developing composition of the international workforce, the presented studies include different types of expatriates (Baruch, Altman, & Tung, 2016). More specifically, beside the company assigned expatriates (CAEs), it also entails samples of self-initiated expatriates (SIEs). SIEs leave home countries, seeking employment abroad on their own, without the support from a parent organization, displaying the agency they have over their own career (Biemann & Andresen, 2010). Often highly motivated to adapt to the new environment and cheaper than traditional CAEs, they are a group holding a promise of a potent corporate resource (Suutari & Brewster, 2000). Unfortunately, since the SIEs are usually hired through the same channels as the host country nationals, they have been managed mostly on ad-hoc basis leading to their underemployment and low rates of retention (Howe-Walsh & Schyns, 2010; Lee, 2005). In this dissertation, they are directly compared to host country nationals, precisely because they are influenced by a common context. In this way, the presented research also adds to our knowledge of an under-researched group of employees (Vaiman, Haslberger, & Vance, 2015).

The remainder of this introductory chapter is organized in the following manner. First, the particular research questions of the papers and connections between them are presented. Then the gap in contextualization of the expatriate research is revealed. Next, the definition of context in the field leads the discussion on how contextualization affects theorizing and proper methodology. In the subsequent section, three core concepts are defined, namely the specific types of expatriates, outcomes and contexts that were subjected to the analysis in this dissertation. Finally, overview of the research design, data collection and methods are provided together with the description of the four specific papers. The concluding sections summarize the contribution to the field and implications for the practitioners. This dissertation, like any other research endeavor has its own limitations that are described in the final section of this chapter.
Research questions and contributions

The alignment of the four papers to a large extent presents my increasing knowledge about the nature of context and outcomes in expatriate research. In line with the motivation for the study, the overall research focus of this dissertation is on the multilevel contextual factors influencing expatriates’ outcomes. The initial focus of the PhD project has not changed, but the expatriate outcomes studied have changed after the first two research articles. Even a brief review of the published research in the field makes it apparent that adjustment, as conceptualized, operationalized and propagated by Black and his colleagues (Black & Stephens, 1989; Black, 1988), has been at the center of attention in expatriate research for almost thirty years. Connected to a plethora of other desirable outcomes, such as higher performance and increased retention, it seemed reasonable to concentrate on the contextual factors influencing adjustment, as the primary outcome. Before delving in extensive data collection, more careful consideration of the adjustment construct gave rise to questions about its properties and its adequacy for contextualized research. I have therefore decided to test the psychometric properties of the scale and have discovered that the adjustment construct is flawed and should not be used to study different types of expatriates across distinct contexts. The first two studies therefore summarize the outcomes of empirical testing of the scale. The two following studies have then focused on other expatriate outcomes, namely expatriates’ job anxiety in multicultural teams and the work information and emotional support expatriates receive from their networks. The separate research questions of the four articles are tied together around the common theme, contributing to our knowledge of the effects of context on expatriate outcomes. Although the articles contribute separately to other areas, such as language management and network analysis in the field, all together they mainly contribute to contextualization of expatriate research. All the articles have also used sophisticated methodological approaches to answer the respective research questions, advancing the field in this perspective as well.

The first research article focuses on the psychometric properties of the three-dimensional adjustment scale, raising the questions: What is the measurement perspective of the adjustment scale? Is the dimensionality and internal consistency of the scale empirically driven by context-dependent response biases? Continuing in the construct testing, the second research article sets out

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to probe the measurement invariance of the three-dimensional adjustment scale asking: *Is the adjustment scale invariant across different contexts and expatriate types?*

The following two articles focus on the impact of context on the expatriates’ work life. Hence, the third research article aims to uncover the importance of inclusive language management for the anxiety of the multicultural team members posing the question: *How does the contextual effect of the team leaders’ inclusive language management affect the anxiety of host country nationals and expatriates within the team?* The fourth research article focuses on expatriate immediate networks and the support they can gain from them, therefore questioning: *How do learned characteristics of the network members impact the immediate network context, from which expatriates gain emotional and work information support?*

There is a clear distinction between the first two articles that are looking back at expatriate research, figuring out whether we can contextualize our knowledge through the existing adjustment construct. Since it became clear that this is not the case, the last two articles are then looking forward, searching for new avenues. The third article continues in the long-lasting tradition of researching stressors affecting expatriates’ well-being, however, instead of focusing on adjustment, it compares work-related anxiety of host country nationals and expatriates in the same multicultural teams and how it can be affected by the inclusive language management. The process studied in this article therefore stems from the higher level of analysis affecting the lower level outcomes. The fourth article then concentrates on the work and emotional support expatriates need to counteract stress. The process studied in this article originates from the lower level, from creation of network ties with specific network members providing the expatriate with support. How much support expatriates gain overall depends on the number and quality of these ties. The logical progression between the four articles is depicted in Figure 1.
Call for contextualizing expatriate research

There have been multiple calls encouraging management scholars to consider the important role of context for their research findings in general (Bamberger, 2008) as well as in particular fields such as international human resource management (Tung, 2016), international business (Michailova, 2011) and organizational behavior (Härtel & O’Connor, 2014; Rousseau & Fried, 2001). It seems only logical that scholars interested in phenomena and processes embedded in very different settings, spanning across institutional and geo-political boundaries, would be aware of the possible influence of context. The published research, however, shows that this is rarely the case and there is still a large gap that needs to be filled. As Tsui (2007) has concluded, the scarcity of truly international context-specific research prevents development of novel theories and ideas.

Positioned on the boundaries of the named fields, expatriation researchers are also urged to mindfully include context into their models, as visible from the recent special issue in Journal of Global Mobility: The Home of Expatriate Management Research (Mayrhofer & Reiche, 2014) and a couple of articles pointing out its role for expatriates’ adjustment (Langinier & Froehlicher, 2016; Selmer et al., 2015). Over time, the rapidly changing context brought to the surface issues that could have been ignored in the early stages of expatriate research. The initial studies were focused on male CAEs, usually sent abroad from large North American multinationals, so it was not necessary to reflect on critical issues such as gender diversity, host country context and type of assignment, simply because of the lack of variance in these parameters (researchers reflecting on their initial work: Tung, 1981; Tung, 2016; Vance, 2005; Vance & McNulty, 2014). The uniformity in global staffing, however, cannot be assumed longer. As Caligiuri and Bonache (2016) concluded, the geopolitical and economic changes have ushered in a new business reality that forced changes in the
way expatriates are utilized and supported on their assignments. For example, the rise of integration in Europe through the common market agreement expanded the geographical areas from which expatriates originate and to which they are sent (Scullion & Brewster, 2001). Technological advances have changed means of communication and commuting, creating more virtual and multicultural teams and the “frequent-flyer” assignments (Collings et al., 2007). In other words, the new circumstances have changed the context and the context has changed who, why, where and how is deployed on an assignment. Despite of this evident need to explicitly address the changing context, there is still a lack of a proper definition and a research agenda mapping out context and how it should be included in expatriate research.

What is context in expatriate research?

The usual perception of context in international human resource management distinguishes between at least two levels of factors, namely the macro and micro level. The macro level factors include home and host country culture and national business systems; this level is sometimes split to include the mezzo level that encompasses the industry/sector effects as well; finally, the micro level stands for the organization-specific effects (Zeynep, 2005). The almost archetypal representation of these levels is visible in multiple human resource management models (for a review see Rowley, Wei, & Warner, 2015): the economic, political and cultural forces on the country level vs. organizational structure and strategy in the Michigan model; the situational factors in the Harvard model; the outer and inner context in the contextual model; the environment vs. organization factors in the European model; and finally, the contextual and firm-specific factors in the integrative model. They all include some notion of the external macro-environment embodying the political, socio-cultural and economic influences that differ between the countries and the notion of the more immediate micro-environment eluding towards the organizational strategy, structure and culture. Such hierarchical decomposition of the environment has proliferated into the expatriate literature as well, placing an individual into the middle, drawing concentric circles to include the organizational and national context (Andresen, Al Ariss, & Walther, 2012; Claus et al., 2011; Özbilgin & Tatli, 2005). In reality, however, there is overlap and interplay between these hierarchical levels. Shapiro and colleagues (2007) have suggested that there are multiple qualitatively different contexts (polycontextuality), such as verbal, cognitive or spiritual, overlapping in one setting, within one nation. Mathieu and Chen (2011) have also pointed out the permeable nature of such hierarchy, especially due to simultaneous membership of individuals in multiple groups and time-limitations.
of such membership. Therefore, the division of context to the micro, mezzo and macro factors that are perfectly hierarchically aligned is somewhat oversimplistic. According to Michailova (2011, p. 130), context is “a dynamic array of factors, features, processes or events which have an influence on a phenomenon that is examined.”

In this sense, expatriation is an exemplary phenomenon, because it occurs in the overlap of the traditional contextual levels. Expatriates are embedded in the host country communities and organizations, but at the same time they are still embedded in the home countries they come from. The strength of embeddedness to a host country is essential for expatriate retention or the decision to repatriate (Ren, Shaffer, Harrison, Fu, & Fodchuk, 2014; Tharenou & Caulfield, 2010). In line with the concept of embeddedness, research on expatriates’ social networks is revealing that their composition varies greatly and extends over the boundaries of a single organization or a single country, as also visible in Figure 2 (Shen & Kram, 2011). In certain locations expatriates create very specific networks consisting of fellow internationals, living in parallel rather than integrated into the host country community (Langinier & Froehlicher, 2016; Lauring & Selmer, 2009). Increasing the complexity even more, expatriates are often part of multicultural and multilingual teams that are themselves “organization in microcosm” (Adler, 1997). Unfortunately, this interesting immediate context of the expatriate has so far been overlooked. In their recent call for more variety in the context studied, Reiche and Pudelko (2016) expressed the need to look at the intersection between organization, team and individual rather than at the national level. The frameworks categorizing national cultures have been already frequently exploited to showcase the power of national context (Hofstede, 1991; House, Hanges, Javidan, Dorfman, & Gupta, 2004). These frameworks have played an important role in explaining the cultural impact on expatriate deployment and adjustment (Brock, Shenkar, Shoham, & Siscovick, 2008; Selmer, 2007; Shin, Morgeson, & Campion, 2007). It is time to look beyond the cultural contexts as aggregate constructs and look at the lower levels of analysis as well (Michailova, 2011). Unfortunately, much of existing expatriate research has either ignored the context in which expatriates operate, instead focusing on the individuals only, or has focused exclusively on the higher levels of analysis like organizational outcomes, ignoring the individual differences. In line with this inconsistency, Minbaeva (2016, p.95-96) has argued that such international management studies treat the individual as a black box, meanwhile “the colorful variation of the immediate context in which the individual is operating is presented in a monolithic grey.” The future research should therefore
explore the polychromatic interplay between individuals and the context in which they are embedded.

**Figure 2. Context of an expatriate: network/teams extend over multiple hierarchical levels**

![Diagram showing hierarchical levels of context]

**From contextualization to context theories**

Acknowledging the importance of incorporating context in expatriate research is naturally leading to a question of how this should be executed in practice. Rousseau and Fried (2001) have suggested that contextualization is providing a richer description of circumstances that gave rise to the observed phenomenon, comparing the results of the study to prior research and critically reflecting on the boundaries of drawn conclusions. Example of such contextualization in the expatriate research would be notifying the reader that the study on the expatriates’ motivation to go on an assignment took place during the economic crisis and the majority of the expatriates included in the study came from countries with emerging economies. Post-hoc contextualization of the research at least informs the readers of the possible range restrictions of the motivations studied due to the very specific sample and time period likely affecting the results.

There is, however, a more sophisticated type of contextualization, which occurs when contextual factors are a crucial part of the theory and cannot be added post-hoc in the writing process of the research article. An example of this type of contextualization in expatriate research would be designing a study including relatively similar organizations with different work climates
each containing a number of expatriates (e.g. Selmer et al., 2015). Data collection would take place on both the level of the organization and the level of the individual expatriate. Theory would lead the hypothesizing on the effect of, for example, the positive contextual effect of the psychologically safe work climate (Edmondson, 1999) on expatriates’ well-being. Bamberger (2008) refers to this approach as context theorizing and defines it as using those theories “that specify how surrounding phenomena or temporal conditions directly influence lower-level phenomena, condition relations between one or more variables at different levels of analysis, or are influenced by the phenomena nested within them.” In line with Bamberger, Michailova (2011) and Minbaeva (2016) both call for more of this type of theorizing in international business and international management research, respectively. Studies that build in the context from the data collection stage and shape the whole research design accordingly can actually explain the mechanism through which context influences the phenomenon studied and vice versa (Minbaeva, Pedersen, Björkman, & Fey, 2014). This is much more precise than post-hoc speculation, expediting our knowledge faster than relying on meta-analytical research sorting out contextual factors, to find the relevant options (Johns, 2001).

Studies that seriously engage in the higher level of contextualization and address the contextual effects directly, often lead to multilevel or dyadic data (Rousseau & Fried, 2001). It is therefore not surprising that multilevel modelling and recent advances in statistical software which allow researchers to directly include contextual variables in their models are tightly connected to the increasing interest in contextualizing. The terminology of multilevel research and contextualization is so well intertwined that Tsui (2007, p.1358) has defined contextualization as “essentially adding one more level to theorization by accounting for the effect of contextual characteristics on the behavior of and within organizations.” The notion of levels or nesting layers refers to the natural hierarchy of data often found in social sciences (Hox, 2010). The idea that individuals are influenced by the social groups to which they belong, and groups are then in turn influenced by the individuals within, gave birth to the multilevel paradigm affecting the management science since the 1980s (Mathieu & Chen, 2011). This paradigm shift was an answer to progressing divergence of researchers to either macro or micro level specialists that were looking at the same phenomena but from different perspectives, creating parallel and redundant bodies of knowledge (Hitt, Beamish, Jackson, & Mathieu, 2007). Multilevel research was and still is the answer to the call for cross-pollination and merging of the macro versus micro level research gap. From this perspective, the multilevel research could serve to close the previously outlined macro-micro gap in expatriate literature as well.
Methodological advances of multilevel modelling

Multilevel research is helping to engage more and more macro level and micro level researchers in a common discussion. It is, however, very demanding in terms of handling the data collection and analysis, posing some common methodological challenges as well. Hierarchical linear modeling, random coefficient modelling, multilevel modeling, mixed or random effect modelling are all terms interchangeably used in the literature (and in the articles included in this dissertation) to address the set of analytic techniques developed for handling nested data (Turner, 2015). The key benefit of these techniques is the ability to exploit the embeddedness of individuals in groups, rather than treat it as a nuisance (Rabe-Hesketh & Skrondal, 2006). The stratified nature of the data causes a problem frequently ignored by researchers unaware of the interdependence between the individuals embedded in the same higher-level units. For example, expatriates working in the same teams or working for the same organization will be subject to the same corporate culture and management practices. Pooling together individuals from multiple teams or organizations and assessing their outcomes based on purely individual characteristics is ignoring the contextual interdependence between these individuals, potentially leading to biased results. Multilevel modeling can be explained as merging two regressions into one coherent model, predicting the differences between individuals within groups (lower-level regression), meanwhile also predicting the variance between groups (higher-level regression). These types of models treat the statistical interdependence between individuals by level-specific residual estimation, meanwhile leaving the coefficients uninfluenced by the possibly different group size (Li, Lai, & Leung, 2012).

Perhaps most importantly, multilevel modelling allows for coherence between the level of theory, measurement and analysis, preventing ecological or atomistic fallacies (Bliese, 2000; Klein & Kozlowski, 2000). There are some specific examples in expatriate research that show this mismatch between the theory and measures applied in the study. Researching the social networks of expatriates, the overall number of host country nationals has been used as a proxy for the access to valuable social capital. This valuable capital then has a positive effect on the expatriates’ well-being, adjustment or performance (Liu & Shaffer, 2005; Wang & Kanungo, 2004). Social network theory is frequently used to explain these positive connections between the number of host country nationals in the network and social capital and expatriates’ well-being (Osman-Gani & Rockstuhl, 2008). However, from empirical research we are aware that the quality of the specific relationship and the characteristics of the specific host country national will be crucial for determining just how useful this specific tie can be and how much resources it can provide (van Bakel, Gerritsen, & van
Oudenhoven, 2016). Aggregating these ties to one measure, the number of host country nationals in one’s network is ignoring the differences between the particular relationships and the individual host country nationals. If the results show that, on average, the number of ties with host country nationals is not significant for expatriates’ well-being, it would be incorrect to conclude that all relationships with host country nationals are not beneficial for an expatriate. Especially if the theory suggests that the process of resource transfer occurs on the micro level, on the level of the tie, between two specific individuals (Wang, 2002), the measure has been aggregated to the higher level, the level of the whole network. In other words, by aggregating the measure to merely a number of ties with host country nationals, important information about the nature of these ties has been lost. All in all, multilevel modeling is a superior method when treating inherently nested data and when interested in the effects of phenomena sprawling across different levels, like in the case of expatriation.

Comparability and methodological advances in cross-cultural research

Multilevel modelling is not the only methodological adjustment necessary to accommodate contextualized research. Although it can include the contextual factors, it cannot ensure that the results are generalizable across different contexts. As Hult et al. (2008) pointed out, data and construct equivalence are necessary in order to make valid comparisons across contexts. Data collection procedures are very similar in different expatriate studies. They are most often convenience samples or samples collected from name lists provided by companies, government or professional associations (Tharenou, 2015). In regards to construct equivalence, however, the field has rarely questioned the appropriateness of the tools used in the research. This is surprising, because the scales capturing expatriate outcomes have been used in different host locations in the same format. Such treatment of the constructs is assuming that they are context-free (etic) measures (Tsui, Nifadkar, & Ou, 2007). If that was the case, the constructs should have been tested for invariance through confirmatory factor analysis or item-response theory approaches (Reise, Widaman, & Pugh, 1993; Steenkamp & Baumgartner, 1998). If the condition of invariance is not met, the reported results might be based on measurement errors. Robert et al. (2006) have outlined the possible reasons for biased results when collecting the data through singular scale in different cultural contexts. Many of the named reasons, such as different frame of reference when answering the survey, could apply to expatriate research as well. If, for example, expatriates answer the same adjustment question with different comparison groups in mind, it is questionable whether we are
measuring the same construct. It is only very recently that expatriate research started to pay attention to measurement equivalence (e.g. Thomas et al., 2015), although the calls for rigorous cross-cultural research have warned against the possible biases earlier on (Cavusgil & Das, 1997; Vandenberg & Lance, 2000). This dissertation sheds light on the overlooked topic of construct comparability in expatriate research and spells out the potential consequences of ignoring this issue.

1.1 Key concepts

Globally mobile individuals

With the proliferation of the different types of assignments, the classification of globally mobile individuals has been evolving as well. The traditional expatriate that was the focus of the research in the 1980s and 1990s was an employee sent from a parent organization to complete a time-based task in a host location (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Takeuchi, 2010). In opposition to the external motivation of the company assigned expatriates (CAEs), the self-initiated expatriates (SIEs) have been distinguished as a separate group since they select themselves, the location and the employer. As such, they are motivated internally by own career goals and aspirations (Harrison, Shaffer, & Bhaskar-Shrinivas, 2004; Jokinen, Brewster, & Suutari, 2008). Beside the dichotomy of SIEs and CAEs, other types of more short-term global employees have emerged as well. Shaffer et al. (2012) proposed a taxonomy based on three criteria, namely cognitive flexibility and physical mobility required of the individual and the level of non-work disruption caused by the move. In this perspective, the short-term assignees, flexpatriates and international business travelers suffer more of a non-work disruption, often leaving their families behind, but endure less stress due to physical mobility and need for cognitive flexibility. In this dissertation, the focus is on expatriates that relocate, live and work in a foreign country and therefore are required to truly rebuild their lives. This focus is purposeful, since the embeddedness in the host locations, communities and networks yields the opportunity to study the effects of the context into which the CAEs and SIEs need to fit.

Despite the early recognition of SIEs and CAEs, the distinction between them is perhaps the most disputed in the literature, resulting in the terminological plurality and limited replicability and generalizability of the studies published (Tharenou, 2015). There is, however, some common notion of these terms. The CAEs, also known as organizational or corporate expatriates, are selected and supported by a parent organization, sent for a specific purpose and expected to return (Black, 1988; Edström & Galbraith, 1977). The SIEs have been identified through pioneer initiatives studying the
young travelers from Australia and New Zealand as individuals willingly moving abroad, seeking new cultural experiences and self-development (Defillippi & Arthur, 1994; Inkson, Arthur, Pringle, & Barry, 1997). The following research stream has, however, gradually blurred the boundaries between them. Studying SIEs, it has been revealed that they can have a whole array of motives, ranging from career and skills development, financial reimbursements, avoidance of domestic issues such as unemployment, to family-related motives (Dickmann, Doherty, Mills, & Brewster, 2008; Doherty, Dickmann, & Mills, 2011; Selmer & Lauring, 2012). The varieties of motives as well as the specific conditions of the move are obfuscating the clarity of the concept. If, for example, the motivation should delineate SIEs and CAEs, the position of the organizational SIEs is questionable. These individuals initiate their move within the boundaries of an international organization, by networking and actively looking for a position abroad, so their move is somewhat self-initiated, but within the limits of the same employer (Altman & Baruch, 2012; Richardson & McKenna, 2014). Moreover, if it is acceptable for SIEs to move in order to avoid unemployment at home, the difference between them and skilled migrants is rather ambiguous, with some authors claiming the research should be broadened to include skilled migrants, not just the most privileged SIEs (Al Ariss, 2010; Al Ariss & Crowley-Henry, 2013; Al Ariss, Koall, Özbilgin, & Suutari, 2012). Another problematic issue is whether the intention of employment or a regular employment is necessary to define an individual as a SIE, and whether the intention to move away from the host country location should be proven to include individuals in SIE samples (Cerdin & Selmer, 2014; Doherty, 2013).

The appropriate taxonomy of the globally mobile individuals is a topic for an important, ongoing discussion that cannot be solved within the scope of this dissertation. A working definition is, however, necessary to put the analysis presented into perspective. Each study presents explicit measures of expatriate status, since filtering questions were posed to include only (1) individuals with different nationality than that of the host country and (2) individuals with a regular employment contract in an organization located in the host country (Selmer & Lauring, 2014). According to Andresen et al. (2014), only legally employed individuals can be called expatriates, whereas migrants could be employed illegally as well. Using this working definition, every single study of this PhD contains samples of expatriates only. When distinguishing between the SIEs and CAEs, a direct filtering question was applied in the first two articles. This question helped to distinguish whether the individual secured his/her employment on his/her own or was supported by a parent organization. Moreover, the sector in which the expatriates are employed is distinguished
as well in the second, third and fourth articles of the PhD, either by specific filtering question or by selecting a specific target population. More specifically public sector expatriates (e.g. academic expatriates) are separated from expatriates working in the private sector. Previous research on the academic expatriates shows this distinction to be appropriate, due to their specific motivation to gain international experience and nature of their work that allows them to be highly mobile, since they do not have organization-specific capital (Richardson & McKenna, 2002; Selmer & Lauring, 2013). Finally, the last research paper includes expatriates that were initially students in the host country and later found employment in that host country; therefore, their SIE status is assumed rather than measured. Table 1 provides the overview for filtering questions used in the separate articles of the PhD. The boundaries of the different expatriate types are furthermore discussed in the limitation section.

Table 1. Overview of the filtering questions in the different studies

<table>
<thead>
<tr>
<th>Article</th>
<th>Datasets</th>
<th>Specifically targeted filtering questions</th>
<th>Public or Private sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Foreign nationality/citizenship</td>
<td>Motivation for expatriation</td>
</tr>
<tr>
<td>Study 1</td>
<td>Sample A</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Sample B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Study 2</td>
<td>Sample 1</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Sample 2</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Sample 3</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Sample 4</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Study 3</td>
<td>Sample on multicultural teams</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Study 4</td>
<td>Sample on expatriates’ networks</td>
<td>Yes</td>
<td>No- but employment status was checked (no entrepreneurs and unemployed). The sample is composed of students who have stayed in the country.</td>
</tr>
</tbody>
</table>
Expatriation outcomes

The notion of a successful expatriate outcome is not an easy one to discern, although earlier research equated it to simply completing the assignment and avoiding premature return (Mendenhall & Oddou, 1985; Tung, 1981). First of all, there is some evidence that the reported levels of premature return were over-estimated and disseminated to other research articles through inaccurate referencing (Daniels & Insch, 1998; Harzing, 2002). Secondly, this conceptualization is highly problematic, because expatriation is a multilevel phenomenon affecting multiple stakeholders; the definition of a success therefore depends on the viewpoint of the specific stakeholder (Harzing & Christensen, 2004). In other words, it is completely possible that the expatriate stays on the assignment, however, is unable to perform to his/her full potential and therefore fails in the eyes of the employing organization. On the other hand, an expatriate might still personally benefit from this international experience and leverage it for own career progression or personal development. Finally, even after successfully completing the assignment, the expatriates might fail to repatriate to the parent organization, leaving and taking the valuable tacit knowledge with them. The multiplicity of the perspectives from the different stakeholders, combined with the temporal boundaries of the expatriate outcomes, are problematic issues that affect all expatriate outcomes (Brewster, Bonache, Cerdin, & Suutari, 2014).

In this dissertation the focal point is the individual expatriate and therefore outcomes on the individual level, influenced by the context. The outcomes traditionally studied on the micro level in the literature include different expatriation and repatriation success measures such as job attitudes (Bonache, 2005), adjustment (Black, Mendenhall, & Oddou, 1991), impact on the future career (Kraimer, Shaffer, & Bolino, 2009; Mäkelä, Suutari, Brewster, Dickmann, & Tornikoski, 2016), implications on personal/family life (Lazarova, Shaffer, & Westman, 2010), time to proficiency and subjective evaluation of performance (Harrison & Shaffer, 2005). From this long list, adjustment has been by far the most explored and often connected to the other desirable outcomes, like intentions to stay on the assignment (Hechanova, Beehr, & Christiansen, 2003), performance or job satisfaction (Bhaskar-Shrinivas et al., 2005). Adjustment thus seems to be the panacea to all expatriate problems. So much so, that adjustment is reported as the key word in about one third of the articles on expatriation published between 1970 and 2012 and Black, the author who has operationalized the well-known adjustment construct, is the single most cited author in the field (Dabic et al., 2015). In recent years, however, the adjustment concept and the three-dimensional adjustment construct (Black & Stephens, 1989; Black, 1988) have come under theoretical and
empirical scrutiny. The construct’s dimensions, general, interaction and job adjustment, have been argued to have a weak theoretical grounding (Haslberger, Brewster, & Hippler, 2013). There is also little reason to assume that the dimensions of adjustment should evolve through time in a synchronized manner, quite the opposite (Hippler, Brewster, & Haslberger, 2015). Most importantly, the whole definition of adjustment seems to be rather ambiguous, with many co-existing conceptualizations (Hippler, Caligiuri, & Johnson, 2014a; Lazarova & Thomas, 2012). Hence, it may be argued that without a proper definition, it is impossible to operationalize the concept properly.

Empirical evaluation of adjustment has been the motivation behind the first two articles of this dissertation and an important step towards understanding expatriate outcomes. The lack of a definition resulted in a construct that appears to be partially formative and partially reflective. Also, it is not entirely clear whether the three-dimensional construct is supposed to represent person-environment fit, reflecting how well the expatriate fits into the new environment or whether it is a measure of stress connected to novelty and unpredictability of the new environment. There is, however, a couple of avenues expatriate researchers can take in order to replace the dysfunctional adjustment construct. If the aim is to study the psychological distress connected to expatriation, there are validated stress scales that could be utilized. Theories developed in the field of human resource management addressing job-related stress, burn out and turn-over can be extended to fit the international environment of expatriation (Bakker & Demerouti, 2008). Another avenue could be developing a new scale that could replace adjustment conceptualized as person-environment fit (Hippler, Caligiuri, Johnson, & Baytalskaya, 2014b). Yet, another option could be to improve the theoretical grounding of the adjustment as level of comfort with the foreign external environment (Hemmasi, Downes, & Varner, 2010; Shaffer et al., 2016).

In this dissertation, the first avenue was chosen, namely extending validated outcomes from domestic research to the international environment. The interest of the dissertation lies in the individual’s own standpoint and reaction to the immediate work environment. Therefore, the job related stress and work information and emotional support received in connection to career in the host location were selected to capture the individual expatriate’s view on his/her own situation. They replaced adjustment not least because they can be compared across different settings. Adjustment as defined by Black and colleagues (Black & Stephens, 1989; Black et al., 1991) is a blend of personal reflection on own comfort level with the environment and reflection on whether the environment is difficult to fit in, therefore inherently dependent on the context. Assuming that
any individual can be aware of own stress and support in relation to a job, this awareness is not dependent on, but influenced by context, therefore it is suitable to test context theories that explain the influence. Using the definition of job stress by Parker and DeCotiis (1983, p. 161), it is viewed as a “particular individual's awareness or feeling of personal dysfunction as a result of perceived conditions or happenings in the work setting.” Parker and DeCotiis also view stress as a transient feeling, rather than a long-lasting impairment and defined two dimensions of job stress, namely feelings of substantial time pressure and feelings of job-related anxiety. The third article of the dissertation was studying the effects of communication management in a team, more specifically use of common language inclusive to the expatriates in the team. It has hence put a special emphasis on anxiety that is mainly influenced by role conflict and climate variables (although the study still controlled for time pressure) (Parker & DeCotis, 1983). The anxiety construct was, moreover, in the past used in cross-cultural analysis, predicting the intentions to stay with the employer in five distinct countries (Glazer & Beehr, 2005). Turning the perspective around from the negative outcomes to the positive outcomes, work information support and emotional support were the principal constructs in the final, fourth article of the dissertation. Social support in general has been identified early on as essential for expatriates to combat the stress they experience (Adelman, 1988; Fontaine, 1986). Although there is evidence that social support might have a different relevance/influence in different contexts, there is also evidence that it is universally needed by individuals across cross-cultural contexts (Pines, Ben-Ari, Utasi, & Larson, 2002). The dichotomy between instrumental/informational/ material support and emotional/affective support stems from the difference between controllable and uncontrollable stressors, but expatriates meet with both (Podsiadlowski, Vaucclair, Spiess, & Stroppa, 2013). Therefore, both were represented in the study, with special focus on the immediate work environment (hence work information support). All in all, the outcomes included in the dissertation were selected with the specific purpose of capturing individual expatriates’ perspective in reaction to the immediate context.

**Context of multinational teams and networks**

As already debated in the previous sections, context in expatriate research is usually defined as a hierarchical system of levels, ranging from macro-national to micro-organizational levels. Locating expatriates in the middle of this hierarchical structure is, however, not providing a realistic picture of their context, since they operate in very fluid environments where boundaries between these levels overlap. This is also visible from Figure 2. Following the recent calls in literature to explore
the more immediate context (Michailova, 2011; Reiche & Pudelko, 2016), this dissertation is focusing on the context of the team and network in which expatriates are embedded. They are the stage for daily expatriate interactions that will have profound impact on their outcomes.

In her review of past development and new perspectives on human resource management in a global context, Tung (2016) has concluded that multicultural teams that rose to the forefront of our interest are “here to stay” since organizations increasingly rely on them in face of changing conditions (like war on talent). These teams that include members of multiple nationalities often also speak many different languages, a fact overlooked in the majority of published literature that is focusing on cultural distance (Brannen, Piekkari, & Tietze, 2014; Henderson, 2005). This is an unfortunate omission because language differences are arguably the most noticeable differences between the team members that become salient in the process of communication (Chen, Geluykens, & Choi, 2006). Recent empirical results show how common language use influences individuals’ anxiety, willingness to trust and therefore overall cooperation in the team (Harzing & Pudelko, 2016; Hinds, Neeley, & Cramton, 2014; Neeley, Hinds, & Cramton, 2012). Communication and cooperation with the closest coworkers is a crucial topic in expatriate literature as well, especially when it comes to communication with host country nationals (Du-Babcock & Babcock, 1996; Peltokorpi, 2007; Toh & Srinivas, 2012). Meanwhile the multicultural teams’ literature is focusing more on the host country nationals that have to switch to the common language and the detrimental effect of this practice on their status and anxiety (Neeley, 2013), expatriate literature focuses on their knowledge of the host country language and how that influences their interaction with host country nationals (Zhang & Peltokorpi, 2016). In reality, however, expatriates and host country nationals will be likely collaborating in multicultural teams with one common language that will often be foreign to both of them. Accordingly, language management of these teams affects both host country nationals and expatriates and therefore represents an interesting context allowing for the comparison between them.

Like multicultural teams, networks also represent a context that might transverse boundaries and include members of different cultures and languages, coming from different organizations. Wang (2002), making the conceptual model of expatriates’ social network, defined it as a finite set of actors connected by relational ties in which expatriates are embedded. She has also positioned the personal network of the expatriate on the intersection of the national, organizational and individual factors showcasing the special position of network as a social unit that is crossing the macro and mezzo hierarchical levels (Wang, 2002, p.322). The expatriate research has mainly focused on the
characteristics of the network overall and how it influences expatriates’ well-being, adjustment and performance, with most of the evidence pointing out that individuals with large and diverse networks perform better (Osman-Gani & Rockstuhl, 2008). This type of research is, however, resulting in the view of a network as an individual feature rather than context. Networks, in this perspective, are almost like self-selected teams that can pose restrictions on or, the opposite, enable the individual to achieve more positive outcomes. Meanwhile there are certain circumstances that might have bearing on expatriates’ decisions, expatriates have the chance to choose who should be in their immediate network and what type of relationship would they like to cultivate with the specific members (Manev & Stevenson, 2001). In this scenario, expatriates are creating their network context, which will then determine how much support they will receive. In other words, the selection of their network members will determine the network they have, which in turn determines the support received from the network. Very few studies consider this dual influence of the individual on creating an immediate context and this context then restricting the resources available to the individual (Farh, Bartol, Shapiro, & Shin, 2010).

Overall, multicultural teams and personal networks represent the social units that might have the most influence on personal outcomes due to the frequency and salience of the interactions that take place within them. Moreover, multicultural teams and international networks have similar composition whether they are in a single country or spread across a few host locations, therefore the results are greatly generalizable. They were therefore selected as settings for the final two research articles of this dissertation.

1.2 Research design and methodological approach

The following section introduces the underlying research design of the dissertation, the data collection process and methods of analysis, although each article contains a more precise description of the statistical methods applied. The aim of this brief methodological overview is to explain the motivation for the chosen approach.

Research setting

Although the first two papers focus on testing the adjustment scale across multiple national contexts, the last two research articles of this dissertation focus on the Nordic context in particular. The multicultural teams in the third article were located in academic institutions in Denmark, Sweden, Norway and Finland, whereas the self-initiate expatriates rating their networks in the
fourth article were located exclusively in Denmark. The Nordic countries are a very suitable setting for researching the linguistic management of multicultural teams because the organizations often choose English as the corporate language, although it is not the host country language. This dominance of English is remarkable and approaching the use of English in organizations originating in Anglophone countries (Pudelko & Harzing, 2007). More specifically, in academic institutions the host country language and English are used in parallel and the dominant language is decided by its prevalent use in the organization (Hultgren, 2014). The actions of the management, especially when it comes to language use, might have a salient effect in such an environment. Frequent use of English in these organizations means that the corporate language or the common inclusive language is the second language (not native) for host country nationals and most of the expatriates alike. This setting has provided an excellent opportunity to study the effect of homogeneous language policy on the two distinct types of employees—expatriates and host country nationals.

The last paper of the dissertation is focusing on the networks of SIEs in Denmark. The number of foreign employees working and living in Denmark is steadily increasing, reaching almost 190,000 in 2016.\(^2\) It is therefore not surprising that the expatriates that have provided information about their networks have reported that almost half of their network members are other internationals. Previous research has suggested that in a cosmopolitan environment, expatriates often choose to interact with each other, especially due to the shared frame of reference (Langinier & Froehlicher, 2016). As outlined, many Danish organizations do have an English language policy, however, the Danish management and collaboration style is often challenging for foreign nationals. This is because Danish managers expect self-sufficiency and dedication from their subordinates without their own constant involvement and control (Klitmøller, Lauring, & Kubovcikova, 2015). If they are, however, faced with employees of different cultural background that do not respond to this management style in a positive manner, they can change their behavior to autocratic quite fast (Bjørn, 1997). Danes also distinguish sharply between the private and work sphere and do not mix those easily in terms of socializing with their colleagues (Normann & Bjerregaard, 2015). Therefore, expatriates find making contact with host country nationals difficult at the work place, but especially outside of the workplace (Oxford Research & The Copenhagen Post, 2007, 2010, 2014). The complex Danish environment, with a certain degree of internationalization, was

\(^2\) Number of foreigners receiving income in Denmark and living in Denmark in April 2016 as reported by http://www.jobindsats.dk/, accessed on 17th of August 2016.
therefore a suitable setting for exploring the factors that influence expatriates’ choices when making contact and reaching out for support.

**Quantitative methodological approach**

As visible from recent literature reviews in the expatriate field (Baruch et al., 2016; Dabic et al., 2015), many of the most influential studies are based on quantitative analysis. The publication of Black’s seminal adjustment model (Black et al., 1991) has prompted multiple researchers to test the model. This has caused a trend of collecting and analyzing self-reported cross-sectional survey data that has some weaknesses, especially common method bias (Kraimer et al., 2016). Although there are multiple ways of preventing common method bias, the field is underdeveloped in terms of advanced empirical methods. The constructs within Black’s model might also have aided the still rather shallow understanding of the cross-cultural adjustment, as already pointed out in the previous sections. The field could therefore benefit from better data collection and analytical methodologies (Haslberger, 2005).

This dissertation tries to answer the need for higher quality of data and analytical methods in the field. The first two articles focus on the evaluation of the central construct in Black’s adjustment model. They demonstrate the advances in quantitative research methods and petition the expatriate research community to improve the standard practice when dealing with construct operationalization and the subsequent testing. The two following articles look for avenues beyond Black’s model, inspired by the theoretical models of “the coming decade” that will influence future theoretical development (Kraimer et al., 2016, p. 93), namely the job demands-resources model (Lazarova et al., 2010) and the network process model (Farh et al., 2010). Analyzing complex multilevel data, the articles employ sophisticated statistical methods, challenging the status quo in the published literature.

**Data collection**

The first articles have pooled multiple samples from larger research projects, retaining demographic information about the respondents and the three-dimensional adjustment scale. The datasets are representative of the commonly published empirical articles in terms of response rate and demographic composition. The aim of the articles was to showcase on such ordinary data the

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3 I have been part of a research team under the supervision of Professor Jakob Lauring, collecting and analyzing data on multicultural teams and expatriates one year prior to the start of the PhD, working as a research assistant. Therefore, I have had the opportunity to participate in data collection and analysis on multiple projects.
caveats of the scale, through sophisticated methods. The first article, discussing the measurement perspective, dimensionality and internal consistency of the scale, has compared two samples of the CAEs in Asia. The total of 468 observations has comprised a dataset large enough to accommodate exploratory and confirmatory factor analysis, as well as the multiple indicators and multiple causes model (MIMIC) (Joreskog & Goldberger, 1975). Moreover, the unusual random order of the adjustment scale items in a large portion of the data allowed exploring the effects of possible response biases on the dimensionality and internal consistency of the scale. The four samples utilized in the second article included 1,345 observations, allowing comparison between two cultural contexts (Asian and Nordic countries) and two expatriate groups (self-initiated and assigned expatriates), working in the public and private sector. The samples were dissected and paired in a meaningful manner in order to test the measurement invariance of the scale across the different cultural contexts and expatriate types. Measurement invariance is a statistically implied condition that entails equivalence of a construct in two separate populations (Meredith, 1993). There are seven levels of measurement invariance, therefore seven models, each one more stringent than the one before. Where disparities were found, partial invariance was tested with the aid of modification indices. Applying the outlined methods in the first two articles has brought the state of the art techniques for assessing constructs to the expatriation field.

Data, collected for the third article, stems from a two-stage survey to team leaders and later also team members of multicultural academic teams in the Nordic countries. Multilevel datasets are very difficult to obtain due to the requirements for a substantial number of observations within and between the groups; they are, however, suitable for exploring the contextual effects. The final sample contains 194 academic team leaders and 859 team members (almost half of them are expatriates) that have both provided individual and team level information. Each team is represented by at least 40% of team members so evaluation of the leader’s inclusive language management is based on the opinion of at least 40% of his/her subordinates. The aggregated evaluation of the team leader is more objective than self-reported values, although the individual level variables such as second language proficiency and anxiety are self-reported as well. The multilevel random intercepts model was estimated as a superior method for analyzing the hierarchical data, with the addition of random effects and cross-level interactions in the later stages (Rabe-Hesketh & Skrondal, 2012). Multilevel models prevent the bias from non-independence of the clustered observations.
Data collection for the fourth article was carried out in collaboration with the alumni offices of three large Danish universities (Copenhagen Business School, Copenhagen University, and Aarhus University) in the initial stages of the PhD project. The aim was to target the alumni who have stayed in Denmark and found local employment. The survey has utilized network-sizing and name-generating questions, so each SIE has estimated the size of his/her own network and rated up to five members of his/her own network. The final dataset consists of 165 SIEs who have in total rated 575 members of their respective immediate networks on multiple characteristics. This ego-centric network dataset also has a hierarchical structure, since the specific ties with each network member (alter) are clustered around each SIE. A multilevel structural equation model has been estimated to analyze the data, improving the analytical method incrementally. Such models not only overcome the biases due to the structure of the data, they are also better at preventing conflation of the within and between effects (Preacher, Zhang, & Zyphur, 2011). Although the model was based on theoretically driven hypotheses, the nature of the data does not allow for causality inference.

1.3 Overview of the research articles

This section introduces the separate studies of the dissertation, commenting on the current status in their publishing process. A brief overview of the articles can also be found in table format at the end of the introductory chapter in Table 2.

Research Article 1: The three-dimensional adjustment scale: Testing the measurement perspective, dimensionality and internal consistency

Status: This single authored research article was recently published by Journal of Global Mobility (Vol. 4, Issue 2, 2016).

It is noteworthy that the psychometric properties of one of the most influential constructs of expatriate research, the three-dimensional adjustment scale (Black & Stephens, 1989; Black, 1988), were not properly tested to this date. This is even more surprising since in the history of using the construct, some spurious results about its connection to performance have been found. In support of the recent theoretical scrutiny, this article attempts to probe the psychometric properties of this scale, revealing some serious inconsistencies in the initial operationalization of the construct. The focus is specifically on the measurement perspective that affects the dimensionality and internal consistency of the scale, appropriate statistical modelling and invariance testing across contexts.
The definition of a construct should convey information about the expected dimensionality of the construct and tie it to the nomological network, allowing for a test of the construct validity and reliability. Unfortunately, the definition of adjustment is rather ambiguous with several parallel explanations, as pointed out in two excellent reviews (Hippler et al., 2014a; Lazarova & Thomas, 2012). Perhaps, due to the lacking definition, it is unclear what the intended measurement perspective of adjustment is. The majority of the existing literature treats the construct as an aggregate construct with reflective dimensions. Although this is the prevalent trend in the literature, there are still some researchers that assume adjustment to be an overall latent construct with reflective dimensions. Most importantly, neither the aggregate nor the latent approach has been properly addressed and argued for in the existing literature. This article therefore tracks back the roots of adjustment and argues that the phrasing of some of the items, especially in the case of general adjustment, does not imply reflective logic. It then empirically shows the composition of general adjustment if it was a formative construct and what influence this would have on its connection to performance. The results have shown that due to adoption of the wrong measurement perspective (reflective instead of formative), the connection to outcome variables, such as performance, might have been systematically overestimated.

Next, the dimensionality and internal consistency of the scale is discussed. Since the three dimensions originally arose from the data without much theoretical grounding, it is rather surprising that most of the published research re-confirms the same three dimensions. It is possible that these uniform results are at least partially caused by the response biases, such as weak satisficing or optimizing behavior. These biases can differ depending on the cultural context, decreasing the reliability of the scale even further. By analyzing dataset that unconventionally randomized the order of the fourteen items, the article reveals that the dimensionality of the scale is indeed compromised. Through exploratory and confirmatory factor analysis, it showcases the difference between intentionally ordered and randomized data, shedding light on the scale’s susceptibility to response biases. Finally, it also warns the researchers against relying on just Cronbach alpha, since this measure was not sensitive enough to capture the problematic internal consistency of the scale in the randomized sample. Overall, this paper has contributed to our knowledge of the psychometric properties of one of the most popular scales in the field. This has implications on the future use of the scale, but also on the future of all constructs in the field.
Research Article 2: Measurement equivalence of the three-dimensional adjustment scale across contexts

Status: This research article, written in collaboration with Thomas Hippler, was presented at the 12th Workshop on International Management in Copenhagen (EIASM), in October, 2014 and at the 28th Australian and New Zealand Academy of Management Conference in Sydney, in December, 2014, where it has won the best paper award in the International Management track. Lately, it has also been presented at the 16th European Academy of Management Conference in Paris, in June, 2016. The article has been submitted to the Journal of International Business Studies as a perspective.

As Rousseau and Fried (2001) pointed out, construct comparability is one of the core requirements for studies that compare phenomena across different contexts. The second article of the dissertation therefore builds upon the first in testing the psychometric properties of the adjustment scale even further (Black & Stephens, 1989; Black, 1988), focusing on the comparability of construct across different cultural contexts and different expatriate types. The first set of tests were checking whether survey differences (like the position of the adjustment scale) and demographic composition of the samples (age, gender, time spent at the host location) had any bearing on the results. Moreover, the goodness of fit measures were tested as well, in order to determine whether they are too strict and would find invariance where none would be expected (the same sample randomly split into four parts). Next, the invariance across different cultural contexts was tested on data collected in Nordic countries versus samples from Asian countries. Finally, the same testing was applied on samples collected at the same location, but containing different types of expatriates, namely SIEs and CAEs in the public (academics) or private sector.

The results have revealed that there is some variance in the adjustment scale across different geographical contexts and different expatriate types. The scale did not pass the scalar and error invariance test when comparing across different host locations, which means that a comparison of means (ANCOVA/MANCOVA analysis) would yield biased results. Moreover, structural equation models that take into account the error variance of the latent measures would be preferred over simple regression analysis. The results for different types of expatriates are somewhat ambiguous, as in two out of four pairs the scale seemed invariant, meanwhile scalar and error variance was found in the two other pairs. In order to specify the source of the invariance, partial variance was tested when applicable. Unfortunately, the modification indices have shown different strains in the models. The variance is therefore arbitrary and cannot be alleviated by reducing the number of
items in the scale. The article makes it clear that if future constructs should be used to compare different types of expatriates in different host locations, it is necessary to test these constructs for invariance, thus it contributes to the methodological development in the field. It also puts into perspective the past results that were gained utilizing the adjustment scale.

Research Article 3: Good for some, bad for others? The effects of inclusive language management on expatriates and host country nationals

Status: This research article, written in collaboration with Jakob Lauring and Tine Koehler, was presented in its different forms at the 28th Australian and New Zealand Academy of Management Conference in Sydney, in December, 2014 and at the 76th Academy of Management Conference in Anaheim, in August, 2016. It is currently being prepared for submission to International Business Review.

Expatriate research on language has so far clearly focused on the expatriates’ host country linguistic proficiency. Expatriates, however, can be employed in teams or organizations with one common language policy that is the second (non-native) language for all (Lauring & Klitmøller, 2015). The aim of the third article of the dissertation was to focus exactly on such teams, revealing the contextual effect of the inclusive language management on expatriates and host country nationals. Inclusive language management stands for the extent of a team leader’s communication in a common language that is allowing everybody (especially expatriates) to participate in the ongoing conversations. The job demands-resources model (Bakker & Demerouti, 2007) is utilized to study this complex phenomenon. The JD-R model classifies the heightened cognitive and emotional labor associated with communication in second language as job demand, causing increased individual anxiety. Higher proficiency in the second language is recognized as a personal resource that should alleviate the job anxiety connected to the communication in second language. Next, inclusive language management from the team leader was classified as a job resource, because it creates a psychologically safe environment where everybody can participate regardless of their language proficiency. Finally, recognizing that language is not just a tool for communication, but it is also a tool that can ascribe power to certain linguistic groups, the effect of inclusive language management was differentiated between the expatriates and host country nationals, with the expectation that expatriates will benefit more from higher inclusive management. This is based on the assumption that expatriates in this particular context have more to gain from inclusive language communication,
since the alternative management language is the host country language, which would be most beneficial for host country nationals.

The multilevel model was estimated to analyze clustered data on 194 multicultural academic teams. The results have shown that communication in second language indeed increases the level of job related anxiety for all individuals within the team. Higher second language proficiency does not moderate the relationship between communication in second language and anxiety; whereas the higher inclusive language management does moderate the relationship, alleviating the anxiety experienced by all team members. Moreover, interesting cross-over interaction between inclusive language management and expatriate status has shown that in an average team there is no difference between expatriates and host country nationals. This, however, changes in teams with higher or lower inclusive language management, because expatriates and host country nationals react in an opposite manner. The anxiety of expatriates is lower and vice versa for host country nationals. When a team leader chooses common language as the dominant, the host country nationals lose their advantage due to their proficiency in host country language. The power balance in the teams is therefore tilted, explaining the diverging contextual effect for the two groups of team members.

Research Article 4: **Network context of self-initiated expatriates: Where does work information and emotional support come from?**

**Status:** This single authored research article is currently in the process of submission for International Journal of Human Resource Management. I am thankful for useful feedback from a fellow scholar Postdoc, Marian Von Bakel, who has helped with the development of the draft.

Expatriates’ need for social support during the stressful period in the host location has been described early on in the field (Adelman, 1988). Although there are several studies focusing on the positive consequences, the source of social support is still an under-researcher topic. The focus of this article is the process through which SIEs gain support in the work area of their life; therefore distinguishing between emotional and work information support (Podsiadlowski et al., 2013). The inconsistent findings on the importance of host country nationals or other expatriates as the optimal sources of the support might be caused by the oversimplistic dichotomous distinction between them. This article is one of the first to answer the calls for a theoretically meaningful classification of potential network members (Farh et al., 2010). Based on the information seeking theory (Borgatti & Cross, 2003), it suggests classification according to three learned characteristics of the potential
network members. These are host country expertise, employment status and host country origin. The learned characteristics of network members are connected to the level and type of support they are providing through frequency of socialization between the expatriate and the specific network member. This mediation model captures the complex micro-process of creating ties and gaining support, looking at the context (the network) in which expatriate is embedded from the bottom up perspective. Although researchers in the field often claim to analyze the flow of resources from network ties, the measures they use are usually on the level of a whole network, causing a mismatch between the theory and analysis. Collecting data on the specific ties of 165 SIEs and utilizing multilevel structural equation modelling, this article corrects this deficiency in the research published (Turner, 2015).

The results of the analysis have shown that higher employment status of the network member is negatively associated with frequency of socialization and through mediation also with emotional and work information support. Host country nationals similarly seem to socialize less with expatriates; however, this effect is mediated only to emotional support. Host country knowledge was not significant for frequency of socialization or the level of support. This rather surprising finding has shown that expatriates are probably not as strategic in creating ties as expected based on the information seeking theory. The effects found on the individual tie level and the network level were not equal. The multilevel structural equation modelling has therefore showcased the importance of appropriate methodology in order to analyze naturally nested data, like the ego-centric networks of expatriates. All in all, the article has contributed to the theoretical development of the expatriates’ tie-creation process model. It has revealed how the ties with specific network members give rise to the network context that in turn determines the emotional and work information support of the expatriate.

1.4 Discussion and implications
The introductory sections of this dissertation have highlighted the need for more and better contextualized research in the expatriation field. The four articles have attempted to answer this call through sophisticated analysis of complex large datasets on expatriates embedded in different countries, teams and networks. In the past, expatriates were often treated as individuals, analyzing their experiences without taking the context into account or with post-hoc contextualization through description of the setting (e.g. Kraimer & Wayne, 2004; Peltokorpi, 2008). If context was taken into account, it was usually the cultural context of the host or home location (e.g. Van Vianen, De Pater,
Kristof-Brown, & Johnson, 2004; Waxin, 2004). As the results of the first two articles have revealed, even the comparison across different contexts that has been carried out so far suffered from lack of empirical rigor. Constructs are cornerstone of valid research and that is the case especially if it is executed across cultures, which necessarily poses implications of measurement invariance (Hult et al., 2008). The three-dimensional adjustment construct (Black & Stephens, 1989; Black, 1988), frequently used for cross-cultural comparison of expatriates, was, however, not proven invariant. In line with the theoretical criticism of the construct (Haslberger et al., 2013; Hippler et al., 2014a) this dissertation has also concluded that the dimensionality and internal consistency of the scale might be empirically driven. As Lazarova and Thomas (2012, p. 276) suggested, adjustment in expatriate literature is “so ill-conceived and measured that it should be abandoned in favor of stress, strain, depression, or other psychological indicators of failing to cope effectively with culture shock.” The dissertation has therefore abandoned the adjustment construct and focused on job-related anxiety and social support of the expatriates. Black’s adjustment model has not only offered a conceptualization of adjustment, it has also suggested the antecedents of adjustment and therefore influenced the theoretical development in the field to such a large degree that it might have stifled progress (Kraimer et al., 2016). Newer theoretical models, specifically the network process (Farh et al., 2010) and the job demands-resources model (Lazarova et al., 2010), which had however emerged, attracted already scholarly attention and will likely lead knowledge creation in the future (Kraimer et al., 2016).

Expatriates live in a fluid environment; they work in international organizations and multicultural teams, creating highly international networks that transcend the organizational or geopolitical boundaries. The immediate context and theories that directly include it in explaining expatriate experiences can therefore produce novel insights in the field (Michailova, 2011; Reiche & Pudelko, 2016). In line with this argumentation, the dissertation has explored the team and network context of expatriates. It has revealed how expatriates can be influenced by context, like the language management of their teams, but also vice versa, how they themselves impact the context, like the networks they build. Some of the results surprisingly suggest that the contextual effects are more important than individual effects. For example, expatriates are affected by using a second language at work. Operating in second language slightly increases their job related anxiety because of the higher cognitive load. Similar effect would be expected if the second language was host country language or any other non-native language. However, the contextual effect of inclusive language management is much more significant and affects expatriates in a positive way. Inclusive
language management is not alleviating expatriates’ cognitive strain, but is shifting the power balance in the team. This is because expatriates are included in the organizational discourse, preventing linguistic ostracism that they might otherwise experience. Agreeing with emerging research (Hinds et al., 2014; Tenzer, Pudelko, & Harzing, 2014), the dissertation therefore confirms that the role of language as a tool for ascribing power might effectively be much more important than its role as a tool for communication. Similarly, studying expatriate networks, some contextual effects are different from individual tie effects. For example, expatriates do not receive more work information or emotional support from a relationship with a network member that has high host country expertise. However, if on average they have many such individuals in their immediate network, they seem to receive higher work information support in total.

The results of the dissertation have moreover revealed how intricate the relationship between expatriates and host country nationals can be. Studying teams where they work side by side has shown that they might have opposite effect to the same policy. Studying expatriate networks, previous results have been confirmed; expatriates do indeed rely less on host country nationals for emotional support (Johnson, Kristof-brown, Van Vianen, De pater, & Klein, 2003). The past results, however, were likely biased, due to inappropriate classification of the network members, conflating employment status with the host country origin. The dissertation has thus also contributed to our present knowledge of expatriate and host country national relations, topic emerging in its importance (van Bakel, van Oudenhoven, & Gerritsen, 2015).

All in all, the separate studies in this dissertation have demonstrated the importance of context for understanding expatriates’ experiences and the need for appropriate measures and analytical methods to facilitate contextualized research in the field. The first two articles have shown that ignoring context when building a scale that is to capture the experience of expatriates can invalidate the scale itself and make it unsuitable for cross-cultural research. The final two articles built in the context as an important element in the design stage of the data collection, avoiding post-hoc contextualization. They have used multilevel theorizing and multilevel empirical modelling to study the direct effects of context on expatriate experience. Finally, they have focused on the immediate context of the expatriate that has been under-researched in comparison to the macro context of home and host countries.

The articles have some very specific implications for practitioners like middle managers in large multinational organizations that interact with expatriates on daily basis. Their intervening power to change the language management of the teams might have beneficial impact on the
anxiety levels of the expatriates and ease their integration in the new environment. Expatriates can participate in the team’s efforts and in the organization overall only if they have access to the relevant information. Managers should, however, be aware of the possible negative reaction from the host country nationals due to the shift in power balance between certain linguistic groups. This phenomenon was also observed in recent empirical literature (Neeley, 2013). They have moreover the opportunity to set up mentoring programs for expatriates that do not interact with employees of higher status and host country origin. Official networks that offer information about the potential network members and facilitate the initial contact have been proven beneficial for the integration and retention of expatriates (Carraher, Sullivan, & Crocitto, 2008; Shortland, 2011).

**Limitations**

This dissertation set out to study the contextual factors influencing expatriates’ experiences. Although as Table 1 showed, each study has used filtering questions to secure the foreign nationality and legal employment of the individuals studied, thus focusing solely on expatriates, not every study used filtering questions to distinguish the specific type of expatriate. Especially the last two articles built on assumptions about the self-initiated nature of foreign academic employees and independence of international students, finding employment after they have completed their studies. These inconsistencies in defining the different types of expatriates will remain a limiting element of the dissertation.

Some of the general limitations of this dissertation are connected to the quantitative methodology on which it is based. The datasets presented in this dissertation are not random samples that can represent the whole population of expatriates in a certain host location. They are, however, representative of the typical expatriate samples, usually collected through convenience methods such as purchasing the contact list from foreign embassies or gained in collaboration with expatriate communities. They are also representative in terms of demographic composition, such as the over-representation of males and younger SIE demographics (especially in the first two articles). Generalizable random samples are suitable for invariance testing, in order to control for all the possible causes of invariance beside the one of interest, such as different host locations. Since random samples in expatriate research are very rare, the Coarsened Exact Matching (CEM) algorithm was utilized to select subsamples, almost equal in their demographic distribution (Iacus, King, & Porro, 2011). The matched data has shown that demographic distribution of the samples was not influencing the results of the invariance testing. In the last two articles, state of the art
Multilevel methodologies have been applied to analyze the clustered datasets. Multilevel methods go far in preventing the bias due to non-independence between the observations; however, the datasets analyzed are still cross-sectional. It is therefore not possible to draw inferences about the causal direction of the effects found. The hypotheses that built the models are, however, theoretically driven. Although there is a possibility of common method variance bias, some effects, such as cross-level moderations cannot be determined by such bias (Chang, van Witteloostuijn, & Eden, 2010). Finally, there is always the possibility of omitted variable bias in quantitative analysis. The articles have, however, relied on previously published research in order to select relevant control variables.

The dissertation overall can seem somewhat fragmented in its contribution to the field. The rather surprising results of the adjustment scale testing have changed the original framing of the PhD project, which is clear from the focus of the two following articles. The dissertation is also a collection of scientific articles that need to be publishable on their own according to the official requirements of the Aarhus University graduate school. Their individual contribution to the field was therefore prioritized over the coherence of the project overall. Together they, however, significantly contribute to our knowledge of the role of context in the expatriate field.
**Table 2. Overview and summary of the four studies**

<table>
<thead>
<tr>
<th>Study</th>
<th>Title of the article</th>
<th>Datasets</th>
<th>Variables of interest</th>
<th>Findings</th>
</tr>
</thead>
</table>
| Study 1 | The three-dimensional adjustment scale: Testing the measurement perspective, dimensionality and internal consistency | 468 company assigned expatriates in Asia                                  | • Adjustment  
• Performance  
• Demographics | The measurement perspective of the adjustment scale is possibly misspecified. It is susceptible to response bias. |
| Study 2 | Measurement equivalence of the three-dimensional adjustment scale across cultures and expatriate types | 1345 company assigned and self-initiated expatriates in Asia and The Nordic countries | • Adjustment  
• Demographics | The adjustment scale is not invariant across contexts and type of expatriates. |
| Study 3 | Good for some, bad for others? The effects of inclusive language management on expatriates and host country nationals | 859 academic expatriates and host country nationals in 194 teams          | • Job anxiety  
• Second language proficiency  
• Second language communication  
• Inclusive language management  
• Demographics  
• Team level control variables | Inclusive language management alleviates the effect of second language communication, increasing an individual’s anxiety. Expatriates benefit from inclusive language management more than host country nationals. |
| Study 4 | Network context of self-initiated expatriates: Where does work information and emotional support come from? | 165 self-initiated expatriates in Denmark, who rated 575 of their own network members | • Work information and emotional support  
• Frequency of socialization  
• Alter host country knowledge, employment status and origin  
• Demographics  
• Control variable for proximity | Expatriates receive less work information support from network members of higher employment status. They also receive less emotional support from host country nationals. |
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CHAPTER 2.

The three-dimensional adjustment scale:

Testing the measurement perspective, dimensionality and internal consistency

Abstract

The purpose of this article is to test the properties of the well-known three-dimensional adjustment scale, established by Black and colleagues (1988, 1989). First formative and reflective measurement approaches are discussed, since it is not clear which perspective was assumed in the initial operationalization. The measurement perspective affects the dimensionality and internal consistency of the scale, appropriate statistical modelling and invariance testing across contexts. The potential effect of measurement perspective misspecification is therefore tested empirically in the next step, followed by testing of dimensionality and internal consistency. Two different ways of organizing the adjustment items (random/non-random) were used for the empirical assessment. The quantitative analysis presented is based on survey data from 468 company assigned expatriates in Asia that were subjected to an exploratory and confirmatory factor analysis as well as a structural equation modeling – more specifically the multiple indicators multiple causes model (MIMIC). The study revealed that the adjustment construct is possibly misspecified, especially the general adjustment dimension, that was tested as a formative, not a reflective scale. There is further evidence that the wrong measurement approach skewed the coefficient that connects adjustment to performance, which is the key construct in its nomological network. Moreover, the dimensionality and the internal consistency of the scale are deteriorated to a large extent by randomization of the items, suggesting susceptibility to response biases that are context dependent. The findings highlight the need for a clear concept definition that would lead to an appropriate operationalization of the construct.

Keywords: Expatriate adjustment, Dimensionality, Internal consistency, Measurement perspective
INTRODUCTION

For the past thirty years, adjustment has been the focal point in most expatriation research, and has mostly been characterized as the precondition for a successful functioning during an international assignment. The three-dimensional operationalization of adjustment created and championed by Black and colleagues (Black, 1988; Black & Gregersen, 1991; Black, Mendenhall, & Oddou, 1991) has dominated research, despite the existence of parallel constructs such as the psycho-social acculturation (Ward & Kennedy, 1999) and the intercultural effectiveness (Gudykunst & Hammer, 1984). It is perhaps the productive endeavor of Black and colleagues that has turned the attention to adjustment, and linked it to desirable expatriation outcomes, causing a great number of researchers to reuse this specific scale in search for the antecedents of adjustment. Over time, with an increasing number of publications, Black’s conceptualization has certainly influenced the theorizing and the knowledge accumulation in the field (Dabic, Gonzalez-Loureiro, & Harvey, 2015). However, the empirical evidence for adjustment’s relevance, specifically its connection to expatriate performance is rather ambiguous - especially in studies with multi-source performance ratings (Brewster, Bonache, Cerdin, & Suutari, 2014; Harrison, Shaffer, & Bhaskar-Shrinivas, 2004; Shay & Baack, 2004).

The inconclusive empirical evidence has recently aroused interest in the theoretical basis of the scale, as researchers have started to question the central role of adjustment, its sound and systematic development, and traced it back to its origin (Haslberger, 2005; Hippler, Caligiuri, Johnson, & Baytalskaya, 2014b; Lazarova & Thomas, 2012). It is rather noteworthy, that despite its prevalence in the academic literature, and also some solid theoretical criticism, there has been relatively few attempts to evaluate the psychometric properties of adjustment, such as invariance and dimensionality, after its initial establishment (e.g. Firth, Chen, Kirkman, & Kim, 2014; Robie & Ryan, 1996; Shaffer, Harrison, & Gilley, 1999). Therefore the method of construction and the psychometric properties of the scale are the focal points of this article.

The empirical evidence presented is based on two datasets, both containing the usual three-dimensional adjustment scale as applied by Black (1988, 1989). One of the surveys has followed the standard order of the items, first listing all the job adjustment items, then all the general adjustment items and then all interaction adjustment items. The other survey has scrambled the order of the items, thus not following the intended dimensions. These small differences in the administration of the scale
have caused statistical problems and resulted in a dimensionality testing of the scale. Questions about dimensionality led to some deeper issues such as finding the true meaning of the concept that is preliminary to its valid operationalization and proper reliability measurement (Locke, 2012). Although a theoretical grounding and a solid definition should certainly precede the operationalization discussion and the psychometric testing of any scale, it is often the case that empirical evidence leads to post hoc modifications and clarifications of the concept in the first place (Schwab, 1980). One good example in human resource management literature could be the dimensionality of the organizational citizenship scale, where testing through multiple meta-analytical studies has initiated theoretical reiterations of the concept behind the construct (Hoffman, Blair, Meriac, & Woehr, 2007; LePine, Erez, & Johnson, 2002). Therefore the aim of testing the properties of the adjustment scale in this article is not to undermine the existing knowledge but quite the opposite, since the accumulated empirical evidence is the very basis for a constructive debate about the nature of the concept. The purpose of this article is to bring attention to how the scale was created almost thirty years ago and to compare it to the way we are using it today, so that we may find the way how to approach adjustment in the future.

THEORETICAL BACKGROUND

More than just one stream of literature is focusing on cross-cultural adjustment. Concentrated around different core terms, psychology, anthropology and sociology have focused on acculturation, while intercultural communication studies focused on cross-cultural effectiveness and international business and human resource management on adjustment or adaptation (Demes & Geeraert, 2014; Gonzalez-Loureiro, Kiessling, & Dabic, 2015; Sussman, 2011). The co-existence of these streams is not necessarily detrimental, since they can cross-pollinate findings on cultural transitions; the proliferation in adjustment definitions is however not beneficial for synthesizing the existing knowledge.

It is not the aim of this article to evaluate all the existing definitions and instruments of adjustment. Comprehensive reviews of adjustment (Hippler, Caligiuri, & Johnson, 2014a; Lazarova & Thomas, 2012) already offer a very thorough overview. For the completeness, the most recent expatriate literature reveals a couple of novel ways of operationalization of adjustment. For example Vromans and colleagues (2013) utilize the Evaluation of Expatriate Development questionnaire, that distinguishes the cognitive, affective and behavioral dimensions of adjustment (Tucker, Bonial, & Lahti, 2004). Similarly, Haslberger (2005; 2013) includes cognitive and effective dimensions in a new
measure of adaptation. Hemmasi and Downes have developed a measure of general and work adjustment as part of a larger expatriate success scale (Hemmasi & Downes, 2013; Hemmasi, Downes, & Varner, 2010; Konanahalli et al., 2014). Finally, the new person-environment fit scale goes to great lengths to address the whole content domain of adjustment (Hippler et al., 2014b) as well as the work- and family- role adjustment scale that addresses the interface of these two important dimensions (Shaffer et al., 2016). All in all, the newer ways of operationalization point out and attempt to improve the theoretical roots of the adjustment scale. Some, like person-environment fit, are more directly linked to context, others like work and family adjustment are meant to be context independent and comparable. This article however aims to address the empirical issues of the scale development and explore how they impact the results of empirical research. It chooses to focus solely on adjustment as it has been defined and operationalized by Black (1988;1989). Yet the implications derived from this analysis can be applied to newer measures, currently emerging in the literature.

In order to evaluate the properties of any scale, a clear definition of the underlying concept is necessary. It should convey information about the expected dimensionality of the construct and tie it to the nomological network, allowing for a test of the construct validity. It is therefore crucial to go back and look at the earliest publications that established the construct. Based on American expatriates in Japan, Black (1988) defined the concept behind the adjustment scale as being three-dimensional, naming the dimensions degree, mode and facet. The degree of adjustment is basically the adjustment definition as we now know it, that is “the degree of comfort the incumbent feels in the new role and the degree to which he or she feels adjusted to the role requirements.” (Black, 1988 p. 278) The mode of adjustment, that was initially based on work role transition literature, was not reflected in the operationalization of the concept and is now somewhat detached from the construct. Finally, the third intended dimension was facet; Black (1988) identified two facets of adjustment - the work and non-work facets. However, in the operationalization process a third facet emerged in the data - the interaction with host country nationals. In summary, it is clear that the initial concept contained information about the possible dimensions. These dimensions, however, have changed in the operationalization process. It is very interesting that the initial facets of the adjustment are the dimensions we know today. At the time of the scale development, the measurement perspective of scales was not a widely debated topic. Therefore the empirical emergence of the dimensions was not
preceded by a measurement perspective debate. We can however retrace the steps in the process and discuss the possible intended measurement perspective.

**Dimensionality and measurement perspective**

Every researcher who has used the adjustment scale, has had to take a decision about the nature of adjustment, whether it is determined by the observable indicators or whether it determines the observable indicators (Diamantopoulos & Siguaw, 2006; Diamantopoulos & Winklhofer, 2001). The difference between the two is the difference between formative and reflective measures. Problems usually arise when the conventional procedure is followed instead of a deliberate decision-making process. There is substantial evidence from different fields, such as marketing, psychology and management, that researchers have for years overlooked this crucial step in the construct operationalization process (for an overview see Diamantopoulos, P., & Roth, 2008). It has been found that 29% of the constructs in top marketing journals have been misspecified in terms of the measurement perspective (Jarvis, MacKenzie, & Podsakoff, 2003), while 47% in leadership research journals made the same mistakes (Podsakoff, MacKenzie, Podsakoff, & Lee, 2003). The majority of these misspecifications are due to choosing the reflective approach, although the formative approach would have been more appropriate. As shown by Diamantopoulos and Siguaw (2006) regarding export coordination and Law and Wong (1999) regarding job perception and satisfaction in management context, such inaccuracy can have dire consequences. First of all, the selection criteria for items are just the opposite. Within the reflective approach, one is looking for retaining the highly correlated items that together represent the underlying variable. On the other hand, within the formative approach, items that are too highly correlated are being considered as redundant and pruned away. The aim, when creating a formative measure, is to compile a parsimonious list of predictors that together add up to the unobserved variable (Bollen & Diamantopoulos, 2015). Naturally then, the scale itself and what it contains will be very different. General adjustment serves as a good example of the disparateness between measurement approaches.
As visible in Figure 1, under the reflective approach, there is an underlying latent variable, namely the general adjustment, which causes the expatriate to feel more adjusted to the different aspects of his or her environment. The items GA1-GA7 are then just reflections of this underlying cause; they are the imperfect measurement of the same latent construct. Therefore they should be fairly interchangeable - in other words, if one falls out, the meaning of the construct should not change. The latent construct is essentially captured by the overlap of these imperfect measures. In reality, however, if an expatriate is adjusted to health care facilities, it does not necessarily mean that he/she is also more adjusted to the entertainment facilities in the host country. As such, the items of general adjustment are quite independent of each other, not interchangeable. Under the formative view, they should be added up, since they cause a higher level of general adjustment, not vice versa. The latent construct does not lie in their overlap but in their totality. The general adjustment items can be compared to other formative items, for example the occupational stress inventory (Iliceto et al., 2013) that lists possible sources of pressure. Whereas general adjustment is probably the easiest to identify as a formative measure; the other adjustment dimensions can be more ambiguous. In case of interaction adjustment, one can imagine that through experience the expatriate learns how to read and respond to subtle social cues in communication and that this ability will result in smoother socializing, speaking and general interacting.
with host country nationals. The items then reflect the newly-acquired ability that we are actually trying to measure; they will all rise if the ability rises, they will be imperfect measures of the latent construct that lies in their overlap. This discussion about the measurement perspective highlights the importance of a clear theoretical base of the concept that hinges on its proper definition. The wording of the items will then follow the definition in discerning a proper measurement approach.

Choosing between formative and reflective operationalization can actually change our conclusions. Formative scales, often called indexes, should be treated according to a distinct set of rules in terms of the reliability testing and utilization in further analysis, such as the structural equation modeling (Diamantopoulos & Riefler, 2011). In case a scale is wrongly classified under the reflective approach, there is high probability that its estimated significance in a subsequent analysis is over- or underestimated (Law & Wong, 1999; MacKenzie, Podsakoff, & Jarvis, 2005). Misspecification of the measurement model “undermines the content validity of constructs, misrepresents the structural relationships between them, and ultimately lowers the usefulness of management theories for business researchers and practitioners.” (Coltman, Devinney, Midgley, & Venaik, 2008 p.1250) Finally, reflective and formative measures are governed by a different set of rules when it comes to the assessment of their important properties such as invariance across different contexts. This is particularly important for the adjustment scale that is frequently used for comparison across different cultures. As Diamantopoulos and Papadopoulos (2010) pointed out, the formative measure is a function of the items, therefore any variance in items changes the contrast itself. This becomes even more complex when applied not only on multi-item, but multi-dimensional or even higher-order constructs, because with each level of aggregation, the measurement perspective has to be re-evaluated (Diamantopoulos et al., 2008; Johnson, Rosen, Chang, Djurdjevic, & Taing, 2012; Law, Wong, & Mobley, 1998). In other terms, it is possible to have dimensions, such as general, work and interaction adjustment, that are created as reflective scales, while they themselves add up to a formative over-all construct – adjustment. It is also possible to have general, work and interaction adjustment, which are created as formative indexes that add up to a formative over-all construct- adjustment. For a review of the possible types of multidimensional constructs see Wong, Law and Huang (2008), who have categorized and explained the latent, aggregate and profile models. Within this taxonomy, if general interaction and work adjustment can be composed according to a specific algebraic formula to an overall adjustment, then adjustment would be an aggregate construct. On the other hand, if the overall
adjustment is just the common factor of the three dimensions, then it would be a latent construct. If characteristics of each and every dimension can be operationalized to an overall type of adjustment, then adjustment would be a profile construct. In recently published research, there are some examples of using adjustment as an overall construct in structural equation modeling (Cao, Hirschi, & Deller, 2013; Claus, Maletz, Danut, & Pierson, 2015; Fu, Morris, & Hong, 2015; Malek, Bushwar, & Reiche, 2015; Ren, Shaffer, Harrison, Fu, & Fodchuk, 2014). It is however more common that the researchers conduct the analysis on separate dimensions. There are many examples of published research in which authors use general interaction and work adjustment as separate dependent variables in three separate regressions (Froese & Peltokorpi, 2012; Koveshnikov, Wechtler, & Dejoux, 2014; Liu & Shaffer, 2005; Min, Magnini, & Singal, 2013; Van Vianen, De Pater, Kristof-Brown, & Johnson, 2004). While neither of these approaches is right or wrong, they are built on different assumptions. The parallel use of the adjustment scale in different formats shows that consensus has not yet been achieved. We can however speculate about which model of adjustment, aggregate, latent or profile, the original authors had in mind.

Black (1988) and Black and Stephens (1989) subjected the pool of initial 11 items to principal component analysis with varimax rotation and extracted three components which would suggest the reflective logic. We can therefore deduce that the dimensions – the general, interaction and work adjustment - were intended to be reflective. There is however a most interesting distinction between them. Black (1988) deemed the interaction facet to be correlated too highly with the general adjustment facet (0.47, p<0.01) and therefore merged them together, while work adjustment was conceptually too different and therefore considered separately (despite the fact, that there was just one item left). Looking for a distinction between the dimensions and pooling the general and interaction adjustment together due to close correlation shows us that the general and work adjustment were to form or add up to an overall adjustment. Black (1988) then perhaps inadvertently created the initial adjustment as an overall aggregate construct that includes three reflective dimensions, which is still the tendency in published research today. Studying the dimensions separately has been called the “common practice in the literature on expatriate cultural adjustment” (Claus et al., 2015 p.2531). Researchers have theorized about the dimensions separately, searching for their separate antecedents (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Bhatti, Battour, & Ismail, 2013; Black et al., 1991; Waxin, 2004). They have also discussed the overflow from one dimension to the other (Kraimer & Wayne, 2004; Mahajan & De
Silva, 2012). Yet there is a lack of research where the distinctiveness of the dimensions is openly discussed or tested. Black has integrated the general and interaction adjustment based on 0.47 correlations between them, but correlations with the same magnitude or even larger can be found in articles that separate these two dimensions. All in all, it is not really clear whether the adjustment dimensions are reflective or formative themselves and whether the total construct is aggregate, latent or profile. For the sake of illustration, this article aims to demonstrate the differences in the general adjustment scale under the different measurement approaches. Hence, the first research question is formulated: *Would the content of the general adjustment scale change under the formative view, and would the structural relationships with constructs in the nomological network subsequently change as well?*

**Dimensionality and internal consistency**

The obstacles in determining the construct dimensionality, however, do not end with the measurement perspective debate. Even if we would decide that the adjustment dimensions should be reflective and decided to follow the conventional latent approach in scale creation with the usual reliability and internal consistency measures, questions still remain about the theoretical grounding for the three dimensions. The original 11 items from Black (1988) became 14 items in the subsequent published work, where they were sorted into the three well-known dimensions and remained so from then on (Black & Stephens, 1989). Whether these are successfully representing the whole content domain of adjustment has been challenged (Hippler et al., 2014a). Further theoretical criticism points out that according to the attitude formation theory, the adjustment measure should reflect cognitions, behaviors and emotions in separate dimensions, since there is a substantial overlap between the existing three (Haslberger, Brewster, & Hippler, 2013). Especially the interaction dimension could be argued to overlap with the other two dimensions because an expatriate can interact with host country nationals within and outside of the job context. For example the adjustment to interaction with co-workers could also be associated with adjustment to the new work environment; just as interaction with a landlord, a shop assistant or a doctor could be associated with the ease of operation in the non-work context.

The articles, that initially set out to confirm the dimensionality and internal validity of the scale empirically, have certain methodological limitations, which are understandable, given our knowledge of the different factoring methods at that time. They employed principal component analysis with
varimax rotation (Black & Stephens, 1989; Parker & McEvoy, 1993). Meanwhile principal axis factoring method is more appropriate to identify the dimensions of constructs, and oblique rotations more appropriate if the dimensions should correlate (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Reio & Shuck, 2015). Later, more comprehensive attempts to assess the dimensionality have improved the methodology (Shaffer et al., 1999), much like the more recent articles which include a factor analysis on various expatriate samples (e.g. Isakovic & Whitman, 2013; Koveshnikov et al., 2014; Okparaa & Kabongo, 2011; Waxin & Panaccio, 2005). However, not much attention is paid to the order in which the items have been placed in the questionnaire. We can hypothesize that most published articles follow the standard order of the items within the scale, according to the intended dimensions; this is however usually not explicitly stated. The articles that repeated the factor analysis on samples specifically stating that they have been distributed in random order (Selmer, 2004, 2006) have excluded items of the work adjustment or reported a slightly lower Cronbach’s Alpha. With the rise of computerized questionnaires, in comparison to the traditional pencil-and-paper questionnaires, randomization of items has become a frequently adopted strategy, combating the response bias. It has been found that the randomization procedure can decrease the internal consistency of a scale that is possibly overestimated due to response bias (Ruble & Stout, 1991; Schell & Oswald, 2013; Schriesheim, Kopelman, & Solomon, 1989). In other words, the high internal consistency of the adjustment scale might be caused by a response bias, which is again caused by the method of administration of the questionnaire and the order in which the items are presented.

This type of response bias stems from the tendency to answer consistently with the preceding items, in order to appear more rational or in order to complete the survey faster by replicating the previous answers (Eyal & Eyal, 2011). When an individual wants to answer with integrity either to help the researcher or to preserve his or her self-image, he or she displays an optimizing behavior. On the other hand, when answering the questions without much thought, carrying over answers from the initial items, thus saving energy and time, he or she displays a weak satisficing behavior (Krosnick & Presser, 2010). In either case, the effective result is the same; the items that appear at the top of the questionnaire will influence the answers to the following items (for review on response bias see Alwin, 1991). Applied to the case of adjustment, the close proximity of the items belonging to each dimension is causing high correlation of items within the respective dimensions and low correlation across the different dimensions. The order of the items, which can visually be enhanced further with each
dimension on a separate page, then works as a self-fulfilling prophecy, reconfirming dimensions that would not be found otherwise. Context can even further entangle the effect of the response biases, since cultural differences have been found to bear influence on how individuals tend to answer self-reported inventories. In some cultures the tendency to answer around the middle of the scale or the opposite on the extremes might drive or damage the internal consistency of the adjustment dimensions depending on the composition of the data (Robert, Lee, & Chan, 2006). Higher acquiescence, tendency to agree irrespective to the content of the item, is highly correlated with certain cultural characteristics, such as collectivism, and might boost the internal consistency (Johnson, Kulesa, Cho, & Shavitt, 2005). Since the establishment and initial testing of the scale, only a few researchers have experienced difficulties in distinguishing the three dimensions within adjustment (Srivastava & Panday, 2012). The apparent consensus, or at least the lack of objection to the reliability and dimensionality of the scale, might have different explanations. One explanation might be the tendency to rely only on Cronbach’s Alpha that might not substantially reflect internal inconsistencies of the scale, as noted by Sijtsma (2009 p108): “Almost no psychological test or inventory is published without alpha being reported (usually without reference to Cronbach’s paper), often for each interesting subgroup separately.” However, if we are to draw theoretical conclusions based on the distinctiveness of the dimensions, it would be most interesting to find out to which degree the internal validity of the scale is compromised due to randomization of the items. Accordingly, the second research question is formulated: Would the three traditional adjustment dimensions be reconfirmed in a sample with random order of the items with the same level of internal consistency?

The remainder of this article presents the samples and instruments that were utilized in a two-fold analysis. In the first procedure and result section, the first research question focusing on the measurement approach is answered. In the second procedure and result section the second research question is responded to, centered on the dimensionality and internal consistency of the scale. Finally, in the concluding parts of the article the empirical evidence is synthesized, discussing possible limitations and highlighting the contribution to the field.

**METHODS AND RESULTS**
Two samples and two distinct procedures have been used to conduct the empirical analysis and provide answers for the two research questions. Both procedures involve structural equation modeling. First the
recreation of the general adjustment as a formative scale is conducted on Sample B. Second the test of the dimensionality of the whole adjustment construct is conducted on Sample A1 and A2 and B. Although the two samples have been collected from two separate questionnaires, both include the same three-dimensional adjustment scale. Both questionnaires are convenience samples, using expatriate contacts from embassies and business associations.

**Sample description**

The two samples utilized in the research comprise of company assigned expatriates residing in Asia, including Hong Kong, China, Singapore, Thailand and Philippines. The data collection ended in 2015 and the final convenience samples are very similar in terms of size and demographic composition to the standard samples that are frequently collected from expatriate populations.

*Sample A1 and A2:* The survey was sent out to 1713 company assigned expatriates; 343 completed surveys have been returned resulting in a 20% response rate. For this analysis, all observations with missing values on the adjustment items were deleted list-wise, ending up with 338 observations. The average respondent was male (90% males), 42 years old (min-23/max-74), working in the location for 4 years and 11 months (min-1 month/max-34 years). In order to test the dimensionality, the sample was randomly split to Sample A1, containing 179 individuals, and Sample A2, containing 159 individuals. The scale was administered in scrambled order in this larger survey; the order of the items can be seen in Table 4.

*Sample B:* The second survey, including among others also the adjustment scale with the standard order of items, was initially sent out to 2007 individuals of which 455 responded to the questionnaire, that is 23% response rate. However for the purposes of this research, only 130 individuals have been selected as they have categorized themselves as company assigned expatriates and completed all the required questions. The large drop in the sample size is due to a large part of the respondents identifying themselves as self-initiated expatriates and expatriate entrepreneurs. In Sample B, the average respondent was male (96% males), 49 years old (min-32/max-73), working in the location for 5 years and 10 months (min- 4 months/ max-31 years).
Table 1. Correlation table Sample B

<table>
<thead>
<tr>
<th></th>
<th>JA1</th>
<th>JA2</th>
<th>JA3</th>
<th>GA1</th>
<th>GA2</th>
<th>GA3</th>
<th>GA4</th>
<th>GA5</th>
<th>GA6</th>
<th>GA7</th>
<th>IA1</th>
<th>IA2</th>
<th>IA3</th>
<th>IA4</th>
<th>perform</th>
</tr>
</thead>
<tbody>
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<td>JA1</td>
<td>(5.792)</td>
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<tr>
<td>JA2</td>
<td>0.653 (5.877)</td>
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<tr>
<td>JA3</td>
<td>0.622 (5.992)</td>
<td>0.653 (5.877)</td>
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<tr>
<td>GA1</td>
<td>0.292</td>
<td>0.296</td>
<td>0.299</td>
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<tr>
<td>GA2</td>
<td>0.285</td>
<td>0.255</td>
<td>0.233</td>
<td>0.322 (5.438)</td>
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<tr>
<td>GA3</td>
<td>0.296</td>
<td>0.136</td>
<td>0.174</td>
<td>0.272</td>
<td>0.371 (5.585)</td>
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<tr>
<td>GA4</td>
<td>0.438</td>
<td>0.174</td>
<td>0.221</td>
<td>0.323</td>
<td>0.355</td>
<td>0.634 (5.800)</td>
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<tr>
<td>GA5</td>
<td>0.246</td>
<td>0.188</td>
<td>0.232</td>
<td>0.157</td>
<td>0.199</td>
<td>0.376</td>
<td>0.376 (5.385)</td>
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<tr>
<td>GA6</td>
<td>0.266</td>
<td>0.215</td>
<td>0.235</td>
<td>0.368</td>
<td>0.291</td>
<td>0.605</td>
<td>0.509</td>
<td>0.570 (5.469)</td>
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<tr>
<td>GA7</td>
<td>0.408</td>
<td>0.226</td>
<td>0.219</td>
<td>0.322</td>
<td>0.307</td>
<td>0.558</td>
<td>0.660</td>
<td>0.523</td>
<td>0.569 (5.684)</td>
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<tr>
<td>IA1</td>
<td>0.320</td>
<td>0.364</td>
<td>0.331</td>
<td>0.299</td>
<td>0.175</td>
<td>0.335</td>
<td>0.356</td>
<td>0.330</td>
<td>0.394</td>
<td>0.350 (4.892)</td>
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<tr>
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<td>0.434</td>
<td>0.399</td>
<td>0.281</td>
<td>0.402</td>
<td>0.290</td>
<td>0.240</td>
<td>0.380</td>
<td>0.159</td>
<td>0.320</td>
<td>0.312</td>
<td>0.554 (5.723)</td>
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<tr>
<td>IA3</td>
<td>0.329</td>
<td>0.392</td>
<td>0.348</td>
<td>0.222</td>
<td>0.317</td>
<td>0.193</td>
<td>0.295</td>
<td>0.256</td>
<td>0.389</td>
<td>0.301</td>
<td>0.533</td>
<td>0.599 (5.362)</td>
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<tr>
<td>IA4</td>
<td>0.237</td>
<td>0.266</td>
<td>0.313</td>
<td>0.213</td>
<td>0.171</td>
<td>0.207</td>
<td>0.266</td>
<td>0.196</td>
<td>0.343</td>
<td>0.219</td>
<td>0.708</td>
<td>0.543</td>
<td>0.678 (4.862)</td>
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<tr>
<td>perform</td>
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<td>0.324</td>
<td>0.351</td>
<td>0.274</td>
<td>0.259</td>
<td>0.260</td>
<td>0.343</td>
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<td>0.382</td>
<td>0.309</td>
<td>0.448</td>
<td>0.356</td>
<td>0.357</td>
<td>0.338 (5.919)</td>
<td></td>
</tr>
</tbody>
</table>

Notes: N= 130, all bivariate correlations were significant at p<0.01; mean values are displayed in brackets at diagonal

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Table 3. Correlation table Sample A1+A2

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<tr>
<th></th>
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<th>JA2</th>
<th>JA3</th>
<th>GA1</th>
<th>GA2</th>
<th>GA3</th>
<th>GA4</th>
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<th>GA7</th>
<th>IA1</th>
<th>IA2</th>
<th>IA3</th>
<th>IA4</th>
<th>perform</th>
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</tr>
<tr>
<td>JA2</td>
<td>0.366 (5.766)</td>
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<tr>
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<td>0.505 (6.065)</td>
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<tr>
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</tr>
<tr>
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<td>0.380</td>
<td>0.302</td>
<td>0.342 (5.524)</td>
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<tr>
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<td>0.278</td>
<td>0.336</td>
<td>0.449 (5.583)</td>
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<tr>
<td>GA4</td>
<td>0.273</td>
<td>0.358</td>
<td>0.322</td>
<td>0.388</td>
<td>0.392</td>
<td>0.613 (5.689)</td>
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<td>0.196</td>
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<td>0.179</td>
<td>0.273</td>
<td>0.421</td>
<td>0.450 (4.973)</td>
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<td>0.257</td>
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<td>0.311</td>
<td>0.311</td>
<td>0.393</td>
<td>0.402</td>
<td>0.307 (5.600)</td>
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<td>0.293</td>
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<td>0.258</td>
<td>0.397</td>
<td>0.399</td>
<td>0.583</td>
<td>0.499</td>
<td>0.363 (5.612)</td>
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<td>0.300</td>
<td>0.382</td>
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<td>0.253</td>
<td>0.376</td>
<td>0.253 (4.962)</td>
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<tr>
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<td>0.474</td>
<td>0.426</td>
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<td>0.292</td>
<td>0.303</td>
<td>0.221</td>
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<td>0.268</td>
<td>0.613 (5.645)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>IA3</td>
<td>0.221</td>
<td>0.357</td>
<td>0.331</td>
<td>0.259</td>
<td>0.205</td>
<td>0.293</td>
<td>0.280</td>
<td>0.269</td>
<td>0.408</td>
<td>0.279</td>
<td>0.547</td>
<td>0.640 (5.237)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA4</td>
<td>0.209</td>
<td>0.363</td>
<td>0.305</td>
<td>0.258</td>
<td>0.287</td>
<td>0.422</td>
<td>0.278</td>
<td>0.257</td>
<td>0.444</td>
<td>0.317</td>
<td>0.768</td>
<td>0.549</td>
<td>0.601 (4.861)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: N= 338, all bivariate correlations were significant at p<0.01; mean values are displayed in brackets at diagonal
**Instruments**

Both surveys used the same introduction before the adjustment scale items: “It is completely normal for an individual to have difficulty adjusting to living or working in a foreign country. Please indicate the degree to which you are adjusted or not adjusted to the following items where you live in the host location.” Following this introduction, the 14 items reported in the appendix of Black and Stephen’s article (1989) were listed. The response categories varied between “very unadjusted” to “completely adjusted” on a 7-point Likert scale. The standard version has neatly divided the items to the three subdimensions and separated them by headings: “job, general and interaction adjustment”. At the same time, the scrambled version has just presented the items without headings and division, in mixed order. Beside the adjustment scale, the four-item work performance scale developed by Early (1987) was also included in the survey for Sample B and served as the extra reflective scale needed for model identification and external validity testing. The items included within the scale have addressed the overall performance, the ability to get along with others, the ability to get required assignments done on time and the quality of the performance. The anchors “poor” and “excellent” were located on a 7-point Likert scale. When subjected to the principal axis factor analysis, only one factor emerged with eigenvalue higher than 1 (Cronbach’s Alpha 0.79).

**Analysis**

The following analysis has been conducted in the statistical software STATA 13 and SPSS 22. The criteria taken into consideration when comparing the different structural equation models were RMSEA, AIC, BIC, CFI and TLI and finally SRMR. The likelihood-ratio test is provided only as a frame of reference because there are differences in degrees of freedom and sample sizes, skewing the results. Some general rules of thumb were followed: The RMSEA values lower than 0.05 are considered indicators of a close approximate fit and values lower than 0.08 as an acceptable fit (Kline 2011). There are no general values for AIC and BIC acceptable/non-acceptable cut-off points, therefore they are used more as means of relative comparison between the models; the lower their values, the better the model. CFI and TLI values above 0.9 are usually considered acceptable (Hu & Bentler, 1999; Sivo, Xitao, Witta, & Willse, 2006). The two comparative indices have been pronounced to perform better than others under conditions of high model complexity and varying sample size (Hutchinson,
Olmos 1998, Cheung, Rensvold 2002). Finally, SRMR values lower than 0.10 are considered acceptable (Kline 2011).

**Procedure 1**

In order to illustrate the potential differences between the formative and the reflective approach to adjustment, Sample B was utilized to re-create the general adjustment as a formative index, rather than a reflective scale. The sample contained all the adjustment items in the correct order, so the only difference between the models is in the measurement perspective. Formative measures are much harder to include in structural equation models due to their identification problems (Bollen & Davis, 2009; Diamantopoulos, 2011). Moreover, as noted by Diamantopoulos and Winklhofer (2001), the guides for index formation are not as common as instructions for latent scales; this article, however, follows the steps they have suggested as closely as possible. It would be appropriate to start with the initial pool of items that Black (1988) used when operationalizing adjustment. Unfortunately, that is not feasible without accessing the original dataset. Therefore the general adjustment dimension was chosen as the most appropriate for testing the reflective vs. the formative approach. It is suitable for technical reasons as it contains most items in comparison to other facets; therefore it is possible to showcase the pruning procedure in index-formation. It also contains a good general item that summarizes the whole dimension (adjustment to living conditions in general) that is necessary for identification purposes of the formative index. And finally, as already argued in the theoretical section of the article, it is the facet most likely misspecified as being reflective, but truly formative in nature.

The first step in index formation would be mapping the content domain, making sure that it is covered by the items in the initial pool. It is a necessary step in a reflective scale creation, but even more so in index formation. Failing to include just one indicator in the formative measures is changing the composition and hence the meaning of the construct. In case of the general adjustment, mapping out the whole content domain is a rather ambitious task as can be seen in the comprehensive list of items of the psycho-social acculturation (Ward & Kennedy, 1999) or the items in the person-environment fit scale (Hippler et al., 2014b). These measures include gender roles, religious worship, climate, street pollution or population density that could all be included as possibly relevant aspects of the environment, which could influence the general adjustment of the expatriate in the host country. The general adjustment, analyzed in this article, then falls short in many areas. One might even argue that
without a more limiting definition, almost any aspect of life in the non-work domain could be of influence, showing just how important conceptual limits are.

The next step, item selection, draws a clear line between the reflective and the formative approach, as the principles of retaining items within the measure are quite the opposite. In a formative scale, multicollinearity among the items is undesirable as it indicates an unnecessary overlap and replication of items. In line with this logic, the items of general adjustment are inspected for multicollinearity, judging whether the variance inflation factor is under the suggested value, 0.3 (Diamantopoulos & Siguaw, 2006). The items that suffer from multicollinearity should gradually be removed from the scale as their unique impact on the construct cannot be determined.

At this point in the creation process of a reflective measure, it is standard to discuss the internal consistency of the scale. However, the commonly used internal consistency indicator, such as the Cronbach’s Alpha coefficient, is not suitable for formative measures. This is because high correlation among the items within the scale is not a sign of a good, highly consistent formative measure. The next step of the index creation therefore calls for examination of external validity. Diamantopoulos and Winklhofer (2001) suggest correlating all the items with the most general statement that can capture its essence. In this case, the fourth item of the general adjustment scale (adjustment to living conditions in general) was selected. Although it is not external to the scale and was not predesigned for this purpose, it summarizes the meaning of the whole measure well. Finally, the measure should be fitted in a structural equation model with at least one more reflective measure that is theoretically linked to it, also known as a multiple indicators and multiple causes model or MIMIC (Joreskog & Goldberger, 1975). The performance scale was selected for this purpose because it is theoretically linked to adjustment as a consequence, through the stressor-stress-strain model in the expatriate literature (Bhaskar-Shrinivas et al., 2005). Looking at the coefficients of the formative items, that is if they emerge as insignificant, their impact on the construct is questionable, and they can be discarded to achieve parsimony. The pruning of the insignificantly correlated items should, however, always be guided by the definition of the concept, and researchers should be careful not to remove any items that would change the scope of the construct (Bollen & Lennox, 1991; Diamantopoulos & Siguaw, 2006). Figure 2 depicts the MIMIC model of general adjustment that was identified and converged. This model is then directly compared to the model in Figure 3 that is a mirror image of the MIMIC model; however, the general adjustment measure is operationalized as a reflective measure, changing the causal direction between the indicators.
and construct. The results of this comparison then reveal the contrasting conclusions we would draw depending on the chosen measurement perspective. It is especially interesting to find out whether the coefficient capturing the impact of adjustment on the performance changes under the different measurement perspectives. According to the Monte Carlo simulations study, adjustment should be overestimated under the reflective approach (MacKenzie et al., 2005).

**Figure 2. Formative model of general adjustment**

![Formative model of general adjustment](image1)

**Figure 3. Reflective model of general adjustment**

![Reflective model of general adjustment](image2)
Results

All of the seven items of the general adjustment scale passed the initial multicollinearity test since the highest variance inflation factor for GA7 reached only 2.25. This means that we are capable of distinguishing the individual impact of the items on the general adjustment construct as determined by their coefficients in the measurement model. From the correlations in Table 1, it is also clear that all items are significantly correlated with the fourth item that was selected as the general item, summing up the meaning of the whole construct. So far, all items were kept in the analysis and fitted in the MIMIC model (as seen in Figure 2). In this model, the causal direction runs from the six indicators (G1, G2, G3, G5, G6, and G7) to the unobservable formative construct. The fourth general adjustment item (GA4) has been used as a content-valid measure of the construct, with causality running from the unobservable construct to the indicator. The coefficient on this indicator has also been fixed to one, in order to scale the latent variable, hence giving it units of measurement. Beside the reflective indicator there is one more path emitted from the unobserved construct to the observed outcome, which is the performance scale. This connection is theoretically driven and is embedding the construct in its nomological network. The performance scale is reflective, and the coefficient on its first indicator (P1) has also been fixed to one. This means that there are enough non-redundant elements in the covariance matrix of the observed variables in the model, and therefore the model should be identified (Bollen & Davis, 2009).

The results of this model are shown in Table 2, together with the goodness-of-fit statistics that are very satisfactory (RMSEA=0.040; CFI=0.980; TLI=0.971; SRMR=0.043). The formative indicators are explaining 81%\(^1\) of the variance in the unobserved general adjustment. Unfortunately, only two indicators have significant coefficients in the measurement part of the model. It seems that only GA3 and GA7, which stand for adjustment to entertainment and recreation opportunities and adjustment to housing conditions, have significant bearing on the general adjustment construct. Since GA5, adjustment to cost of living, has the worst p-value (0.638), it was removed in order to test whether the goodness-of-fit statistics would change. The new model has an improved fit (RMSEA=0.039; CFI=0.984; TLI=0.976; SRMR=0.047), suggesting that GA5 could actually be removed. However, formative measures are very sensitive to the model specification, so the

\(^1\) The error variance of adjustment in the standardized output is 0.187, since it should equal to 1-Rsq, the Rsq of adjustment is then 0.81, hence 81%.
significance of the coefficients might change depending on the choice of the reflective indicator (GA4) and the outcome variable (performance). As noted earlier, one should be very conscious of changing the concept scope by deleting parts of the construct.

Table 2. General adjustment as a formative and a reflective measure

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Predictor</th>
<th>Formative Model</th>
<th>Reflective Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Coeff. Std. error</td>
<td>Coeff. Std. error</td>
</tr>
<tr>
<td>performance</td>
<td>adjustment</td>
<td>0.425 *** 0.095</td>
<td>0.483</td>
</tr>
<tr>
<td>adjustment</td>
<td>GA4</td>
<td>1 0.819</td>
<td>1</td>
</tr>
<tr>
<td>adjustment</td>
<td>GA1</td>
<td>0.068 0.059</td>
<td>0.090</td>
</tr>
<tr>
<td>adjustment</td>
<td>GA2</td>
<td>0.062 0.044</td>
<td>0.109</td>
</tr>
<tr>
<td>adjustment</td>
<td>GA3</td>
<td>0.240 *** 0.064</td>
<td>0.370</td>
</tr>
<tr>
<td>adjustment</td>
<td>GA5</td>
<td>-0.026 0.056</td>
<td>-0.042</td>
</tr>
<tr>
<td>adjustment</td>
<td>GA6</td>
<td>0.071 0.071</td>
<td>0.109</td>
</tr>
<tr>
<td>adjustment</td>
<td>GA7</td>
<td>0.327 *** 0.064</td>
<td>0.492</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>criterion</th>
<th>predictor</th>
<th>Coeff. Std. error</th>
<th>Coeff. Std. error</th>
</tr>
</thead>
<tbody>
<tr>
<td>performance</td>
<td>P1</td>
<td>1 0.880</td>
<td>1</td>
</tr>
<tr>
<td>performance</td>
<td>P2</td>
<td>0.637 *** 0.094</td>
<td>0.602</td>
</tr>
<tr>
<td>performance</td>
<td>P3</td>
<td>0.710 *** 0.710</td>
<td>0.566</td>
</tr>
<tr>
<td>performance</td>
<td>P4</td>
<td>0.780 *** 0.780</td>
<td>0.775</td>
</tr>
</tbody>
</table>

N 130 130
χ² 33.917 69.618
DF 28 43
RMSEA 0.040 0.069
CFI 0.980 0.948
TLI 0.971 0.934
SRMR 0.043 0.054
AIC 3738.693 3744.393
BIC 3879.202 3841.889

Notes: The adjustment predictors (G1, G2, G3, G5, G6, G7) were allowed to covary, G4 was always modeled as reflective item and restricted to 1; significance annotated as: ***p<0.01 ** p<0.05 * p<0.1

When developing a real formative measure from the initial pool of items, one would probably have a choice to prune the scale without taking out elements of the external environment that are crucial for the scope of the construct. For example, having an item capturing adjustment to local cuisine and an item capturing adjustment to food, it is possible to delete one without really changing the final meaning of the construct. The index would still cover the “food” element of the external environment after deleting either one of the items (the one that is insignificant). It would also be preferable to have a
reflective item that is capturing precisely what we are trying to measure, in this case it could for example be “I feel adjusted to the standard of life, I have in the host country.” For these reasons, all the indicators have been kept within the model and have been re-estimated, only converting the formative general adjustment indicators to reflective, thus reversing the causality (as seen in Figure 3). The reflective model has also a quite satisfactory fit, albeit less so than the formative model (RMSEA=0.069; CFI=0.948; TLI=0.934; SRMR=0.054). Direct comparison is hard to make since the reflective model has more degrees of freedom. The Akaike information criterion (AIC) is pointing to a better fit of the formative model, whereas the Bayesian information criterion (BIC) is pointing to a better fit of the reflective model. The largest difference is in the significance of the general adjustment indicators that all exhibit p-values lower than 0.01 in the reflective model. The meaning of the unobserved latent construct, the general adjustment, has however changed. As previously explained in the reflective model, it is only the intersection of the indicators that captures the general adjustment. There are some minor differences, when comparing the coefficients in the path analysis. The ties between adjustment and performance are positive and significant in both the formative and the reflective model, although, as expected, the coefficient on performance seems to be slightly overestimated in the reflective model. All in all, the evidence suggests that the formative measure of general adjustment would be slightly different in terms of content and in terms of effect on important constructs in its nomological network, namely performance.

Procedure 2
Despite of the results from the first part of the analysis, the assumption in the second part is that adjustment is a reflective measure. In order to re-test the dimensionality suggested by Black (1988, 1989) on a sample that employs a scrambled order of the items, Sample A was split into two random subsamples. Following a similar procedure as Shaffer et al. (1999), Sample A1 has been utilized for an exploratory factor analysis; meanwhile Sample A2 has been utilized for a confirmatory factor analysis. Originally adjustment dimensions emerged through a principal component analysis. In this article, principal axis factoring is applied which is the appropriate method for creating a multi-dimensional scale that should have a meaningful structure (Fabrigar et al., 1999; Winter & Dodou, 2016). The principal component analysis is taking into account the total variance in the items, not only the common variance that we are essentially interested in and it is therefore an alternative statistical
method used for data reduction (Tabachnick & Fidell, 2014). The distinction between the principal component and the factor analysis is clear and hinges on the purpose of the analysis. Similarly, there is a distinction between orthogonal and oblique rotations. The latter - oblique rotation - is more appropriate for the establishment of a latent scale, since it allows for correlation between the different factors (Reio & Shuck, 2015). If we assume that adjustment is a latent scale, then the adjustment dimensions - general, interaction and work adjustment - should be correlated, hence oblique rotation should be used. However, when it comes to the most suitable specific extraction method (e.g. maximum likelihood or principal axis factoring) and rotation method (e.g. oblimin or promax), the guidelines are more ambiguous (Costello & Osborne, 2005). Taking into consideration that the original scale was created through varimax rotation, but in later publications was subjected to oblique rotations, this study presents both, probing the stability of the results. Therefore the procedure has been repeated using different extraction and rotation methods, providing results for 1) the principal axis factoring extraction with orthogonal varimax rotation (oblique oblimin rotation yielded similar results) and 2) the maximum likelihood extraction with oblique oblimin rotation. The maximum likelihood extraction estimates the factor loadings by maximizing the probability of actually sampling the observed correlation and this is often preferred because it provides statistical tests of significance (Tabachnick & Fidell, 2014). The decision on the number of factors that should be retained has been based on the three usual criteria, namely eigenvalue above 1, more than 60% cumulative variance explained, and scree plot inspection (Brown, 2015). Sample B was then tested using the same exploratory factor analysis, providing a good reference point, as it employed the standard version of the scale in a larger survey. The goal of this analysis was to find out whether the expected dimensionality emerged in both samples, even though in Sample A1 the items have not been pre-ordered accordingly.

After the inspection of the factors’ structure through an exploratory factor analysis, the second half of the data, Sample A2, has been used to confirm the standard three-factor orthogonal adjustment scale. It was subjected to a confirmatory factor analysis, fitting the measurement model that can been seen in Figure 4. Beside the general fit statistics, modification indices have been scrutinized as well, showing how much the chi squared value would drop if lowering the restrictions of the model (Sörbom, 1989). Modification indices allow for checking the strains of the model in greater detail. However, they should be followed only if they are theoretically justifiable (Reis & Judd, 2014). Sample B was used again as a reference point, allowing for comparison in fit between the samples. The final step of the
analysis, an investigation of the internal consistency of the scale, compared the Cronbach’s Alpha of the three dimensions between the two samples. Cronbach’s Alpha represents the shared variation among the indicators, that should capture the underlying construct and it is frequently used as a measure of reliability (Cronbach, 1951; DeVellis, 2012). Some researchers, who reference the original adjustment scale, usually employ Cronbach’s Alpha as the most important examination measure, without further inspection. It would therefore be interesting to observe whether it is sensitive enough to find any disparities within the scale.

**Figure 4. Confirmatory factor analysis of adjustment scale**

Results 2
Correlation tables for Sample A1 and B revealed that the samples are factorable, meaning there is substantial correlation between the adjustment items. Kaiser’s measure of sampling adequacy is above 0.8; Barlett’s test of sphericity turned out significant, and also the measure of the sampling adequacy is safely higher than 0.5 for every single variable in both samples. In other words, the samples are suitable for factor analysis. Three factors with eigenvalues higher than one have emerged in both samples, confirmed through the scree plots. Moreover, the cumulative variance explained has reached more than 60% only after the third factor. All three criteria are thus pointing to a three-factor structure. There are, however, stark differences in factor loadings between the samples. Starting with the principal axis factoring extraction with varimax rotation, problematic overlaps already exist between the factors in
Sample A1. As is visible in Table 4, the job adjustment factor has an extra item (adjustment to food) and the adjustment to health care has only a slightly higher loading on the general adjustment than on the job adjustment. These overlaps are arbitrary and probably caused by the close proximity of the items in the survey. There are also overlaps between the interaction and the general adjustment, and the interaction and the job adjustment, which further increase when maximum likelihood extraction is applied. Hence, the general, job and interaction adjustment structure hardly holds under the maximum likelihood extraction scenario. The disintegration of the structure could be aggravated by non-normality of the data. The evidence, nevertheless, shows that the overlaps are persistent as there is little difference in results due to rotation. In stark contrast to this, there is only one larger overlap in Sample B. As can be seen in Table 5, when the scale was administered in an orderly fashion, the three expected dimensions emerged with great clarity.

Table 4. Exploratory factor analysis Sample A1

<table>
<thead>
<tr>
<th>Extraction method</th>
<th>Principal axis factoring varimax*</th>
<th>Maximum likelihood oblique- oblimin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotation</td>
<td>JA</td>
<td>GA</td>
</tr>
<tr>
<td>1 Performance standards and expectations</td>
<td>0.520</td>
<td></td>
</tr>
<tr>
<td>7 Supervisory responsibilities</td>
<td>0.549</td>
<td>-0.533</td>
</tr>
<tr>
<td>13 Specific job responsibilities</td>
<td>0.547</td>
<td>0.305</td>
</tr>
<tr>
<td>2 Food</td>
<td>0.498</td>
<td></td>
</tr>
<tr>
<td>3 Health care facilities</td>
<td>0.403</td>
<td>0.484</td>
</tr>
<tr>
<td>4 Entertainment/recreation facilities and opportunities</td>
<td>0.616</td>
<td>0.322</td>
</tr>
<tr>
<td>5 Living conditions in general</td>
<td>0.739</td>
<td></td>
</tr>
<tr>
<td>6 Cost of living</td>
<td>0.637</td>
<td></td>
</tr>
<tr>
<td>11 Shopping</td>
<td>0.509</td>
<td></td>
</tr>
<tr>
<td>14 Housing conditions</td>
<td>0.722</td>
<td></td>
</tr>
<tr>
<td>8 Interacting with host nationals outside of work</td>
<td>0.791</td>
<td>-0.404</td>
</tr>
<tr>
<td>9 Interacting with host nationals on a day-to-day basis</td>
<td>0.362</td>
<td>0.696</td>
</tr>
<tr>
<td>10 Speaking with host nationals</td>
<td>0.695</td>
<td></td>
</tr>
<tr>
<td>12 Socializing with host nationals</td>
<td>0.782</td>
<td></td>
</tr>
</tbody>
</table>

Notes: N= 179 KMO=0.870; all of the coefficients smaller than 0.3 were supressed

* The principal axis factoring model was subjected to oblimin rotation as well, with very similar results to the varimax rotation

---

2 The maximum likelihood method is susceptible to non-normality of the data more than other methods, one should therefore be careful to interpret the results, if the normality assumption is not met (Brown, 2015).
Finally, the three-factor orthogonal structure was fitted using the confirmatory factor analysis on the other half of the scrambled sample. The goodness-of-fit statistics are revealing a misfit in Sample A2, hardly passing any of the usual criteria (RMSEA=0.120; CFI=0.811; TLI=0.767; SRMR=0.085). Modification indices pinpointed the strains of the model and many would lower the chi squared value by more than 4 (for 1 df)\(^3\). In this sample, the highest overlap arises between the adjustment to shopping and the interaction factor (estimated drop by 31.25) and then the adjustment to food and the job factor (estimated drop by 11.48). The modification indices also suggest that covariance is allowed between the unique errors of the items. If these suggestions were followed it would improve the goodness-of-fit measures, but they could hardly be substantiated by theoretical arguments. In comparison to Sample A2, Sample B has yielded a better fit with the suggested model (RMSEA=0.090; CFI=0.907; TLI=0.885; SRMR=0.070). As depicted in Table 6, these models have the same number of degrees of freedom, and the samples are similar in size, allowing for comparison. Modification indices in Sample B are lower too, and the AIC and BIC criteria clearly show that the fit is better in the sample having an organized order of the items, Sample B. The Cronbach’s Alpha values that would often be

\(^3\)Value of 3.84 is the cut off point for significance; therefore we are focusing on values that are higher.
reported as the only reliability measure have hardly picked up the misfit of the model in Sample A2. All the values are higher than 0.7 and are therefore acceptable and would generally be tolerated without further questioning.

**Table 6. Comparing CFA model fit**

<table>
<thead>
<tr>
<th>Sample</th>
<th>A2</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of observations</td>
<td>159</td>
<td>130</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>243.579</td>
<td>152.332</td>
</tr>
<tr>
<td>df</td>
<td>74</td>
<td>74</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.120</td>
<td>0.090</td>
</tr>
<tr>
<td>AIC</td>
<td>6513.679</td>
<td>5267.986</td>
</tr>
<tr>
<td>BIC</td>
<td>6651.780</td>
<td>5397.025</td>
</tr>
<tr>
<td>CFI</td>
<td>0.811</td>
<td>0.907</td>
</tr>
<tr>
<td>TLI</td>
<td>0.767</td>
<td>0.885</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.085</td>
<td>0.070</td>
</tr>
<tr>
<td>GA (α)</td>
<td>0.770</td>
<td>0.825</td>
</tr>
<tr>
<td>IA (α)</td>
<td>0.855</td>
<td>0.856</td>
</tr>
<tr>
<td>JA (α)</td>
<td>0.728</td>
<td>0.857</td>
</tr>
</tbody>
</table>

*Notes: The first item of GA, IA, JA were fixed to 1 in order to scale the latent variables.*

**DISCUSSION**

This article has set out to test the basic properties of a well-known three-dimensional adjustment scale (Black, 1988; Black & Stephens, 1989). First, the discussion of the formative and reflective measurement approach highlighted the need for a sound definition that would guide the process of operationalization. The appropriate measurement approach for adjustment was not yet openly discussed in published research although a majority of the expatriate researchers have collectively decided that the adjustment scale is an aggregate construct with reflective dimensions; In other words, that the general, interaction and job adjustment are themselves reflective scales that, however, together add up to a formative, aggregate overall adjustment construct.

Contrary to the above, the theoretical debate as well as the empirical evidence provided in this article has shown that the current formulation of the construct could potentially be flawed and the measurement approach misspecified. Especially in case of the general adjustment, it would be more appropriate to take the formative approach, that would likely lead to a different content of the scale and
subsequently a different result when using the scale in the regression or the structural equation model. The identified MIMIC model revealed that only two out of seven currently used items were significantly correlated with the latent general adjustment construct under the formative view. The goodness-of-fit measures had slightly better values under the formative approach as well. The significant positive link between adjustment and performance goes in line with some published research (Bhatti et al., 2013; Chen, Kirkman, Kim, Farh, & Tangirala, 2010). However, testing the impact of the formative general adjustment on a performance scale confirmed that the impact of adjustment as we have used it so far might have been overestimated. The small difference in standardized coefficient magnitude would not really change our conclusions. These differences might, however, increase in larger, more complex models. If the adjustment scale was properly developed as an index, it would most likely contain different items in comparison to the reflective scale, and the conclusions about its relevance for performance might change to a greater extent. Moreover, it is entirely unclear whether all the items would be significant predictors of the formative index across different contexts. Some of the items in the general adjustment inventory might be more or less relevant in different countries (Hippler et al., 2014b).

The second half of the article focused on the stability of the three dimensions and the internal consistency of the scale. The evidence reported in this article showed that relying only on Cronbach’s Alpha measures to reconfirm its reliability and internal consistency might leave some problems of the scale unnoticed. The exploratory and confirmatory factor analyses support the notion that the three-factor dimensionality and the high internal consistency of the scale might be driven by the intentional ordering of the scale items. The factors arising from the ordered sample were much clearer, and the goodness-of-fit measures in the same sample better, unlike the results from the sample with random item order. Cronbach’s Alpha did not reveal this reality like the goodness-of-fit measures did. These results corroborate the notion that the ordering of the items might work as a self-fulfilling prophecy due to optimizing and weak satisficing biases thus influencing the respondents’ answers. The response biases might moreover increase or decrease depending on the cultural context, decreasing the overall reliability of the scale.

All in all, the probing of the adjustment scale has pointed to some caveats and highlighted a need for a limiting definition of the concept, which would suggest an appropriate measurement approach and guide the operationalization of the adjustment construct. In confirmation with published
research in other areas, this article has also presented empirical evidence that suggests that Cronbach’s Alpha is not a comprehensive tool for assessing the internal consistency of the scale (Sijtsma, 2009). Finally, it has revealed how important it is constantly to discuss and re-evaluate procedures commonly applied in the field.

**Limitations and implications for research**

Some limitations should be kept in mind when reading the results of this article. Although the samples are rather standard expatriate samples in terms of the typical demographic composition, that is a majority of middle-aged males, they are not random samples of the total population of expatriates in Asia. The self-reported adjustment and performance scales rarely yield normally distributed data, which might have impacted the maximum likelihood extraction in the exploratory factor analysis. Moreover this article focuses on an evaluation of the adjustment scale, but the theoretical grounding of the performance scale utilized in this study could also be questioned. We cannot retrace the original pool of items that Early (1987) used when creating the scale and comment on the content domain. The principal factor analysis conducted has however given no reasons for questioning the dimensionality or the internal consistency of the scale. It is also a rare example of a scale that was validated through multiple stakeholders achieving high agreement between supervisors’ rating and expatriates’ self-rating. Moreover, it covers the two aspects of performance that have long-standing history in research - the task- and relationship-based aspects (Harrison & Shaffer, 2005). The performance scale was in this case instrumental for fitting the formative model of adjustment. Without a reflective scale that would theoretically be linked to the adjustment scale, the formative index estimation would not be possible. Nevertheless, the aim of this article is to stress the importance of rigorously tested measures. The future research should therefore critically address some other constructs that are regularly used in the field, such as performance. Although the sample sizes were substantial by conventional standards, some authors might argue that larger samples would be more appropriate (Comrey and Lee, 1992). Similar testing as introduced in this article could be also extended to include different cultural contexts that could potentially enhance the reliability issues due to differences in response biases and relevance of the different items. As already touched upon, the procedures for developing formative scales are still in the development phase; that being said, one should not discard their relevance for research (Bagozzi, 2007; Bollen & Diamantopoulos, 2015; Hardin, Chang, Fuller, & Torkzadeh, 2011).
Keeping the limitations in mind, some very basic guidelines can be developed based on the presented results. First of all, researchers should not rely solely on Cronbach’s Alpha, especially if they have made changes in the scale presentation, the item wording, the order or the content. In that case, they should reconfirm the structure of the scale through a confirmatory factor analysis and pay attention to the goodness-of-fit measures and modification indices. It is rather difficult to develop further specific instructions for the future use of Black’s adjustment scale. The debate and analysis presented can at the very best suggest that the order of the items is kept without any changes and that the work and non-work dimensions are separated as the original author intended. However, the ultimate conclusion of this analysis is supporting the published theoretical criticism of the scale (Haslberger et al., 2013; Hippler et al., 2014a; Lazarova & Thomas, 2012) and suggests that there is a need for a new, theoretically grounded and validated construct. If the new scale should be inspired by the existing Black’s scale, there is a need for a theoretical justification of the dimensions and probably also a rephrasing of the existing items. If the operationalization was to follow a formative measurement approach, identification of the full content domain is of profound importance. The formative measure would have to be accompanied by clear guidelines for the utilization of the construct in empirical research as the common reliability measures do not apply. Indexes are notoriously hard to fit into structural equation models, and precautionary measures should be taken already in the data collection stage.

**CONCLUSION**

In sum, the expatriate field has benefited much from the attention it has received after the operationalization of adjustment as a three-dimensional construct. The methodological advancement in the recent years, however, has changed our understanding of construct creation and the validation process. This article has showcased the consequences of an inappropriate measurement perspective and purely empirically driven dimensionality of a construct. These issues might be further exacerbated due to differences across cultural contexts. The future expatriate research should therefore utilize constructs based on a firm theoretical definition. If that definition calls for three dimensions - for example degree, mode and facet - the operationalization should reflect these three dimensions. Not only the dimensionality, but also the measurement perspective should be theoretically driven and outwardly
stated, in order to prevent a parallel use of the scale in aggregated and disaggregated forms without explanation. Whether the scale is reflective or formative it should be tested for invariance across contexts, if it is to be used for comparison between different groups of expatriates in different locations, especially because the response biases might differ depending on the cultural context. Expatriate adjustment has dominated the literature and certainly shaped our understanding of expatriate experience so far, but future research might take novel avenues, exploring, for example, their network and embeddedness.
References


CHAPTER 3.
Measurement equivalence of the three-dimensional adjustment scale across different contexts

Abstract
Although the three-dimensional adjustment scale first introduced by Black and Stephens (1989) has been widely used in academic research on different types of expatriates and in different cultural contexts, the full scale has not yet been tested for measurement equivalence across these heterogeneous groups. Failure to test the invariance of a measure may cause biased empirical results and erroneous conclusions. Therefore, the aim of this article is to scrutinize the measurement invariance of this adjustment scale through multi-group confirmatory factor analysis. The multiple samples utilized in this research amount to 1,345 observations, allowing comparison between two cultural contexts (Asian and Nordic countries) and two expatriate groups (self-initiated and company assigned expatriates). One of the central findings of our study is the lack of scalar invariance across the samples, preventing meaningful comparison of absolute means of adjustment. The article sheds light on the measure’s shortcomings and discusses the implications for theory building.

Keywords: Self-initiated, Assigned, Academic expatriates, Adjustment, Measurement invariance
INTRODUCTION

Over the period 1990 to 2014, the global stock of foreign direct investment has increased tenfold, resulting in a total of 890,000 foreign affiliates of 100,000 multinational companies (UNCTAD, 2015). These affiliates bring with them staffing needs, and for a variety of tactical and strategic reasons, these are often met in part by the use of expatriates (Caligiuri & Colakoglu, 2007). Given that expatriates are among the most expensive staff an organization employs, researchers in the field of international human resource management (IHRM) have long been interested in the factors that influence the success of international assignments. Ever since Tung (1981, 1982) identified the expatriate and his or her spouse’s inability to adjust to the foreign environment as the most prominent reasons for expatriate failure, expatriate adjustment has been a primary concern of IHRM researchers. Bhaskar-Shrinivas, Harrison, Shaffer and Luk (2005) identify it as “the vital construct” underlying the expatriate experience.

Following seminal publications by Black and colleagues (Black & Stephens, 1989; Black, 1988; Black, Mendenhall, & Oddou, 1991), expatriate adjustment research quickly converged on an understanding of expatriate adjustment as an affective construct expressing the degree of perceived psychological comfort with a variety of environmental facets (Black, 1990; Black & Gregersen, 1991) and the use of a common instrument: the 14-item scale first introduced by Black and Stephens (1989). Focusing on a single conceptualization and operationalization has generated a sufficient number of empirical studies to allow for two comprehensive meta-analyses by Bhaskar-Shrinivas et al. (2005) and Hechanova, Beehr and Christiansen (2003), incorporating up to 66 individual studies. The body of empirical evidence built on this conceptualization and operationalization has continued to grow considerably over the decade since. There can be little doubt that this conceptualization (and by implication its attendant instrumentation) has been “the most influential and often-cited theoretical treatment of expatriate experiences” (Bhaskar-Shrinivas et al., 2005: 257) to date.

Establishing boundary conditions

As theories and conceptual models mature, the focus shifts from testing the validity of the model’s core propositions to exploring its boundary conditions (Colquitt & Zapata-Phelan, 2007). No model

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1 This statement is true for the business and management literature. The wider intercultural relations literature has largely followed a different conceptualization distinguishing between psychological and sociocultural adjustment put forward by Ward and colleagues (see for example Ward, C. 1996. Acculturation. In D. Landis, & R. S. Bhagat (Eds.), 

or theory in the social sciences applies to everyone everywhere. Diversity, e.g. in terms of cultural background or occupation, becomes a source of variance. One important way of advancing theory is by exploring and understanding the variance that can be attributed to differences in context (Johns, 2006; Oh & Hsu, 2014). The study of the adjustment of expatriates is no exception, and a considerable body of comparative research exploring contextual differences has emerged. Waxin (2004), for example, studied the effect of culture of origin on adjustment whereas Selmer, Lauring and Kittler (2015) investigated the effect of the host culture. Peltokorpi and Froese (2009) compared the adjustment of company assigned expatriates (CAEs) to that of self-initiated expatriates (SIEs), and Shaffer, Reiche, Dimitrova, Lazarova, Chen, Westman and Wurtz (2016) looked into the differences in levels of adjustment across different types of globally mobile professionals more broadly. Salamin and Davoine (2015) explored gender differences. Whenever studies of this nature rely on a direct comparison of observed group means, such as t-tests or Analysis of Variance (ANOVA), they also rely on the assumption of measurement invariance (MI).

Measurement Invariance

MI is a statistically defined condition that implies equivalence of construct measurement in two disjointed populations (Meredith, 1993). It is ensuring that the construct has the same conceptualization and metric scale in two or more distinct groups that usually vary in terms of gender, ethnicity, language, occupation or employment status. There are different levels of MI, and the minimum requirements a measure should pass depend on the purpose of the research; for example, whether it is relative or absolute comparison between the groups (Steenkamp & Baumgartner, 1998). The development of statistical software packages and increasing interest in MI is driving the gradual integration of the methodology into a comprehensive step-wise framework of evaluation recommended to researchers dealing with cross-cultural data (Hult et al., 2008). It is therefore somewhat surprising that the research on expatriates, which accounts for a substantial proportion of the IHRM literature, has not yet incorporated the advances in MI techniques.

Authors using the Black and Stephens (1989) scale have not only compared adjustment across different categories of expatriates, but they have also pooled the data obtained from expatriates that are located in different cultural contexts (e.g. Koveshnikov, Wechtler, & Dejoux, 2014 pool expatriates residing in six regions). To date, however, the instrument has not been validated for such uses. We have no empirical evidence that pooling and comparing diverse samples is permissible, given the psychometric properties of the scale. This article therefore aims to integrate the advances
in invariance measurement and the expatriate literature and to test the invariance of the three-dimensional adjustment scale across different cultures and across different types of expatriates. It aims to draw conclusions about the validity of past results achieved through utilization of this scale and suggests guidelines for its future application.

THEORETICAL BACKGROUND

Expatriate adjustment has attracted wide attention among scholars because of its conceptualization as a possible precondition for higher performance of expatriates, a topic of special relevance to human resource management practitioners (Dabic, Gonzalez-Loureiro, & Harvey, 2015). The idea of adjustment as a three-dimensional construct has developed parallel to the notions of socio-cultural adaptation (Ward & Kennedy, 1994) and socio-cultural effectiveness (Gudykunst & Hammer, 1984) from which it is distinguished as a time-limited state that causes, not contains, the effectiveness of an expatriate in a foreign culture (Shaffer, Harrison, & Gilley, 1999). The three dimensions of the construct are general, job and interaction adjustment (Black et al., 1991). General (also called cultural) adjustment addresses the respondents’ general living conditions, like food, entertainment and healthcare facilities in the host country. Job adjustment concerns the work responsibilities and standards to which respondents have to adhere. Interaction adjustment includes interacting and socializing with host country nationals inside and outside of the work environment.

Theoretically, adjustment has frequently been characterized as the psychological (dis)comfort of an expatriate or as the stress (or lack thereof) caused by demands and challenges in the new environment (Kraimer & Wayne, 2004). The construct thus fits into a stressor-stress-strain sequence that connects adjustment to outcome variables such as job satisfaction, organizational commitment and performance. The (dis)comfort that the expatriate experiences puts strain on his or her emotional and cognitive capacity to perform (Harrison, Shaffer, & Bhaskar-Shrinivas, 2004). Empirically, it has most frequently been operationalized as a reflective construct containing three subfactors that are allowed to correlate with each other (Parker & McEvoy, 1993; Shaffer et al., 1999). The 14 unique items used to assess the three subfactors should, however, not cross-correlate (for the specific structure of the factors, see Figure 1). In other words, each item is assumed to belong to only one subfactor.

The literature reveals rather inconsistent findings regarding the relationship between adjustment and performance. As evidenced by three meta-analytic examinations of cross-cultural adjustment (Bhaskar-Shrinivas et al., 2005; Hechanova et al., 2003; Mol, Born, Willemsen, & Van
Der Molen, 2005), most of the empirical studies have found a positive and significant link with performance. There is, however, substantial variation in the magnitude of the effect depending on the constructs used in the respective model investigated. We propose that the mixed empirical results might have been partly caused by the measurement variance of the Black and Stephens (1989) scale. As Hippler, Caligiuri, Johnson and Baytalskaya (2014b) pointed out, two expatriates that are on assignment in the same country and rate their adjustment equally, still do not necessarily have to undergo an equal amount of change and stress. Hence, the impact on their ability to perform may not be equal. It is therefore an important question to ask whether the meaning of the construct is the same, especially among widely different groups of expatriates based in different cultural contexts. Research on SIEs has shown how different they are from company assigned expatriates in terms of their motivation since they are not supported by a parent organization (Doherty, 2013; Doherty, Dickmann, & Mills, 2011). It has been suggested that SIEs have such different competencies that they are not really substitutes for CAEs (Tharenou, 2013). Moreover, there are still emerging types of global work experiences, such as flexpatriates and international business travelers, that are being continuously defined (Shaffer, Kraimer, Chen, & Bolino, 2012). Can we compare the experiences of these widely different individuals and generalize results obtained from one category of expatriates to others? For example, will CAEs and SIEs respond in a similar manner to questions about their supervisory responsibilities?

**Threats to the assumption of MI**

Robert, Lee and Chan (2006) identify a range of specific threats to measurement equivalence in a cross-cultural research context. We will address just some of these here to illustrate the potential threats to the MI of the Black and Stephens (1989) scale. The first threat we discuss emanates from the respondents’ home country culture. The mechanism underlying Black et al.’s (1991) framework is the concept of uncertainty reduction. As uncertainty decreases, when expatriates become more aware of culturally appropriate behaviors and attitudes, perceived psychological comfort, i.e. adjustment, increases. Hofstede (2001) identified marked differences in the propensity for uncertainty avoidance (i.e. “the degree to which members of a society feel uncomfortable with uncertainty and ambiguity”, Hofstede, 1985: 347) in different cultures, ranging from index values as low as 8 in the case of Singapore to as high as 112 in the case of Greece. The threshold of certainty required before ‘psychological comfort’ sets in can thus be expected to differ systematically between different cultures. Cultures also differ in the degree to which they wish to maintain
interdependence among their members (Hofstede, 2001), making it likely that the interaction adjustment items are more relevant to some cultures than to others. For example, a body of research is pointing to the importance of expatriates’ strong network, developed through repeated informal interactions, when conducting business in Asian countries (Hutchings, French, & Hatcher, 2008; Wang & Kanungo, 2004). It is therefore plausible to ask whether interaction with host country nationals outside of the work environment has the same relevance for interaction adjustment in Denmark as it has in Japan. If it does not, can we still meaningfully compare the level of interaction adjustment of expatriates in Denmark and Japan, and are we measuring the same underlying variable? Similarly, in countries with extremely high living costs or very low food safety, these items may be more relevant (i.e. contribute more) to the general adjustment construct than in countries with more moderate living costs or higher levels of food safety. Can we still meaningfully compare mean levels of adjustment?

In some instances, we may not even measure the same construct at all, as respondents answer with a different frame of reference in mind. Expatriate managers are likely to think of their direct reports when asked for their adjustment to “supervisory responsibilities” (Black & Stephens, 1989). When the same item is presented to SIE academics that have no direct reports, it is not inconceivable that they respond in relation to their responsibilities to doctoral students whose work they supervise. Other threats, not specific to the study of expatriate adjustment, include culturally determined response-styles (extreme or acquiescent) or the language ability of respondents (Robert et al., 2006). This discussion of potential threats to MI is by no means exhaustive.

Levels of invariance
Testing for the different levels of measurement invariance involves restricting an increasing number of parameters in the measurement model to be equal between the tested groups (Vandenberg & Lance, 2000):

1. the test of configural invariance is the most basic evaluation of measurement invariance and serves as the benchmark for further probing. The requirement for passing configural invariance is that the structure, but not necessarily the magnitude, of the factor loadings is invariant across the groups. In our case, this equates to confirming the three-factor structure of the Black and Stephens (1989) scale. If the data show that the items load significantly/insignificantly on each factor in the same way, then the same constructs are measured across groups. (2) The test of metric invariance increases the restriction on the factor loadings as it constrains not only the structure but also the
magnitude of the factor loadings. It is not good enough that the people interpret the items in the same way; the response intervals of the scale have to be the same, too. This test is pertinent to the metrics of the scale and necessary for the relative comparison between the countries, sectors or types of expatriates, when the adjustment data are related to the measurements of other constructs, for example in regression.

(3) The test of scalar invariance builds upon the configural and metric invariance by imposing yet another restriction, focusing on the intercepts. By restricting not only the factor loadings, but also the item intercepts, to be equal in each group, it is possible to establish whether the respondents start rating adjustment at the same point, allowing for direct comparison of means across groups. For example, if it is desired to compare the absolute score of the adjustment subfactors in different host countries, then it is necessary to check whether the differences in means are not caused by positive/negative additive bias stemming from the intercepts of each item.

(4) The test of error variances invariance involves fixing the amount of measurement error to be the same between the groups, indicating whether the reliability of the scale is similar.

(5) The test of factor variance invariance and (6) the test of factor covariance invariance are tests restricting the relationship between the subfactors and the variability of the subfactors to be the same in each group. To demonstrate factor variance invariance is only necessary as an addition to metric invariance, if the relationship of the adjustment construct to other constructs (expressed in standardized regression coefficients) is to be compared between the different groups.

(7) The test of equality of the latent means is the final, most restrictive test that forces not only all the measurement parameters of the model to be equal, but also the means of the latent variables, i.e. the subfactors. Together with the factor variance and covariance tests, it captures the population heterogeneity.

Implications of noninvariance and research question

Each of the examples we discussed above poses a threat to metric and/or scalar equivalence and hence a threat to the valid (i.e. meaningful) comparison of observed group means or the meaningful pooling of adjustment data from culturally different subsamples. The possible impact on theory building, should these threats manifest themselves, cannot be overstated. The meta-analysis by Bhaskar-Shrinivas et al. (2005) referred to earlier has become a cornerstone of expatriate adjustment research with more than 720 citations in Google Scholar as of July 2016. Yet the authors report no tests for MI across groups for the research included in their analysis. This poses a threat to
the interpretability of their results, and any recommendations for expatriate management practice derived from the findings may be ambiguous or even entirely spurious (Nimon & Reio, 2011).

If the measurement of adjustment is contaminated by the cultural context, it is possible that the items in the scale overall have different bearings on the subfactors and adjustment. Research, which has been conducted with cross-cultural samples and across different types of expatriates, implicitly assumes affirmative answers to the questions we posed earlier, without any empirical support for this assumption. We are aware of only one attempt to systematically investigate the validity of the Black and Stephens (1989) scale. This attempt, however, was limited to addressing the stability of measurement across two very different samples: American managers in Taiwan or Belgium versus international students at a Midwestern American University (Robie & Ryan, 1996). As job adjustment is unsuitable for student samples, that study could not assess the entire scale. We therefore seek to contribute to knowledge about the Black and Stephens (1989) scale by addressing the issue of MI and aim to answer the following research questions:

Applying multi-group confirmatory factor analysis with a stepwise increase in the level of measurement invariance required to data collected with the Black and Stephens (1989) scale in samples that differ a) only in cultural context and b) only in the type of expatriates, 1) does the assumption of measurement invariance hold through all levels? And 2) if it does not hold through all levels, at what level does the assumption of measurement invariance break down?

Based on our results, we offer concrete guidance for the future use of the Black and Stephens (1989) scale.

METHODS

Sampling and analytical strategy

In order to determine the stability of the adjustment construct across different cultural contexts, sectors and expatriate types, we used four independent samples, partitioned and matched into nine unique pairs. The descriptive statistics and response rates for the samples are shown in Table 1. The respondents in all four samples were reached through online surveys sent directly to their email addresses. The contact information was collected through different methods. Some names were acquired in cooperation with expatriate communities, others were provided by embassies or commercially available company lists. Finally, some names were selected from university webpages or by use of information from LinkedIn profiles. When selecting names from universities
and companies, we chose names that sounded foreign to the host country in order to increase the probability of selecting expatriates and used screening questions to make sure that only expatriates were included. Although the content of the surveys was different, they all included basic demographics and the 14-item adjustment scale.

The first sample consists of 265 SIEs living and working in Denmark. They can be further subdivided depending on whether they work in the public or the private sector. All of the public sector expatriates listed universities or research institutes as their work places and can therefore also be called SIE academics. The second sample also consists of different types of expatriates, namely 147 SIEs and 145 CAEs residing in Asia, working in private sector. The third and fourth sample consists exclusively of SIE academics, employed in the public sector. The third sample of 648 academics was collected in Asia and the fourth sample of 384 academics in Nordic countries.

Only questionnaires that contained no missing information regarding age, gender, residence, the time spent in the host location and the full 14-item adjustment scale were used in the subsequent analyses, assuming the data were missing at random. All surveys included screening questions to ensure that the nationality of the respondents was different from that of the host country, and in the case of academics, they also had to belong to the regular staff, not just visiting the university. In order to categorize the different types of expatriates, respondents were asked the following question: “Was your current job: 1. assigned to you by your parent country firm or a similar

Table 1. Sample Characteristics

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sector/Type of Expatriates</th>
<th>Host Location</th>
<th>Sample Size</th>
<th>Male %</th>
<th>Mean Age</th>
<th>Mean Time in HL</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>mixed</td>
<td></td>
<td>265</td>
<td>49.83</td>
<td>34.76</td>
<td>5.65</td>
<td>52%</td>
</tr>
<tr>
<td>Sample 1a</td>
<td>private sector self-initiated expatriates</td>
<td>Nordic countries</td>
<td>105</td>
<td>48.57</td>
<td>35.45</td>
<td>5.96</td>
<td></td>
</tr>
<tr>
<td>Sample 1b</td>
<td>public sector self-initiated expatriates</td>
<td></td>
<td>160</td>
<td>46.88</td>
<td>34.31</td>
<td>5.44</td>
<td></td>
</tr>
<tr>
<td>Sample 2</td>
<td>mixed</td>
<td></td>
<td>292</td>
<td>84.93</td>
<td>48.73</td>
<td>8.27</td>
<td>23%</td>
</tr>
<tr>
<td>Sample 2a</td>
<td>self-initiated expatriates</td>
<td>Asia</td>
<td>147</td>
<td>74.83</td>
<td>48.31</td>
<td>9.81</td>
<td></td>
</tr>
<tr>
<td>Sample 2b</td>
<td>company assigned expatriates</td>
<td></td>
<td>145</td>
<td>95.17</td>
<td>49.17</td>
<td>6.71</td>
<td></td>
</tr>
<tr>
<td>Sample 3</td>
<td>public sector self-initiated expatriates</td>
<td>Asia</td>
<td>648</td>
<td>75.46</td>
<td>46.57</td>
<td>11.08</td>
<td>45%</td>
</tr>
<tr>
<td>Sample 4</td>
<td>public sector self-initiated expatriates</td>
<td>Nordic countries</td>
<td>384</td>
<td>70.57</td>
<td>40.30</td>
<td>9.84</td>
<td>54%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>( Z^2 )</th>
<th>df</th>
<th>RMSEA</th>
<th>AIC</th>
<th>CFI</th>
<th>TLI</th>
<th>SRMR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1 mixed</td>
<td>176.271</td>
<td>74</td>
<td>0.072</td>
<td>10367.6</td>
<td>0.948</td>
<td>0.936</td>
<td>0.044</td>
<td></td>
</tr>
<tr>
<td>Sample 1a private sector self-initiated expatriates</td>
<td>113.718</td>
<td>74</td>
<td>0.071</td>
<td>4123.16</td>
<td>0.95</td>
<td>0.938</td>
<td>0.052</td>
<td></td>
</tr>
<tr>
<td>Sample 1b public sector self-initiated expatriates</td>
<td>145.274</td>
<td>74</td>
<td>0.078</td>
<td>6282.08</td>
<td>0.941</td>
<td>0.928</td>
<td>0.056</td>
<td></td>
</tr>
<tr>
<td>Sample 2 mixed</td>
<td>226.764</td>
<td>74</td>
<td>0.084</td>
<td>10990.4</td>
<td>0.927</td>
<td>0.91</td>
<td>0.059</td>
<td></td>
</tr>
<tr>
<td>Sample 2a self-initiated expatriates</td>
<td>159.845</td>
<td>74</td>
<td>0.089</td>
<td>5569.62</td>
<td>0.927</td>
<td>0.91</td>
<td>0.059</td>
<td></td>
</tr>
<tr>
<td>Sample 2b company assigned expatriates</td>
<td>164.438</td>
<td>74</td>
<td>0.092</td>
<td>5463.03</td>
<td>0.903</td>
<td>0.88</td>
<td>0.064</td>
<td></td>
</tr>
<tr>
<td>Sample 3 public sector self-initiated expatriates</td>
<td>385.321</td>
<td>74</td>
<td>0.081</td>
<td>23361.9</td>
<td>0.945</td>
<td>0.933</td>
<td>0.039</td>
<td></td>
</tr>
<tr>
<td>Sample 4 public sector self-initiated expatriates</td>
<td>247.372</td>
<td>74</td>
<td>0.078</td>
<td>14918.6</td>
<td>0.944</td>
<td>0.931</td>
<td>0.042</td>
<td></td>
</tr>
</tbody>
</table>

Note: The specific countries included in sample 1- Denmark; sample 2- China, Hong Kong, Malaysia, Indonesia, the Philippines, Singapore, Taiwan, Thailand, Vietnam; sample 3- Greater China, Singapore; sample 4- Denmark, Sweden, Norway, Finland, the Netherlands. The mean time in host location is measure in years. Response rate has been adjusted for loss due to non-functioning email address.

The first sample consists of 265 SIEs living and working in Denmark. They can be further subdivided depending on whether they work in the public or the private sector. All of the public sector expatriates listed universities or research institutes as their work places and can therefore also be called SIE academics. The second sample also consists of different types of expatriates, namely 147 SIEs and 145 CAEs residing in Asia, working in private sector. The third and fourth sample consists exclusively of SIE academics, employed in the public sector. The third sample of 648 academics was collected in Asia and the fourth sample of 384 academics in Nordic countries.
organization or 2. acquired independently (self-initiated) or recruited directly by the host country company?"^2

**Instruments**

All respondents were presented with the 14 items (see Figure 1) of the Black and Stephens (1989) scale and the following instructions: "It is completely normal for an individual to have difficulty adjusting to living or working in a foreign country. Please indicate the degree to which you are adjusted or not adjusted to the following items where you live in the host location." The anchors “very unadjusted” to “completely adjusted” marked the extremes of a 7-point Likert scale. Apart from the adjustment scale and screening questions, direct questions about age (when was your last birthday), gender (male/female), residence (where are you currently living, or are you currently living in – the name of the specific country) and country of origin (what is your current nationality) were included to determine the demographic composition of the samples.

**Method**

Following the standard procedures of multi-group confirmatory factor analysis, the properties of the three-dimensional adjustment scale were first estimated separately in each sample and subsample (Brown, 2006). In the process of further testing, the restrictions, enforcing the equality of the measure in the samples, are being stepwise increased. This same procedure is repeated for each of the nine pairs. The restrictions were introduced in the following sequence: (1) test of configural invariance; (2) test of metric invariance; (3) test of scalar invariance; (4) test of error variances invariance; (5) test of factor variance invariance; (6) test of factor covariance invariance; (7) test of equality of the latent means (Vandenberg & Lance, 2000).

Between the seven invariance levels, partial invariance of the model was tested in order to improve the fit when necessary. If there are at least two items per factor that show intercept and loading invariance, a common scale can be established, freeing the constrains on the other items (Byrne, Shavelson, & Muthén, 1989). The specific items that were causing the invariance have been identified through modification indices and expected parameter changes, taking into consideration only the largest and most significant ones. There are, however, no rules of thumb that could guide this procedure and decision-making when choosing the offending items and when to stop editing the model. The re-specification of the model should be grounded in theory, as one might otherwise

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^2 There were two more options available in the survey: “expatriate entrepreneur” and “other, please specify”. We excluded respondents who chose either of these options.
simply be led by the idiosyncrasies of the data at hand (MacCallum, Roznowski, & Necowitz, 1992). Testing for partial invariance was therefore carried out solely to identify the specific strains in the model and how they could be amended and to establish whether these were similar or different across samples.

Figure 1. The model of cross-cultural adjustment

**GA - General adjustment:**
1. Living conditions in general.
2. Housing conditions.
3. Food.
4. Shopping.
5. Cost of living.
6. Entertainment/recreation facilities and opportunities.
7. Health care facilities.

**IA - Interaction adjustment:**
1. Interacting with host nationals outside of work.
2. Interacting with host nationals on a day-to-day basis.
3. Speaking with host nationals.
4. Socializing with host nationals.

**JA - Job adjustment:**
1. Performance standards and expectations
2. Supervisory responsibilities
3. Specific job responsibilities
Model identification

The congeneric measurement model of adjustment subfactors was identified by setting the loading on the first item of each subfactor to one, making it the marker item. In the partial invariance analysis, the marker item was the second item of each subfactor for identification purposes. Using the standard structural equation modelling (SEM) application of the statistical software STATA 13, the hereby defined measurement model has been estimated using the maximum likelihood method:

\[ x^g = \tau^g + \Lambda^g \xi^g + \delta^g \]

In the defined model, \( \Lambda^g \) is the matrix of the factor loadings for the specific subsample \( g \) (that differs on one factor of interest), \( \xi^g \) is the vector of the latent variables (subfactors job, interaction and general adjustment), \( \tau^g \) is the vector of the intercepts for each item and \( \delta^g \) is the vector of the measurement errors, all adding up to \( x^g \), the vector of observed variables that are the items of the scale (i.e. the specific questions, for example, ‘how adjusted are you to the cost of living in the host country’).

Model evaluation

The overall fit of the models has been judged based on multiple goodness-of-fit indices. Since the likelihood ratio chi-squared is susceptible to the population size and degrees of freedom, more attention is paid to the root mean square error of approximation (RMSEA), the comparative fit index (CFI), the Tucker Lewis index (TLI), the standardized root mean square residual (SRMR) and Akaike information criterion (AIC) which takes the parsimony of the model into account. These general rules of thumb were followed: RMSEA below 0.05 is an indicator of close approximate fit and below 0.08 an indicator of acceptable fit; CFI and TLI values above 0.9 are considered acceptable; SRMR below 0.10 are considered acceptable and lower values of AIC are desirable (Kline, 2011). Even more important than the absolute values of the goodness-of-fit measures are the incremental changes within them from one level to another. Based on simulation studies, the following cut-off points have been suggested by Chen (2007) for pairs that when combined consist of fewer than 300 observations: a minimum decrease of 0.005 in CFI, a 0.01 increase in RMSEA and a 0.025 increase in SRMR are considered substantial to convey noninvariance. In the case of the scalar invariance and error invariance tests, an increase in the sensitive SRMR by a minimum of 0.005 is already sufficient to fail the test. For pairs that when combined consist of more than 300 observations the rules of thumb are somewhat more stringent: a minimum decrease of 0.01 in CFI, a 0.015 increase in RMSEA and a 0.03 increase in SRMR are considered substantial to convey...
noninvariance in general, a SRMR increase by at least 0.01 is substantial for scalar and error variance. It has been argued that the two comparative indices, CFI and TLI, perform better than others in the face of model complexity and varying sample sizes, so we base our decision mainly on the differences in CFI (Cheung & Rensvold, 2002; Hutchinson & Olmos, 1998).

**Analytical strategy**

Our samples are representing datasets typically used in expatriate research. For the purposes of the multi-group confirmatory factor analysis, we partitioned the four samples and paired them in meaningful ways, following a procedure similar to that of Robert et al. (2006). The aim of the pairing was to match very similar samples with only one condition that differed between them to test whether this condition was causing noninvariance. The best candidates for multi-group confirmatory factor analysis are similar, if not identical, in all other respects except for the one desired factor of interest. The nine pairs we have created were therefore matched based on two rules, namely the factor of interest rule and the equal size rule. The factor of interest rule meant that very similar samples were compared, with only one factor of interest being different: either the cultural context (host country), the sector (private/public) or the type of the expatriate (SIE/CAE). The last pair is an exception since it focused on the combination of two factors: expatriate type and sector. The equal size rule meant that throughout the whole analysis, we have taken the smallest sample of interest in its own natural state and matched it with an equally large subsample randomly selected from the larger sample. This approach was chosen as goodness-of-fit measures are influenced by sample size imbalance.

An overview of the nine pairs is presented in Table 2. In the first three pairs, we tested the rigidity of our cut-off points for the goodness-of-fit measures; in other words, there was no factor of interest distinguishing the samples. We paired random subsamples of sample 3, which was well suited to this purpose, as it contained the largest number of observations. Absolute invariance was expected since there was no difference in type, sector or context between the subgroups. If some noninvariance were found, the rules of thumb would most likely be too stringent. We repeated this comparison with subsample 1b and a random subsample of sample 4. Subsample 1b consisted of 160 SIE academics living in a Nordic country. It was matched with a subsample of 160 observations from sample 4, as that also consisted of SIE academics living in Nordic countries. However, the data originated from separate data collection efforts. Again, invariance was expected.
The next two pairs were matched based on context as the factor of interest, and the final four pairs were matched based on sector and type of the expatriate. Despite trying to keep the pairs as similar to each other as possible, the age, gender and time spent in the host location did not always match perfectly. We tested whether this was likely to have any bearing on the results. Pair 4 contained a sufficient number of observations to proceed with matching the individuals from the two subsamples through the Coarsened Exact Matching (CEM) algorithm. The CEM algorithm was developed to reduce imbalance between treatment and control groups in clinical trials and therefore fitted the purpose of our analysis perfectly (Iacus, King, & Porro, 2011). The pair 4 subsamples were limited only to men and matched as closely as possible on their age and time spent in the host country.

Apart from demographic differences, in some of the pairs the data originated from the same survey whereas in others, they were collected through different surveys. For example, the first two pairs are subsamples of sample 3, therefore the respondents were all faced with the same survey where the adjustment scale was located in the exact same position of the questionnaire. The third pair consists of subsamples of sample 1 and sample 4 which means the respondents were faced with the same scale but presented in different surveys and hence different sections of the questionnaire. We noted this difference in terms of data origin and tested the rigidity of our rules of thumb for goodness-of-fit indicators on both samples from the same survey (pair 1 and 2) and from different surveys (pair 3) to check whether it had any bearing on our results.

**RESULTS**

**Analysis of invariance in the separate samples**

Estimating the model in the separate samples did not produce an acceptable fit at first due to the non-normality of the data. A problem of the Black and Stephens (1989) scale is its likely susceptibility to social desirability bias since the distribution of all items in all four samples was positively skewed. This problem could not be solved by data transformation. The kurtosis of the distribution was, however, improved by merging the three lowest response options of the Likert scale, changing it from a 7-point to only a 5-point scale. The fit of the model then improved and as shown in Table 1, the goodness-of-fit criteria are not far from the desired values. RMSEA is the most problematic, with the highest value of 0.092 in sample 2b, which is higher than the cut-off value of 0.08. The other criteria are, however, satisfactory, with CFI and TLI values above 0.9 and SRMR below 0.10. The aim of this analysis was not to reconfirm the dimensionality of the scale in
each sample; the focus was on invariance, thus the gradual deterioration of the fit with increasing invariance restrictions. The basic fit was therefore deemed satisfactory to proceed with further testing. The overall results from invariance testing for each of the nine pairs are displayed in Table 2. Each pair went through the seven levels of invariance testing laid out previously. The procedure can be seen in Table 3 which illustrates the complete analysis for pair 4. It displays all parameters and their changes as well as the partial invariance results. The same seven-step procedure was followed for all the other pairs, including partial invariance testing when necessary.
<table>
<thead>
<tr>
<th>Pair</th>
<th>Samples</th>
<th>Sector/Type of Expatriate</th>
<th>Context</th>
<th>Factor of Interest- Comparison Point</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sample 3 (sub)</td>
<td>public sector SIEs</td>
<td>Asia</td>
<td>same survey</td>
<td>invariant</td>
</tr>
<tr>
<td>2</td>
<td>Sample 3 (sub)</td>
<td>public sector SIEs</td>
<td>Asia</td>
<td>same survey</td>
<td>invariant</td>
</tr>
<tr>
<td>3</td>
<td>Sample 1b</td>
<td>public sector SIEs</td>
<td>Nordics</td>
<td>different survey</td>
<td>invariant</td>
</tr>
<tr>
<td>4</td>
<td>Sample 3 (sub)</td>
<td>public sector SIEs</td>
<td>Asia and Nordics</td>
<td>different context (different survey)</td>
<td>scalar/error variance</td>
</tr>
<tr>
<td>5</td>
<td>Sample 3 (sub)</td>
<td>public sector SIEs</td>
<td>Asia and Nordics</td>
<td>different context (different survey)</td>
<td>scalar/error variance</td>
</tr>
<tr>
<td>6</td>
<td>Sample 1a</td>
<td>private and public sector SIEs</td>
<td>Nordics</td>
<td>different sector (same survey)</td>
<td>invariant</td>
</tr>
<tr>
<td>7</td>
<td>Sample 1a</td>
<td>private and public sector SIEs</td>
<td>Nordics</td>
<td>different sector (different survey)</td>
<td>scalar variance</td>
</tr>
<tr>
<td>8</td>
<td>Sample 2a (sub)</td>
<td>SIEs and CAEs</td>
<td>Asia</td>
<td>different type (same survey)</td>
<td>invariant</td>
</tr>
<tr>
<td>9</td>
<td>Sample 2b</td>
<td>CAEs and public sector SIEs</td>
<td>Asia</td>
<td>different type and sector (different survey)</td>
<td>scalar/error variance</td>
</tr>
</tbody>
</table>

Note: The samples with (sub) are random subsamples from the original sample to match the size within the pair.
Testing the reliability of the goodness-of-fit measures

We selected three pairs to test whether the cut-off points for invariance testing adopted from (Chen, 2007) were too stringent. These consisted of the same type of expatriates, namely academic SIEs. Pairs 1 and 2 were created by randomly splitting sample 3 into four subsamples of 162 individuals each. This means the groups compared did not only consist of the same type of expatriates located in the same context, i.e. Asia, but the data also stemmed from the same survey. The only difference between them could originate from the demographic mix in the sample. Since both pairs in total consisted of more than 300 observations, the higher threshold for change in goodness-of-fit measures was required to show noninvariance (ΔCFI ≥ - 0.01; ΔRMSEA ≥ + 0.015; ΔSRMR ≥ +0.03/ΔSRMR ≥ +0.01 for scalar and error invariance). The only time any of the measures exceeded the given cut-off points for pair 1 occurred in the factor variance test when the SRMR value increased by 0.049. This, however, was not supported by any other criteria. Pair 3 was then tested, consisting also of SIE academics, this time residing in Nordic countries and with data stemming from two different surveys. None of the given cut-off points were exceeded, and all seven levels of invariance were passed, despite the fact that the respondents had completed different surveys. We can therefore conclude that the cut-off values applied in this analysis are not too stringent as they indicate invariance in reasonably similar groups. Moreover, placing the adjustment scale in different parts of the survey and the content of other survey questions does not seem to affect the invariance assessment.

Analysis of invariance in samples from different cultural contexts

Pairs 4 and 5 were matched based on cultural context as the factor of interest. Pair 4 was composed of SIE academics from sample 3, located in Asia, and from sample 4, located in Nordics countries. As can be seen in Table 3, the configural invariance test was passed (CFI = 0.951; TLI = 0.94; SRMR = 0.041; RMSEA = 0.075). In the metric invariance tests, the RMSEA and TLI did not change at all, CFI decreased by only 0.003 and SRMR increased by 0.01, raising no concerns. In the next step, however, the fit fell apart with every single parameter changing in the wrong direction (ΔCFI = -0.015; ΔTLI = -0.012; ΔRMSEA= +0.007; ΔSRMR= +0.013). Especially due to the rapid decrease in CFI and the increase in SRMR, scalar invariance was not achieved. The fit of the model continued disintegrating even further, and error variance was also not achieved. Through the factor variance and covariance and final mean invariance tests, the fit remained stable. Since the size of
the subsamples in this particular pair permitted for more precise matching between them, the 7-step procedure was repeated on the same pair adjusted through the CEM algorithm.

As shown in Table 3, the sample sizes of the pair 4 matched samples (Nordic and Asian) were somewhat smaller with 223 individuals in each group. They were, however, not just the same type of expatriates; they were also just men, with the age distribution and time spent in the host country distribution almost identical in both subsamples (mean age/SD in Nordic countries (in years): 41.43/9.42; Asia: 41.67/9.39; time spent abroad mean/SD in Nordic countries (in years): 9.73/7.47;
Asia: 9.58/7.54). In this equalized sample, the scalar invariance test still did not meet the given criteria, confirming that the differences in intercepts were most likely caused by the different cultural contexts of the samples. Pair 5 also included SIE academics in Asia and Nordic countries and supported the previous results. As can be seen from Table 2, the scalar, error and mean invariance tests all failed to pass the rules of thumb with both the CFI and SRMR values deteriorating substantially. The CFI value decreased by 0.017 for scalar invariance; 0.019 for error invariance; and finally 0.01 for mean invariance, suggesting once again that the noninvariance is caused by the cultural context.

The goodness-of-fit measures reflect the overall fit between the hypothesized model and the data, but do not show which exact parts are the most strained and should be corrected. In principle, it does not make much sense to continue with more and more strenuous restrictions if noninvariance was found in one of the initial tests. Partial invariance testing allows releasing some of the restrictions, so it becomes possible to improve the goodness-of-fit measures and continue with the testing. When checking the modification indices after the scalar invariance test for pair 4, several possible improvements to the model were identified. While almost all modification indices indicated a potential decrease in chi-squared of more than 4.00 (the reasonable cut-off point since they follow a chi-squared distribution with 1 df), the release of the equality restriction on intercepts for the first general adjustment item would decrease the chi-squared by 51.93 which is a very substantial improvement. The intercept in the Nordic group would decrease (Expected Parameter Change = -0.35) whereas it would increase in the Asian group (Expected Parameter Change = +0.24). As shown in Table 3, the overall model fit for partial scalar invariance, when compared to metric invariance, met the necessary criteria. The CFI decreased by only 0.008 which is far less than the 0.015 decrease in the full scalar invariance model. Releasing the restriction on the intercepts of the first item of general adjustment, error invariance is re-estimated and shows again substantial misfit. The modification indices identified the equality of covariance between errors of the first and the third interaction adjustment items as the most strenuous restriction. After allowing for the errors to co-vary to a different extent in each group, the overall fit improves, and the error invariance test was passed. Partial invariance for pair 5 unraveled in a similar manner and called for releasing restrictions on the equality of intercepts and covariance of errors. However, in this pair, the biggest difference between intercepts occurred for the fourth item of general adjustment, decreasing the chi-squared by 20.349 and in the opposite direction. The intercept in the Nordic group increased (Expected Parameter Change = +0.17) whereas it decreased in the Asian group.
(Expected Parameter Change = -0.26). Comparing the most problematic parts of the model further, covariance between errors in pair 4 occurred between different items than in pair 5 (pair 4: covariance between interaction adjustment items 1 and 3; pair 5: covariance between general adjustment items 5 and 6). Partial invariance was therefore useful to improve the fit of the specific model in pairs 4 and 5. The changes required in each pair were different and pointing in opposite directions. For example, in pair 4, the respondents in Nordic countries started rating the living conditions in general on a higher level in comparison to the Asian context. In pair 5, the respondents in Nordic countries started on a lower point when rating shopping in comparison to the Asian group. The noninvariance caused by the context seems to be idiosyncratic and mainly caused by the different starting points chosen by the respondents in the different countries.

Analysis of invariance in samples with different sectors and types of expatriates

The last four pairs were used for investigating the potential variance caused by different types of expatriates, self-initiated or company assigned, working in different sectors, public or private. The respondents in pairs 6 and 7 were all SIEs, living in Nordic countries. However, some of them worked in the private sector, whereas others worked in the public sector. The sector is therefore the factor of interest, distinguishing the groups. Since the pairs were rather small with 210 observations in total, exceeding the lower threshold of change in goodness-of-fit measures was required to demonstrate noninvariance ($\Delta$CFI $\geq$ -0.005; $\Delta$RMSEA $\geq$ +0.01; $\Delta$SRMR $\geq$ +0.025/$\Delta$SRMR $\geq$ +0.005 for scalar and error invariance). The results for these pairs were inconclusive. Whereas absolute invariance was found when testing pair 6, the scalar invariance test failed for pair 7. The change from metric to scalar invariance for pair 7 caused a major deterioration in all the relevant criteria, exceeding the given thresholds ($\Delta$CFI = -0.021; $\Delta$RMSEA $\geq$ +0.012; $\Delta$SRMR $\geq$ +0.013). Moreover, the AIC increased substantially in comparison to the configural model (14.16 for 22 df difference). The modification indices show that the major problem in pair 7 is caused by the intercepts of the fifth general adjustment item, i.e. the cost of living (decrease in chi-squared of 25.23). Apparently, the expatriates in the public sector start rating their adjustment from a lower point compared to expatriates in the private sector. Since the results from pairs 6 and 7 are pointing to different conclusions, it is not possible to say with certainty whether the sector causes variance in the adjustment measure.

Finally, pair 8 allowed testing the invariance between the different types of expatriates. The respondents in this pair all reside in Asia but have categorized themselves either as SIEs or as
CAEs. The initial test of configural invariance was passed although it should be noted that the RMSEA value is the poorest of all the pairs tested (CFI = 0.915; TLI = 0.895; SRMR = 0.062; RMSEA = 0.091). After the initial configural invariance, no severe deterioration of the fit was uncovered, beside the one-time increase of SRMR by 0.019 in factor invariance test. All in all, it could be concluded that all seven levels of invariance were passed when analyzing this pair. The final pair 9 contained a mix of SIE academics (the public sector) and CAEs (the private sector) that all lived in Asia. There were therefore two factors of interests combined, namely the sector and the type of expatriate. The invariance assumption broke down with fixing the intercepts once again. The CFI decreasing by 0.016 and SRMR increasing by 0.01 meant the scalar invariance test was not passed. The fit was even worse for error invariance with the CFI decreasing an additional 0.008 and SRMR being 0.011 higher than the scalar invariance. Opening the general fit and looking at the specific strains, the modification indices showed that the intercepts on the second job adjustment item, supervisory responsibilities, should be released. The academic SIEs started rating their adjustment at a higher level than the company assigned expatriates. In order to fix the error invariance misfit, a release of the equality restriction on the covariance between errors of the first and third interaction adjustment items was necessary. The covariance between these specific errors had arisen in pairs 4 and 5 as well. This might be due to the repetition of the words ‘host nationals’ in the interaction items; however, the required change in the model is still not theoretically substantiated.

**DISCUSSION**

The empirical testing of the MI of the adjustment scale proposed by Black and Stephens (1989) has shown that the three-dimensional construct is conceptualized in the same way in two different expatriate populations, working in two different sectors and living in two very different host locations. The scale metrics of adjustment could also be claimed to be rather stable in these disparate groups. Adding the factor variance and covariance invariance to the metric invariance, data obtained with this scale can thus be used in SEM or regression analysis, comparing the standardized relative differences between the contexts or types of expatriates in the public or private sector (standardized coefficients). The full scalar invariance was not conclusively established, neither in the cultural context groups, nor in the expatriate type and sector groups, making the comparison of absolute means implausible. The adjustment means are biased as the groups have different intercepts, or starting points, for their self-evaluation. Therefore results generated through
multivariate analysis of covariance or other similar analyses will be based on additive influences from intercepts and lead to biased conclusions. The error variance invariance was also not achieved in all the pairs, especially not when the cultural context was the factor of interest. Error variance invariance might cause measurement artifact problems in the subsequent analysis if the measurement error is not directly included in the estimation (e.g. in structural equation models). The partial invariance analysis also revealed that different parts of the scale are biased depending on the specific samples, so it is not possible to redefine the scale with a smaller number of items that are invariant. The changes that would be necessary are also not theoretically substantiated.

All in all, our results suggest that while some relative comparison of adjustment can be made across multiple host countries, the Black and Stephens (1989) scale does not perform uniformly across different cultural contexts and global work experiences. This means, for example, that we cannot judge whether SIE academics or CAEs are more or less adjusted by comparing their mean adjustment. We can, however, compare their relative adjustment, preferably in structural equation models that take the errors of latent measures into account. This result also provides some evidence for the theoretical distinction between the different types of expatriates and the sectors they work in. Just as the motivation for moving, agency and job descriptions of these groups of expatriates are not the same, their perception and evaluation of their own adjustment appears not to be identical either.

In much comparative expatriate adjustment research to date, researchers appear to have ignored the threat of measurement noninvariance and uncritically compared observed mean scores by means of $t$-tests or (M)ANCOVA. This ‘naive’ (Cheung & Rensvold, 2000: 188) confidence in the invariance of the most prominent measure of expatriate adjustment does not only threaten statistical conclusion validity, it also means that any theoretical conclusions drawn from such research rest on an unsubstantiated assumption (Nimon & Reio, 2011). This does not mean that all conclusions based on such research are wrong. It does, however, mean that we simply do not know whether observed differences reflect genuine differences in the level of adjustment or extraneous influences (Meredith & Teresi, 2006). This is particularly worrying when almost the entire body of research in the specific subfield of expatriate adjustment relies on evidence collected with a single instrument. The magnitude of the problem becomes apparent when we have to conclude that the results of meta-analyses, such as the one by Bhaskar-Shrinivas et al. (2005), cannot be unambiguously interpreted, as observations have been combined in the process without checking whether such pooling of data is permissible.
Yet ignoring the issue of MI may not only threaten the validity of our theoretical conclusions. Nimon and Reio (2011) point out that by not investigating MI, we may also hamper the theory building process by losing the opportunity to ask important questions. For example, our various analyses identified a number of items that contributed disproportionately to noninvariance in a particular analysis. However, in each case, different items were identified. These ‘offending items’ may present chance variance. More likely, it seems to us, is the possibility that these differences in item functioning occur due to context-specific differences, directing us to investigate the questions why noninvariance occurs and how and why these context-specific differences exert the influence they do. Testing for MI thus provides not only a health check, but it becomes an important generative step in the process of theory building itself.

Scholars in the field of intercultural relations noted regarding the conceptual models of expatriate adjustment informing research in business and management, that “they tend to treat expatriate adjustment as a general phenomenon applicable to all or most overseas assignments, despite evidence that adjustment patterns vary with the gender, location, and the cultural context of the sojourner” (Ward, Bochner, & Furnham, 2001: 178). Routinely testing for measurement invariance when looking into the structure of group differences appears to us a promising path towards more context-sensitive expatriate adjustment research and theory building. Failing to test for MI across relevant (sub-)groups undermines the confidence in our theory building efforts and may ultimately render our research unsuitable for guiding HR practice (Nimon & Reio, 2011).

It is important to note that MI is a necessary but not a sufficient criterion for a valid and reliable scale. The empirical testing presented in our analyses here can only determine whether a construct varies across cultural context or known groups. Kubovcikova (2016) recently demonstrated that the Black and Stephens (1989) scale is very susceptible to response bias and that following good practice (i.e. presenting the adjustment items in a randomized order) leads to a considerable deterioration of the three-factor structure. The three-factor structure also fell apart in a study of Indian SIEs in the IT sector in the United States of America (Vijayakumar & Cunningham, 2015). In our study we did not set out to test whether the three-factor structure provided the best fit, only if the fit was good enough, using commonly accepted goodness-of-fit measures. In his earliest writing on expatriate adjustment (and using a somewhat different item set), Black (1988) himself questioned the three-factor structure based on his empirical results; results that were later replicated by Srivastava and Panay (2012). Kubovcikova (2016) also raised the possibility that the
measurement model underlying most of our research using the Black and Stephens (1989) scale may be misspecified.

It is further worth noting that the question of the appropriate use of the scale based on its psychometric properties is independent of the broader question of the appropriateness of its conceptual foundations which have recently been called into question (see Hippler, Caligiuri, & Johnson, 2014a; Hippler et al., 2014b). Hippler, Caligiuri and Johnson (2014) pointed to ambiguities in the operationalization and a lack of identifying the full content domain of relevant environmental facets. They also questioned the assumption implicit in the scale that expatriates perceive all environmental aspects as equally important. The time may have come to question our use of the Black and Stephens (1989) scale more fundamentally. Alternatives have been suggested (e.g. Hippler et al., 2014b; Shaffer et al., 2016), yet MI testing for these alternative scales is still outstanding.

Limitations and suggestions for future research
Several limitations of the present study should be recognized and serve as motivation for future research on the topic. First of all, the evidence of MI would be stronger if supported by data from more than just two context groups. Testing the different sectors and types of expatriates could be repeated on more samples for more conclusive results as well. The invariance testing uncovered the most serious problems when both the type and the sector in which expatriates work differed between the groups. The evidence for the type and the sector as separate factors causing noninvariance in the measure was somewhat ambiguous. Only more testing of samples in different contexts can settle this question.

It would also be helpful to explore whether there is any interaction between the cultural context and the sector or type of expatriates. In other words, it would be useful to study whether the measure is more sensitive to, for example, sector differences in some cultural contexts. Following the same logic, certain expatriates could perceive cultural differences more severely than, for example, academics. The current analysis of invariance across contexts provides evidence for academic expatriates whose job description could be categorized as standard and quite independent of the location. Secondly, the study could be expanded to comparing the perception of adjustment connected to different countries of origin, not just host location. The same applies to more categories of globally mobile individuals discussed in the expatriate literature. Since it is practically impossible to obtain random samples representative of CAEs or SIEs as a whole, we can obtain
more conclusive results only through multiple replications of similar analyses. Our research clearly outlines the need for measurement invariance testing in cross-cultural research on expatriates.

CONCLUSION

The precision of the measurement tools used in the organizational and behavioral sciences is, without a doubt, of the highest importance for the quality of academic research within any given area. The reliability and validity of instruments have a direct bearing on the trustworthiness of the results. Cross-cultural research, which inherently includes groups of subjects from different cultural or linguistic backgrounds, extends the questions of reliability and validity to MI (Cavusgil & Das, 1997; Tsui, Nifadkar, & Ou, 2007). We can only speculate as to why, despite its obvious importance, invariance testing is still comparatively rare in the field of international HRM studies. We suspect that Gregorich’s (2006) suggestion that many investigators lack the necessary technical skills and conceptual understanding may be an important part of the explanation. Yet an explanation is not an excuse. The 2016 Academy of International Business General Meeting saw the inauguration of a Research Methods Special Interest Group as well as a host of methods clinics and workshops, recognizing that we cannot let our (current) training gaps undermine substantive progress in our respective fields. The further development of adjustment scales capturing expatriate experiences can benefit greatly from the insights of MI testing. Following the latest advances in quantitative research methods, probing of the stability of any scale thus employed should become standard practice in the field.
References


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Chapter 4.
Good for some, bad for others? The effects of inclusive language management on expatriates and host country nationals

Abstract
In recent years, international language management has attracted substantial scholarly attention. Although this trend has affected expatriate research as well, still only a few articles have been published focusing precisely on the subject. In this article, we therefore concentrate on the job anxiety caused by speaking a second language for host country nationals and expatriates in a team context. More specifically, we explore how job anxiety can be affected by the team leader’s inclusive language management and the individual’s common language proficiency. We do so by utilizing data from 194 work teams, consisting of 194 academic team leaders and 859 academic team members; distinguishing between the 58% host country nationals and 42% expatriates in the sample. Our results show that speaking in a foreign language at work is positively associated with team members’ job anxiety. However, as predicted by the job demands-resources model, this effect is reduced by the team leader’s inclusive language management. Finally, we found that inclusive language management as a contextual factor is affecting expatriates and host country nationals in a different manner, that is expatriates seem to benefit from inclusive language management to a higher degree than host country nationals do.

Key words: Multicultural teams, Academic expatriate, Inclusive management, Language, Anxiety
INTRODUCTION

The continuing globalization of the business environment and its linguistic consequences has made language management an emerging theme in international business and management literature (e.g. Neeley, 2013). This trend has also started to emerge in expatriate research. For example, Selmer (2006) showed that high local language proficiency in China would make expatriates better adjusted. Freeman and Olson-Buchanan (2013) have found similar results of positive influence of host country language proficiency in a wide array of language-country pairings. Recently, Zhang and Peltokorpi (2016) demonstrated that expatriate host country language proficiency has multifaceted effects on interaction with locals and adjustment. Expatriate research on language has so far clearly focused on the expatriates’ host country linguistic proficiency. In the general language management literature, however, the main interest is related to the use of one common language in organizations with several language groups (Lauring & Klitmøller, 2015). This one common language does not necessarily have to be the host country language, quite the opposite; it might be a second language for all the members of the organization. In this article, we focus on a context where the common language is foreign to all individuals. By doing so, we have the opportunity to compare the effect of the same linguistic policy on two different groups of employees in academic teams, namely host country nationals and expatriates. We thus explore the overlooked theme of common language management related to expatriates.

The puzzling effect of one common language is clear from the mixed evidence on its positive and negative effects. Common language can reduce potential miscommunication and provide easy access to company documents as well as creating a shared identity between different groups (Piekkari, Vaara, Tienari, & Säntti, 2005; Vaara, Tienari, Piekkari, & Säntti, 2005). However, there could also be a number of negative issues connected to a common (often second) language interaction. An important negative outcome associated with the need to speak in a second language for work purposes is increased anxiety on the job (cf. Hinds, Neeley, & Cramton, 2014). Job anxiety caused by communication in a second language may be a result of both functional and attribution problems. Functional problems, related to strong accents, slow speech rhythm, or frequent grammatical mistakes, can lead to reduced communication speed/frequency and increased misunderstandings (Lauring & Selmer, 2012b; Wells, 2013). But that is not the only problem, inappropriate discourse has been shown to lead to negative attributions, such as misperceptions about the speaker’s capabilities and personality (Chen, Geluykens, & Choi, 2006; Henderson, 2005). These attribution problems are only reinforcing
the functional problems, leading to more anxiety and communication avoidance. Accordingly, a negative feedback mechanism of anxiety and reduced common language communication may develop (Neeley, Hinds, & Cramton, 2012).

Our present knowledge on breaking this negative cycle is somewhat limited. Some studies have suggested that inclusive language management may be the solution (Klitmøller & Lauring, 2016). Inclusive language management is a form of communication, perpetuated by the management, which allows expatriates as a linguistic minority to take part in the ongoing conversations. In the context of international organizations, the manager’s key role would be to set an example for overcoming language-induced anxiety and consistently use the inclusive language. Unfortunately, championing of inclusive language management might not affect all the employees in the organization in a similar manner. Empirical research has already revealed how a common language mandate can “silence” the host country nationals, used to expressing themselves in the local language (Piekkari, Oxelheim, & Randøy, 2015).

Another frequently cited strategy in our current knowledge pool to overcome language barriers is investment in language courses that should improve the common language proficiency of the employees (Harzing, Köster, & Magner, 2011). Higher second language proficiency alleviates some of the cognitive strain experienced when communicating in that language, making it easier to perform (Volk, Köhler, & Pudelko, 2014). As an effect, both host country and expatriate employees gain confidence in their language abilities, feel less anxious and are therefore willing to participate in common language communication. Whereas the first strategy, inclusive language management, points to the important role of a manager when creating job resources, the second, higher language proficiency, points to individual abilities and resources.

The aim of the current article is to explore how a team leader’s inclusive language management, as a contextual factor, can affect the anxiety caused by speaking in a second language on the job, and whether this effect differs between host country and expatriate members of academic work teams. Moreover, we want to assess if the contextual factor, language management, has an effect over and above that of the ability to speak the language well, which is an individual factor. Another way we would like to extend our existing knowledge is to explore the differences between how expatriates and local employees are affected by the same management practices – especially because no studies focus on language in that relation. Differences between host country nationals and expatriates have been
mentioned, but they only seem to be assumed rather than confirmed (Olsen & Martins, 2009). Moreover, it can be argued that in order to understand expatriates’ work-lives better, we need to explore this group not only in isolation but to compare the expatriates to their local counterparts (Caprar, 2011). Only then will we be able to identify the difficulties which are arising from the international setting and subsequently to relate these challenges to what is generally experienced by all organization employees and what is caused by insufficient integration.

THEORETICAL BACKGROUND AND HYPOTHESES

Job Demands and Resources Model

The already mentioned literature reveals the functional and attribution problems that members of international organizations face when working in a second language. Employees have described the frustrating effect of functional problems as “walking through jelly” when trying to search for words that convey the same meaning as that in their native language (Neeley et al., 2012). Tenzer et al. (2014) have described employees’ attribution problems as causing feelings of inhibition “always wondering what the others think.” Handling the functional problems and trying to find the right words could be defined as higher cognitive labor (Volk et al., 2014), and handling the fear of being perceived as incompetent could be defined as language-based emotional labor (Hinds, Neeley, & Cramton, 2014). Both, cognitive and emotional labor, cause higher strain and thus higher anxiety.

Job-related anxiety has been defined as important dimensions of stress (Dowden & Tellier, 2004) and as a more transient feeling that can lead to longer lasting effects such as burn-out. It has been uniquely associated with structure and climate at work including communication openness and adequacy, and also with aspects connected to role conflict, ambiguity and supervisor’s encouragement (Parker & DeCotis, 1983). We have decided to focus on the anxiety part of stress precisely because qualitative studies have clearly identified the emotional states employees are experiencing when talking in second language as anxiety (Neeley, 2013; Tenzer et al., 2014). We have also decided to focus on anxiety because it is associated with the climate variables and team leader’s support more than the time-pressure dimension of stress. There is therefore a possibility that the language-related anxiety can be caused by and also solved by variables on the team level.

While there is mounting evidence of the language-induced anxiety leading to alienation of the employee, there is a lack of explanation of the mechanism causing such a state. The job demand-
resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) explains employees’ wellbeing connected to job demands. It is a generic stress model that is applicable to many occupations and work settings, providing a good framework for studying the factors that influence work outcomes (Mark & Smith, 2008). At its core is the dual process of health impairment from high job demands and opposing forces of motivation from high job resources (Bakker & Demerouti, 2007). While the job demands refer to physical, psychological, social, or organizational aspects of the job that require sustained cognitive and/or emotional effort, job resources stimulate personal growth and help achieve work goals (Shaufeli & Taris, 2014).

The JD-R model has been successfully applied in different cultural settings. It has previously been utilized to explain the high job demands for expatriates since they often face increased work pressure, demand for travelling and cognitive flexibility, including many other demands that stem from the challenging, foreign environment (Lauring & Selmer, 2015; Lazarova, Shaffer, & Westman, 2010). It has not, however, been used to explain the differences in terms of demands and resources between host country nationals and expatriates working in the same context. In other words, it was not yet extended to include international contexts, such as working in an international organization (Rattrie & Kitter, 2014). We propose that communication in a second language at the workplace is a good example of the job demands that all employees face due to internationalization of their work. Prolonged cognitive effort due to translation and emotional effort due to handling strong emotions are important and straining job demands. These are common in many multilingual work places. The JD-R model could therefore be instrumental in revealing the complex association between language-based job demands and resources, which could buffer the negative impact.

One job resource that has been theorized at the interpersonal level is leader support (Demerouti & Bakker, 2011). As Schaufeli and Bakker (2004) explain, support at the workplace is fulfilling the basic need of the employee to belong and increases chances to be successful at attaining work goals. The employee then feels motivated and able to overcome job demands. A leader can provide support in a team by facilitating an inclusive environment where employees feel safe (Edmondson, 1999). Psychological safety as a concept is often used to explain the need for managerial support when engaging in activities with uncertain outcomes (Bradley, Postlethwaite, Klotz, Hamdani, & Brown, 2012). Turnley and Bolino (2001) argue that individuals will generally avoid behaviors associated with image risk. Because they become scared of losing face and being judged negatively by others, their
stress level increases (Bacharach, Bamberger, & Mundell, 1993). Edmondson (2003) mentions being evaluated as incompetent or disruptive as something that is feared and avoided by employees as it could be a specific risk to their image. Feeling incompetent can often result from the functional problems, such as slower speech and grammatical mistakes, making the individual look less capable. Feeling disruptive can arise when having to ask too many clarifying questions due to reduced understanding or needing to switch language in order to receive correct instructions. Qualitative research has shown that code-switching, or changing to another language, is indeed perceived as disruptive and causes negative affective states among individuals in an organization (Tenzer et al., 2014). However, employees are, under certain conditions, willing to overcome these apprehensions if they feel psychologically safe. For example, if coworkers share the belief that the they can undertake activities without sanctions in case of failure, they will engage in more risky activities (Edmondson, 1999). In line with this, we argue that inclusive language management could instill positive emotions in members of a work group consisting of host country nationals and expatriates. This leader behavior could provide a feeling of psychological safety in the individual and assist in creating an environment where all linguistic minorities could speak up openly and take part in the debate.

Although inclusive language management is arguably a job resource and a contextual factor for the whole team, helping everybody to overcome the anxiety of speaking in a second language, it might inadvertently affect some team members more than others. In the analyzed teams, none of the team members are native speakers of the common language, English. However, approximately half are native speakers of the host country language, i.e. the official language of the country that is hosting the organization (for example Danish). This means that a half of the team members are not solely dependent on the use of the common language use to the same extent as the other half, consisting of expatriates, who are dependent on the common language for crucial information. In such a team environment, the use of the common language by the team leader would assign a certain legitimacy to it; an act which might be perceived differently by the two groups of employees, expatriates and host country nationals. Because host country nationals can easily understand the host country language, giving them a certain advantage, they might perceive the legitimization of the foreign language by the team leader as threatening. Some qualitative research has indeed shown that the reaction of host country nationals to the change of legitimate corporate language can be quite negative (Hinds et al., 2014; Neeley, 2012). This functionality of language as more than just a tool for communication, but
rather a tool for assigning power to certain language groups (Luo & Shenkar, 2006), might cause distinct effects of the inclusive language management. More specifically, we argue that it is a job resource affecting expatriates more positively, rather than host country nationals.

Finally, recent empirical studies confirm the crucial role of personal resources, complementary to job resources in the JD-R model, and their positive influence on the employees’ long-term wellbeing (Airila et al., 2014). In the extension of the JD-R model, Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) define the central role of personal resources as giving individuals’ the ability to control and impact upon their environment successfully. As recent research has suggested, language ability is essential in order to gain access to important information and express own opinions (Selmer & Lauring, 2013a). We therefore argue that linguistic abilities give individuals a sense of control in an international environment. Indeed, research on adaptation of nonnative language as organizational lingua franca has revealed that self-assessed language fluency was an important determinant of performance anxiety and job insecurity in the employees (Neeley, 2013). We therefore define language proficiency as a specific personal resource relevant in the context of teams including host country and expatriate personnel.

To our knowledge, the JD-R model has been only scantily applied to include the new demands employees face due to internationalization of their work (e.g. Lazarova et al., 2010). Still, it provides a useful theoretical framework that could shed light on this complex phenomenon. We have identified speaking in a second language as a job demand for both expatriates and host country nationals in work teams. Taking departure in the JD-R model, we formulate the general hypothesis that inclusive language management, as a job resource and a contextual factor, and common language proficiency, as a personal resource and an individual factor, could decrease the second language-based anxiety team members may feel. Moreover, we hypothesize that inclusive language management is a job resource benefiting expatriates in the team more than host country nationals. All the hypothesized relations between the variables of interest are visible in Figure 1.
The final results from testing the hypotheses in this multilevel model can be found in the brackets with the corresponding significance level after the coefficients.

*  p <0.05
** p <0.01
*** p <0.001

Second Language Communication as a Job Demand

Volk, Köhler, and Pudelko (2014) suggest that processing information in a non-native language depletes individuals’ cognitive resources. This reduced ability to process information can lead to a decrease in task performance, especially on highly complex tasks, and to feelings of exhaustion and stress. The strain of speaking in a second language may be then associated with both functional problems and attribution problems. Lauring and Klitmøller (2015) argue that the effort involved with speaking a non-native language may result in reduced comprehension and hampered rhetorical skills (functional problems) that will lead to higher levels of job anxiety or avoidance of communication altogether. Moreover, Tenzer, Pudelko, and Harzing (2014) observed that language barriers in teams can be misinterpreted as a lack of professional knowledge and lead to negative attributions of low...
dependability and incompetence (attribution problems). Employees usually develop strategies to handle apprehension and anger arising from functional and attribution problems, which leads to increased emotional labor at the work place (Hinds et al., 2014). According to the JD-R model, the higher cognitive and emotional strain due to communication in second language will exhaust the employee potentially leading to anxiety. Since the common language is a secondary (not native) for all, both host country and expatriate individuals in the sample, we expect them to be affected by speaking in second language in the same manner. Therefore, we present the first hypothesis:

**Hypothesis 1:** There is a positive relation between the degree of second language communication at work and the felt level of job anxiety and this relation holds for both, expatriates and host country nationals.

**Language Proficiency as a Personal Resource**

At the individual level, lower foreign language proficiency has been connected to anxiety and fear of losing status in the work place (Neeley, 2013; Vaara et al., 2005). The hardship felt when working in a second language is felt especially by those individuals with weaker linguistic skills lacking a valuable personal resource (Du-Babcock, 2006). Volk et al. (2014) suggest that higher language proficiency decreases the cognitive demands during information processing and thus reduces the negative effects of foreign language use on task performance. In simple terms, proficient individuals have to work less hard, conserving their resources, when speaking in second language. Based on Xanthopoulou, Bakker, Demerouti, and Schaufeli’s (2007) description of the JD-R model, second language proficiency could be a valuable personal resource because it gives the individual a higher sense of control over the external international environment. Once again, because the second language is not a native language for any of the team members, they all need to learn and practice the language to increase their proficiency. We therefore hypothesize that they all will be affected in a similar manner:

**Hypothesis 2:** The second language proficiency level of the individual, whether it is an expatriate or a host country national, moderates the relation between the degree of speaking in the second language and job anxiety, so that the effect of speaking
in the second language is weaker if the person has a high level of common language proficiency.

**Inclusive Language Management as a Job Resource**

Inclusive language management strategies have been unfolded in many organizations (cf. Fredriksson, Barner-Rasmussen, & Piekkari, 2006; Harzing & Pudelko, 2013). Lauring and Selmer (2012a) found that conscious use of the common language by the management promoted inclusiveness and increased openness to diversity in multicultural organizations. This perception by team members is central since linguistic involvement and acceptance have been found to enhance individuals’ willingness to communicate despite variations in the common language proficiency (Klitmøller, Schneider, & Jonsen, 2014).

If the team leader speaks the common language when more than one language group is present, it allows everybody to participate in the discussion, creating a psychologically safe environment. The functional and attribution problems employees experience due to speaking in the second language are directly related to the major self-image risks of appearing disruptive and incompetent (Edmondson, 2003). However, words and actions of the leader can change the team’s perception of how safe it is to make mistakes inspiring the team members to overcome potential self-image risks (Nembhard & Edmondson, 2006). In their research, Hajro and Pudelko (2010) describe the linguistic competences of the team leader as vital for a well-functioning work group, lowering the anxiety and interaction avoidance among the members. Neeley (2012) suggests that leading by example is of tremendous importance in encouraging employees’ communication in the second language. In her in-depth case study, she describes how a Japanese CEO of the largest online marketplace, Rakuten, has made a point of training the middle managers to use the common language. He was aware of their power to influence thousands of employees through face-to-face communication (Neeley, 2012).

Finally, the JD-R model theorizes that the job support that buffers job demands will motivate and engage the employees, lowering their strain. In this regard, leader support has been defined as one of the most important job resources for many different occupations (Xanthopoulou et al., 2007). We argue that by creating a psychologically safe environment, through inclusive language management, a team leader is providing a good example and strong support that in turn function as a valuable job resource in multilingual contexts. In this way, the leader will affect all the team members because they
all need to speak in a second language which is the same as the common and inclusive language. Hence, we formulate the third hypothesis:

**Hypothesis 3:** Team leader inclusive language management moderates the relation between the degree of speaking in the second language and both host country and expatriate team member’s job anxiety, so that the effect of speaking in the second language is weaker if the team leader applies a high level of inclusive language management.

**Inclusive Language Management and Expatriates**
We have already hypothesized about the use of the common language by the team leader to set an example of risk-taking behavior and create a psychologically safe environment where everybody can speak in the second language. However, not everybody depends on the second language and inclusive language communication to the same extent. The distinction between expatriates and host country nationals, citizens of the host country, is crucial in this case. The expatriates must meet multiple new requirements from the new external environment, extending beyond and above performing in the second language (for a comprehensive list see Hippler, Caligiuri, Johnson, & Baytalskaya, 2014). The necessity to adapt to the new general, job and interaction conditions are posing strains on the expatriates’ capacity to perform and are causing an affective state of stress that has been well-documented in the three decades of research on expatriation (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Lazarova & Thomas, 2012). Lazarova and colleagues (2010) have defined the circumstances emanating from expatriates’ assignments as demands in both the work and the family spheres. It would therefore not be surprising if expatriates experience a higher level of job-related anxiety, as an answer to higher job demands, in comparison to their team colleagues that are host country nationals. The comparatively higher anxiety is not a direct result of communication in the common language; after all, everybody in the team must communicate in that language. Expatriates’ sole dependency on the common language is, however, affecting all other job demands since information in the common language is vital for their successful adaptation in the foreign environment. This dependency means they have a higher risk of being linguistically ostracized. Linguistic ostracism refers to situations when an individual is excluded from a conversation due to linguistic incapability.
(Dotan-Eliaz, Sommer, & Rubin, 2009). Expatriates in these teams can easily be excluded from the communication which is taking place in the host country language, hence experiencing language ostracism. If expatriates cannot understand the ongoing discourse in the organization, it is very likely they will have problems with completing their tasks and integrating into the team, which would only multiply the other job demands they already face in the new environment. Based on the accumulated evidence from the expatriate management research and suggestions from the JD-R model, we therefore hypothesize that expatriates will experience higher job-related anxiety:

**Hypothesis 4a:** The expatriates will experience higher job anxiety in comparison to the host country nationals because of higher job demands connected to higher risk of language ostracism.

**Language Management as Moderator**

Hultgren (2014) describes the peculiar phenomenon of parallellingualism, meaning equitable use of both English and, in this case, the local language in a Scandinavian country. Using a Danish example, she then also describes the heterogeneity of the reality in terms of implementing this linguistic policy across organizations such as universities. The policy creates a situation in which many organizations use both languages at the same time. The dominant management language is more or less decided by bottom up processes. In simple terms, the dominant language will be the one that used more frequently in the organization. This also creates an interesting situation for expatriates and host country nationals. In some instances it might be the host country nationals adapting to the new language, like English, that becomes dominant in the organization. The majority of published research on expatriates’ linguistic competencies, however, assumes that expatriates should adopt the host country language, not vice versa (Huff, 2013; Selmer & Lauring, 2015; Zhang & Peltokorpi, 2016).

Inclusive language management has therefore a greater purpose than just creating a psychologically safe environment for second language communication. It gives legitimacy to the use of the second language that is crucial for expatriate employees who depend on it as a vital source of information. It could therefore alleviate expatriates’ anxiety due to possible linguistic ostracism and lack of information necessary to meet their specific job demands. On the other hand, legitimizing a second language instead of the host country language is not beneficial for host country nationals who
could be performing better in their primary and fully automatized language. If the management starts preferring English for internal communication, it may change the power dynamics and career prospects for expatriates and host country nationals in opposite ways. SanAntonio (1987) described a similar situation for Japanese employees who depended on English, the inclusive language, to secure themselves career advancement in an organization located in their home country. The juxtaposition of the inclusive language management effect on the two different types of employees leads to following hypothesis:

**Hypothesis 4b:** Team leader inclusive language management moderates the relation between the expatriate/host country national status and job anxiety so that the negative effect of being an expatriate is weaker if the team leader applies a high level of inclusive language management.

**METHODS**

**Sample and Data Collection**

The sample analyzed in the present study has been accumulated via a two-stage survey collection process targeting research teams in 30 universities. Research teams are an important type of knowledge intensive teams in which language use can have an important impact. Also, academia at large is an arena in which concerns for internationalization and inclusion of different nationalities are prominent (see for example Van den Brink & Benschop, 2012). The geographical location of the teams in the Nordic countries extends the suitability of the sample for the purposes of our research due to a parallel use of English and the host country language, functioning side by side in many high-skilled work places (e.g. Hultgren, 2014). Although English is not the official language in any of the selected countries, the average team member in the sample spent more than 43% of the time speaking English at work.

In the first round of data collection, a questionnaire was sent to 2171 leaders of academic research teams from the natural sciences, utilizing the webpages of the universities to collect the contact information. Eventually, after three reminders, 1085 responses were received (50.0% response rate). Based on responses, we removed 862 team leaders that had only one nationality in their team and less than two team members, as they were not part of our target group. In the last stage of our data
collection, a questionnaire was sent to 3452 team members of the remaining team leaders resulting in 1406 completed surveys (40.7 response rate). From the initial sample, we first removed all groups with an internal response rate lower than 40% (Leveck & Jones, 1996; Verran, Gerber, & Milton, 1995). So if the size of the team, as indicated by the team leader, was, for example, 10 individuals, and we have received less than 4 surveys (40% of 10) from the team members, then the team was not included in the analysis. This was in order to improve validity of the team scores. Therefore, the inclusive language management, which has been averaged from the team members’ scores, is always based on responses from minimum 40% of the individuals in the group.

Since we have been interested in the effect of the second language on the team members’ anxiety level, we deleted all the native English speakers from the team members’ dataset (41 individuals). Finally, we removed all the groups that were left with just one responding team member to ensure that the between group variance was not calculated based on just one person within the team. The final sample that passed all the necessary criteria for a viable multilevel dataset is comprised of 194 groups. Thus, the sample consists of 194 academic team leaders and 859 academic team members (average number of responding members per group is 4, min=2, max=11). The teams are all based in Nordic countries with 36% of the team members being located in Denmark, 32% in Sweden, 29% in Finland and 3% in Norway. They are, however, very international in composition. There is in total 75 different nationalities and 62 different native languages represented in the final sample, with some of the teams speaking as many as seven languages on a daily basis. There are 42% expatriates and 58% host country nationals in the final sample. The sample is balanced in terms of gender distribution, with 59% males. The average size of the team (as reported by the team leader) is 9 employees and the average age of the employee is 37 years.

\footnote{There are different recommended cut-off points for minimums within group response rates in order to achieve reliable aggregated data. For example, Veran et al. suggests a 50% unit/group response rate, whereas Leveck and Jones suggested a 33% response rate. We have therefore used the median cut-off value of 40%.}
Measures

The background variables, such as gender and age, were captured by direct questions to the respondent. The expatriate status was determined by asking the respondents about their country of origin, helping to determine the foreign-born employees (see Selmer & Lauring, 2015). On the other hand, if the respondents originated from the same country as the location of the organization they were employed in, they were categorized as host country nationals. We define the expatriates in this sample as academic expatriates since they are all employed at Nordic universities. Their positions ranged from being employed as a doctoral student to a fully tenured professor. We assume that these academic expatriated are self-initiated because of the usually high motivation to gain international experience in this specific field and because of the lack of boundaries to transfer their existing knowledge capital (Richardson & McKenna, 2002; Selmer & Lauring, 2013b).

Job anxiety, as the dependent variable, was measured using a scale by Parker and DeCotis (1983). All the five original items reflecting the underlying level of job anxiety were used. A sample item was: "There are lots of times when my job drives me up the wall." Moreover, one reversed item was added

<table>
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<th>Variable</th>
<th>Means</th>
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<td>2. Gender (Female=1/Male=2)</td>
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<td>-0.143***</td>
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<td>0.493</td>
<td>0.0174</td>
<td>0.0390</td>
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<td>4. Age</td>
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<td>10.259</td>
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<td>0.044***</td>
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<td>5. Work pressure</td>
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<td>6. English proficiency</td>
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</table>

Team level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anxiety (team mean)</td>
<td>3.807</td>
<td>0.584</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Size of the team</td>
<td>9.170</td>
<td>4.307</td>
<td>-0.004</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>3. Share of foreigners in the team (%)</td>
<td>44.310</td>
<td>23.467</td>
<td>0.009</td>
<td>-0.139</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Number of languages spoken in the team</td>
<td>2.330</td>
<td>0.872</td>
<td>0.097</td>
<td>0.189***</td>
<td>0.288***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Inclusive language management</td>
<td>5.565</td>
<td>1.073</td>
<td>0.131</td>
<td>-0.109</td>
<td>0.435***</td>
<td>0.100</td>
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</tr>
</tbody>
</table>

Team members n=859; Teams n= 194

* p <0.05
** p <0.01
*** p <0.001
in order to reduce common-method variance bias: “I feel relaxed when I am at work.” (alpha = 0.78.). Response categories ranged from (1)="Strongly disagree” to (7)=”Strongly agree”.

English language proficiency was gauged by a three-item, seven-point Likert scale by Gallagher (2013) (alpha= 0.89). Respondents were asked to assess their general and oral language skills and to compare themselves to the rest of the team between these anchors (1)=“Very poor” and (7)=“Very good.” Second language communication, reflecting the degree of English communication the individuals are involved in at work, was measured at a two-item scale. Respondents were directly asked about their language use at work: “Over the last two-week period, what percentage of time did you speak English in: (1) work related communication? (2) personal communication?” The split-half reliability of the scale as captured by the Spearman-Brown coefficient (0.7044) is more suitable for the two-item scale (Eisinga, Grotenhuis, & Pelzer, 2013). The responses ranged between 0% and 100% with an average of 43.37%.

Finally, the three-item work pressure scale by Parker and DeCotis (1983), with similar response categories as job anxiety, served as a control variable. A sample item was: “Working here leaves little time for other activities.” As with job anxiety, a reversed item was added to improve the scale: “We have enough time for our work.” (alpha = 0.79.).

At the team level, we measured inclusive language management by a scale developed by Lauring and Selmer (2010). It has previously been used to evaluate consistency in English use by a head of department in research institutions and positively connected to group cohesiveness measures, therefore fitting our research purposes. Using the four-item seven-point Likert scale (alpha=0.83) team members were asked to express their level of agreement, from (1)=“Strongly disagree” to (7)=“Strongly agree,” with statements about the team-leader’s consistent use of English. A sample item was: ”My team leader issues instructions and guidelines in English.” The individual scores of the team members have then been averaged within the teams in order to create a more objective team-level variable based on their independent perceptions. Since the ICC(1), which can be viewed as the proportion of variance in the
rating caused by group membership is 0.46 and the ICC(2) is 0.83,\(^2\) both above the recommended values in the published research, the aggregation of the inclusive language management rating on a team level is thus justified (Bliese, 2000; Liao & Chuang, 2004). The descriptive statistics and correlations for all the variables on both levels can be viewed in Table 1. The assumption that no matter what the nationality of the team leader is, the only other option of management language, beside English, is the host country official language, stems from the detailed description of the linguistic environment in Scandinavian institutions of higher education (Hultgren, 2014).

For control purposes at the team level, the size of the team, the percentage of foreign national team members, and the number of languages spoken on a daily basis were all sourced from direct questions in the team leaders’ questionnaire since they could all influence the language use within the team. In teams with more expatriates and with a higher language fractionalization, the common language might become dominant and be highly correlated with the inclusive language management of the team leader (therefore we wanted to control for their separate effects). The number of respondents within a group and the reported team size was used for calculating the team’s internal response rate.

**Data Analysis**

The dependent variable of interest—anxiety—was measured on the individual level or the team members’ level. The predicting independent variables, however, were measured on both the individual as well as the team level, reflecting the nested nature of the data and embeddedness of the team members in the teams. In order to take advantage of the nested data and test the confluence of the individual and team factors, we applied the hierarchical linear modelling, estimating initially a model with random intercepts, adding random effects and cross-level interactions at later stages.

First, we have estimated an empty or a null model without predictors on either level, but with random intercepts for each team (Model 0 in Table 2). This model has allowed us to ascertain how much of the variance in the data stems from the individual differences within the teams, in opposition to the differences between the teams. Taking the build-up approach, in the next step, we have added all the level 1 (individual) variables, explaining the within-team variance (Model 1 in Table 2). All the

\( ^2\) ICC(1) has been calculated as the ratio of between-group variance to total variance of the null random-intercept model with inclusive language management as the dependent variable. ICC(2) was calculated as group size adjusted ICC(1)=average group size*ICC(1)/1+(average group size -1)*ICC(1), that is 2.024/2.428=0.83.
variables, beside the binary expatriate status and gender, were grand-mean-centered in order to make the interpretation of interaction terms easier (Hox, 2010). This random intercept model has estimated a separate regression line for each team. Next, according to the theoretically determined proposition, an interaction on level 1 has been tested, so that English proficiency was moderating the second language communication effect on anxiety (Model 2 in Table 2). In the following step, all the level 2 (team) grand-mean-centered variables have been added to the model, predicting the between-team variance (Model 3 in Table 2). Adding the level 2 variables is equivalent to regressing the random intercepts of each team on the team variables, finding out whether the average anxiety in the team is affected by team characteristics. Finally, guided by the hypotheses, two cross-level interactions have been tested (Models 4 and 5 in Table 2). The slopes of the level 1 variables in the interactions, which are the second language communication and the expatriate status, have been allowed to vary between the teams, adding random coefficients into the random intercept model. The moderating variable – inclusive language management – is thus explaining the variance in the random slopes of the second language communication and of the expatriate status. In other words, it is predicting how the coefficients of second language communication and expatriate status will change depending on the team membership of the individuals.

The added value of the multilevel methodological design to this study lies in exploiting the nested character of the data instead of treating it as a nuisance. Predicting a random intercept for each team takes into account the likely similarity between the individuals’ responses due to their membership in the same team that in a normal regression would cause (without clustered standard errors) biased results. Pooling the level 1 within-team regression together with the level 2 between-teams regression allows for empirical testing of cross-level interactions, so the empirical model resembles closely the complex social reality. The deviance statistics reported for each model has served as goodness of fit measure with lower numbers indicating better fit. The intraclass correlation and the deviance statistics have been calculated based on the reported team intercepts and within-team residual variances (Rabe-Hesketh & Skrondal, 2012).
RESULTS

Individual Level
The null model result (Model 0), indicating that a substantial amount of variation in the data is located on the 2nd level, is a prerequisite for adding 2nd level variables at later stages. Moreover, it substantiates the need for a multilevel model over a single level regression. The ICC(1) of the null model indicates that 5.37% of the variance is allocated between the teams and hence validates further use of multilevel modelling in the analysis. It also means that a majority of the variation (94.63%) in the anxiety level of the team members is caused by their individual characteristics rather than team dynamics. The deviance statistics of the null model serves as the baseline for comparison of the explanatory power of the later models. Since the deviance statistics is gradually decreasing with increasing model complexity, we can conclude that the added variables are contributing to the explanation of the variance in the level of anxiety.

Adding the level 1 variables (Model 1) proves that the main factors can be found in the lower level regression, as foreshadowed by the ICC(1). All demographic variables are highly significant, and the direction of the coefficients resembles much of the published research: anxiety level declines with age, but keeping age constant, males are less affected than females. The highest predictor of anxiety in magnitude and significance is the work pressure. This is to be expected as increased work volume under time-constrains can only increase job-related anxiety. The work pressure has been added as a control variable to all but the null model in order to separate time pressure from job related anxiety. After adding the control variables, the key variables of interest, related to the common language use in the team, are still significant. Proving Hypothesis 1 correctly, higher level of second language communication at the work place is increasing the job anxiety of the individual (0.004, p<0.01). Also, higher language proficiency is marginally significant and decreases anxiety (-0.073, p<0.05). However, it does not moderate the effect of communication in the second language. The interaction term (Model 2) remains insignificant; therefore, hypothesis two is unsupported.
<table>
<thead>
<tr>
<th>Variable</th>
<th>0</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td><strong>Level 1</strong></td>
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</tr>
<tr>
<td>Intercept</td>
<td>3.801 *** (0.040)</td>
<td>4.242 *** (0.114)</td>
<td>4.236 *** (0.114)</td>
<td>4.223 *** (0.115)</td>
<td>4.291 *** (0.115)</td>
<td>4.251 *** (0.115)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.244 *** (0.065)</td>
<td>-0.243 *** (0.065)</td>
<td>-0.237 *** (0.065)</td>
<td>-0.244 *** (0.065)</td>
<td>-0.244 *** (0.065)</td>
<td>-0.244 *** (0.065)</td>
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<tr>
<td>Expatriate</td>
<td>-0.124 (0.078)</td>
<td>-0.126 (0.078)</td>
<td>-0.116 (0.079)</td>
<td>-0.114 (0.079)</td>
<td>-0.113 (0.080)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.024 *** (0.003)</td>
<td>-0.023 *** (0.003)</td>
<td>-0.025 *** (0.004)</td>
<td>-0.025 *** (0.004)</td>
<td>-0.024 *** (0.004)</td>
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<tr>
<td>Work pressure</td>
<td>0.402 *** (0.029)</td>
<td>0.401 *** (0.029)</td>
<td>0.408 *** (0.029)</td>
<td>0.412 *** (0.028)</td>
<td>0.402 *** (0.029)</td>
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<tr>
<td>English proficiency</td>
<td>-0.073 * (0.035)</td>
<td>-0.073 * (0.035)</td>
<td>-0.071 * (0.035)</td>
<td>-0.077 * (0.034)</td>
<td>-0.074 * (0.034)</td>
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<tr>
<td>Second language communication</td>
<td>0.004 ** (0.001)</td>
<td>0.004 ** (0.001)</td>
<td>0.004 ** (0.001)</td>
<td>0.004 ** (0.001)</td>
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<tr>
<td><strong>Level 1 interaction</strong></td>
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<tr>
<td>English proficiency *</td>
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<tr>
<td>Second language communication</td>
<td>0.001 (0.001)</td>
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<tr>
<td><strong>Level 2</strong></td>
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<tr>
<td>Size of the team</td>
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<tr>
<td>Share of foreigners in the team</td>
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<tr>
<td>Nr. of languages spoken</td>
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<tr>
<td>Inclusive language management</td>
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<tr>
<td><strong>Cross-level interaction</strong></td>
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<td>Inclusive language management *</td>
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<tr>
<td>Second language communication</td>
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<tr>
<td>Inclusive language management*</td>
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<tr>
<td>Expatriate</td>
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</table>

Team intercepts variance 0.061 0.024 0.024 0.024 0.013 0.043
Within-team residual variance 1.074 0.834 0.834 0.828 0.820 0.819
Model deviance 2541 2305 2304 2299 2287 2290

Team members n=859, Teams n=194. All coefficient entries are estimates of the fixed effects with standard errors in parentheses. The interacting level-1 variables in models 4 and 5, namely second language communication and expatriate, were modelled as random effects.

* p <0.05
** p <0.01
*** p <0.001
Team Level

Adding team-level predictors such as team size, share of foreign team members, and number of languages spoken on a daily basis has provided little explanatory power to the model. The inclusive language management of the team has a negative charge but remains insignificant. Size of the team and the number of languages spoken on a daily basis seem to be irrelevant for the average anxiety within the team. Hypothesis 3 suggests that an indirect effect of the inclusive language management should modify the relationship between an individual’s second language communication and anxiety. Estimating the cross-level interaction effect between inclusive language management and second language communication (Model 4) has proven to be significant, verifying the hypothesis. Individuals in teams with more inclusive language management feel less anxiety associated with speaking English at work (-0.004, p<0.001). Since the variables have been grand-mean centered, the interaction coefficient can be interpreted as the effect of communication in the second language in teams with average inclusive language management (the grand mean corresponds to zero in the centered data). Therefore, the positive effect of speaking English estimated in Model 1 can be reduced or totally eliminated by the team management’s actions. The results therefore show that inclusive language management is essential for reducing the negative psychological effects of speaking English at work.

Finally, hypotheses 4a and 4b suggest that expatriates experience the conditions in the multicultural teams differently. As it is visible from all estimated models, the evidence does not show that expatriates on average experience a higher job-related anxiety, quite the opposite. However, hypothesis 4b is substantiated since the cross-level interaction is significant. It is possible to find a significant interaction in the presence of two insignificant main effects, if it is a cross-over interaction, also known as qualitative interaction (Gail & Simon, 1985; González & Cox, 2007). In other words, the expatriate status and inclusive language management can be insignificant in their average or main effects, when combined; however, they show that the inclusive language management has the opposite effect on expatriates in comparison to host country nationals. This is visible from Model 5 where the interaction terms show that the higher the level of inclusive language management (higher from the mean level), the less anxiety do expatriates in that team experience (-0.177, p<0.01). If we would recode the data so the binary variable shows the host country national, instead of expatriate status, we would find the opposite effect of inclusive language management, meaning it increases the anxiety level of the host country nationals. This opposite effect is visible even in the raw data: when plotting a
simple regression line between anxiety level and inclusive language management for expatriates and host country nationals separately, the two regression lines intersect (as visible in Figure 2).

Figure 2: Anxiety level of expatriates and host country nationals depending on the inclusive language management

The y-axis in the figure represents the anxiety level of the individuals. The anxiety (y-axis) and inclusive language management (x-axis) were measured on a 7-point Likert scale.

DISCUSSION

The growing interest in language and language management has recently started to spill over from other international business and management areas to expatriate research (Huff, 2013; Selmer & Lauring, 2015; Zhang & Peltokorpi, 2016). The existing research within this theme has so far explored the impact of foreign language use on individuals and on groups separately. In this study, we have attempted to integrate these two different levels of analysis and fill the gap in our knowledge applying the job demands-resources model, thereby adding the context in which the language is spoken to the model. We have thus outlined and tested a multilevel model with interaction effects suggesting
confluence of factors – demands and resources – that might have a distinct impact on the host country and expatriate members of the team.

We confirmed that operating in a second language is associated with higher levels of anxiety in the individual, even when controlling for the work pressure connected to time constraints. The increasing anxiety has been explained as result of heightened physiological and psychological costs that are draining individuals’ resources, making communication more difficult and stressful (Volk et al., 2014). In line with the same argumentation, higher proficiency in the second language eases up the cognitive constraints and therefore decreases the level of anxiety among team members. It was therefore puzzling to find an insignificant moderation effect of the language proficiency on the language use. We interpret these results as a sign that proficiency or skill possession is not the only element of foreign language communication that causes the anxiety of the individual. Not denying that common language proficiency is important for performance in international organizations, hence lack of this skill can cause discomfort, the anxiety of communicating in foreign language goes beyond simple skill possession. This conjecture is even further supported by a significant moderation effect from the inclusive language management on the team level. Members in teams, where the management creates an inclusive environment, experience lower anxiety connected to communication in the foreign language. In such a context, the members are not only allowed and able to communicate in the common language; they are also willing to engage in this potentially risky behavior. This is because it is less alarming to make mistakes, speak slowly and ask clarifying questions if they do not understand due to language insufficiencies (Edmondson, 1999).

We have, however, also found out that inclusive language management has a differential effect on expatriates and host country nationals in the team. Inclusive language management indeed has the power to make all team members more comfortable when speaking in their second language, but we have also found evidence of an even greater role: inclusive language management can shift the power scales in an organization, benefiting the expatriates. While these effects are not visible in an average team, but in teams above and under the mean level of inclusive language management, expatriates have a lower or higher level of anxiety in comparison to host country nationals. This shows that language is not just a tool for communication. In confirmation with previously conducted qualitative studies, we have found out too that language policy can be a tool ascribing power to certain groups (Luo & Shenkar, 2006).
The significance of inclusive language management over language proficiency in accommodating foreign language communication is substantial, and this discovery has direct theoretical implications for future research on expatriates in international organizations, as well as practical implications for their management. So far one of the standard approaches to ameliorating the cooperation in international organizations was language training (Selmer, 2006). However, our results suggest that management actions designed to lead by example, thus creating an environment which includes all the employees in common conversation, are essential for reducing anxiety connected to performing in the second language.

Limitations

As usual, there are a number of potential weaknesses of this investigation that could have biased the findings. First, the study is based on a sample only targeting research teams in science departments in Nordic universities. They are valid representatives of members of international organizations, but they are all working in the university sector. Hence, our study may not be generalizable to, e.g., private business teams. However, the gap between work relations in the private sector and those in academia is diminishing. In the Nordic countries, reforms have consistently focused on making universities resemble business organizations as much as possible. For example, university departments have been merged in order to create larger units to be more competitive on the market for skilled labor (Krejsler, 2006). Hence, the language management in multicultural academic work teams may not be particularly different from the management of language use in, for example, the international marketing team or the global research and development team in a large prestigious multinational corporation, e.g. a pharmaceutical company. In such organizations many employees also have high education levels (often MBA or PhD) and international experience that at least resemble that of academics (cf. Kim & Park, 2010; Yeniyurt, Townsend, & Cavusgil, 2009). Finally, employees in business organizations may have extensive contacts and collaborations that go beyond the strict boundaries of their organizations, not entirely unlike those of academics (cf. Brown & Duguid, 2001). Accordingly, in terms of language management, modern science research teams may not be that different from some teams in private organizations.

In terms of methodological limitations, the multilevel analysis goes far in preventing bias due to a nested character of the data. Estimating random intercepts for teams captures possible omitted
variables confounding the effects of interest, but only on the team level. Although the variables have been grand-mean centered, group-mean centering would be preferable to ensure the independence of the multilevel effects (Aguinis, Gottfredson, & Culpepper, 2013). The theoretically derived hypotheses did not, however, call for group-mean differences. Moreover, the observations of individuals within the teams still comprise to cross-sectional data, posing limitations on the inferences of causality that can be made. The data has been collected from multiple sources, i.e. team members and team leaders at distinct times, but the results we obtained mainly rely on self-reported values – even though the team leader’s inclusive language management is rated by the team members. Since both dependent and independent variables come from the same source, results could be inflated due to common method variance (CMV). However, while anxiety was rated on a Likert scale, second language communication was measured as a percentage. Therefore, the two different scale formats are making CMV less likely (Chang, van Witteloostuijn, & Eden, 2010). Moreover, the surveys for both target groups have been created in such a manner as to prevent common method variance bias as much as possible, ensuring anonymity and confidentiality to the respondents (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Also, the automatic condemnation of results in organizational research due to possible CMV has been found exaggerated (Crampton & Wagner, 1994; Spector, 2006). Finally, it has been argued that moderation effects, commensurate with the one we have found, also cannot be caused by CMV (Chang et al., 2010). Accordingly, we conclude that CMV was not an important problem for the main findings of this study.

**Implications**

Theoretically, this study contributes to the field of language management in international organizations with expatriates present by being one of the first to study the relation between language use, inclusive language management, and anxiety. While much previous work has stressed the negative social implications of using a common language in an international setting (Charles & Marschan-Piekkari, 2002; Janssens, Lambert, & Steyaert, 2004; Lauring & Tange, 2010; Marschan-Piekkari, Welch, & Welch, 1999; Piekkari et al., 2005; Vaara et al., 2005; Welch, Welch, & Piekkari, 2005), no other studies have directly linked second language use and inclusive language management to anxiety in work teams. Consequently, the results of our study provide novel insights to be integrated in the theoretical discussion within the literature on international language management. Moreover, this is the
first study to examine how the context in which a language is spoken affects host country nationals and expatriates respectively. We therefore suggest more empirical research testing our present knowledge on the effects of foreign language on individuals, distinguishing the effects on those that have the option of speaking their native language and those that depend on the foreign language for gaining information and support. It is very likely that the influence on these two groups is very different and has been so far hiding in the average effect that might be insignificant, much like in the presently analyzed data. This type of research would moreover explore the dual role of common language as a tool for communication and simple transfer of messages, but also as a tool for ascribing power to those that possess higher capabilities.

The finding that inclusive language management can reduce the anxiety caused by speaking in a second language is relatively strong. This could be used as an outset to develop more comprehensive models for the link between language and expatriate management. This is well warranted because it has been argued that still little common thrust in theory building has been achieved within language management (Piekkari & Tietze, 2011). Expatriate literature has so far explored mainly the effects of cultural distance and organizational culture on expatriates (Barakat & Moussa, 2014), it has however not explored in depth the role of language management in increasing their efficiency and performance when on assignment. This is especially interesting because language policy could influence the expatriate interaction with the host country nationals that are important source of support and knowledge. It has been shown that different reimbursement policies can damage ties between host country nationals and expatriates (Bonache, Sanchez, & Zárraga-Oberty, 2009). Future research should investigate whether the language policy that has proved to have a distinct effect on the anxiety of these two groups can be damaging for their relationships as well.

From a practical point of view, the finding that inclusive language management alleviates second language-based anxiety is important. It is, however, also important to know the possible distinct effect on host country nationals and expatriates. Managers can clearly have a strong personal influence on the language-based anxiety in international organizations. Our findings suggest that the use of a common language may break the vicious circle of communication avoidance due to anxiety and increase the personal interaction, binding the groups together (Lauring & Klitmøller, 2015). On the other hand, the results are also revealing the possible negative perception of inclusive language management by the host country nationals. In this case, proper support and communication directed at
the host country nationals about the changing language policy could be a solution to the changing power balance.

In specific relation to academic organizations, there may also be important practical implications. Inclusive language management, for example using English, may entail shifts in the power-balance between host country and expatriate academics. For instance, the local academics might feel that the expatriates gain power and more influence in the organization if the latter is more proficient in English (cf. Neeley, 2013; SanAntonio, 1987). Thus, international organizations may benefit from training local staff in ways that prepare them for these types of linguistic encounters.

The above-described difficulties related to inclusive language management may also be an important focus during recruitment and selection processes particularly of new local personnel. It seems relevant to emphasize the management expectations of having to communicate in English and prepare them for the potential anxiety that this may entail in comparison to being able to communicate in the local language.

**CONCLUSION**

This article has explored how one common language policy, which was at the same time the second language for all the employees, affected the anxiety level of both host country national and expatriate academic team members. We especially focused on how this was influenced by a contextual factor, inclusive language management, and an individual factor, individual linguistic proficiency. We found that interacting in a second language is positively related to job anxiety for both host country nationals and expatriates. However, as predicted by the job demands-resource model, this effect is reduced if the research team leader excises inclusive language management. Finally, we found that inclusive language management as the context for interaction is more beneficial for expatriates than for host country national academics.
References


Chapter 5.
Network context of self-initiated expatriates: Where does work information and emotional support come from?

Abstract
This article explores the immediate network context of self-initiated expatriates and how it influences their work information and emotional support. Building on the information seeking theory and the theory of weak and strong ties, we have created a model connecting specific characteristics of the network members with the type and amount of support they provide. The dataset consisted of 165 expatriates who rated 575 of their network members on the following learned characteristics: host country knowledge, employment status, and host country origin. The ego-centered network that consists of the rated ties is the context in which expatriates are embedded. It was therefore analyzed utilizing a multilevel mediation model. We have hypothesized that all learned characteristics will be connected with the frequency of interaction and thus the level and type of support received. Host country knowledge of a network member should be positively correlated with interaction; however empirical results did not confirm this. Consistent with the existing research in the field and our expectations, we found that employment status and host country origin are relevant factors that have negative association with interaction. The negative effect of higher employment status is then mediated to work information and emotional support; on the other hand, negative effect of host country origin is connected to emotional support only. The effect of status was likely conflated with host country origin in the previously published results, leading to biased conclusions.

Key words: Social support, Network ties, Host country national, Expatriate, Multilevel modelling
INTRODUCTION
The expatriation field is steadily growing, attracting interest from academics and professionals who are searching for factors that could improve expatriate outcomes (Brewster, Bonache, Cerdin, & Suutari, 2014; Dabic, Gonzalez-Loureiro, & Harvey, 2015). In this perspective, the indispensable need for social support commonly experienced during stressful periods abroad was described early on, when exploring the expatriation phenomenon (Adelman, 1988; Black, Mendenhall, & Oddou, 1991; Fontaine, 1986). Relocation disturbs the network of all expatriates and creates a social vacuum that needs to be filled in the new environment. It is therefore not surprising that the importance of a network as a context associated with social support has been resurfacing in recent empirical studies.

Most of the published research explains the importance of social networks by the flow of resources from the network ties (Osman-Gani & Rockstuhl, 2008). This argumentation is based on the expatriates’ ability to access vital resources, such as information, social approval, material benefits or contacts, in time of need (Claus, Maletz, Danut, & Pierson, 2015). Access to such resources from interpersonal relations reduces uncertainty and stress and improves coping in the host country (Wang, 2002; Wang & Kanungo, 2004). Depending on the purpose, whether it is help with uncontrollable or controllable circumstance, Podsialowski et al. (2013) make a conceptual distinction between the emotional/affective support and the informational/material/instrumental support. While emotional support provides expatriates with feelings of affirmation and psychological security, information support provides vital contextual knowledge and feedback about the local culture and appropriate behavior (Caligiuri & Lazarova, 2002). Both are imperative for expatriates’ survival. Expatriates who feel supported by their network members perform better (Kawai & Strange, 2014; Kraimer & Wayne, 2004; Liu & Shaffer, 2005) and generally have a more positive attitude about their assignment (Bader, 2015; Bozionelos, 2009; Podsadalowski et al., 2013).

Although the positive effects of social support have been well documented, not much research focuses on the source from which, and how, expatriates gain this support. Some articles have highlighted the role of specific individuals such as host country nationals, colleagues or spouses and the support they can provide (Copeland & Norell, 2002; Stroppa & Spieß, 2010). The accumulated empirical evidence on who can provide what type of support is, however, still rather ambiguous (e.g. Bruning, Sonpar, & Wang, 2012; Podsadalowski et al., 2013). The mixed results could possibly be caused by the classification of the network members by their social labels and the
measures used in the research. For example, not all host country nationals are equally capable of providing the support an expatriate needs (Farh, Bartol, Shapiro, & Shin, 2010). Measures like the share of host country nationals in the expatriate’s network are therefore not precise enough, since they do not address the differences in the abilities to provide effective support in the first place. As noted by van Bakel et al. (2015), another deficiency in the published research is the concentration on network members only at the work place, while it is very likely that expatriates receive support relevant to their career from ties both at the workplace and outside the workplace.

In this article, we therefore aim to ameliorate the existing research methods and contribute to our knowledge on expatriates’ supportive networks in the following manner. First, by utilizing the information seeking theory, we adopt a new classification of network members, based on their core learned characteristics, namely host country knowledge (valuable knowledge), employment status (availability) and host country origin (cost of interaction) (Borgatti & Cross, 2003), thus answering calls for a theoretically meaningful distinction (Farh et al., 2010; Johnson, Kristof-brown, Van Vianen, De pater, & Klein, 2003). Unlike previous research, we include all network members, those who work in the same organizations and those who do not. We, however, focus on ties that help the expatriates in their career, therefore focusing on work information and emotional support. Secondly, combining the information seeking theory with the theory of weak and strong ties, we open up the black box of the expatriate network and focus on the specific ties within. Although the current published research claims to analyze the flow of resources from network ties, the measures used are usually on the level of a whole network, such as network size, density and diversity, not on the level of the tie. Utilizing multilevel modelling, we were able to match the level of measurement with the level of theoretically based hypotheses (Turner, 2015).

The focus of this article is to explore the contextual factors influencing the work information and the emotional support that self-initiated expatriates gain from their network ties. Accordingly, we were able to measure the factors on the level of the expatriates and the whole network, as well as factors on the level of the tie, within the immediate network context, together with the type and amount of support it provides. By elucidating the process of gaining support, we are exploring a still under-researched area and gap in our knowledge, since most research focuses on the consequences and not the antecedents of existing networks and support. Finally, the article inspects network ties of self-initiated expatriates, individuals who leave their home country and secure employment abroad without the support of a parent organization (Andresen, Bergdolt, Margenfeld, & Dickmann, 2014). They comprise a rising share of the total expatriate population, quickly
becoming a large potential talent pool for multinational corporations (Baruch, Altman, & Tung, 2016; Vaiman, Hasberger, & Vance, 2015). The personal initiation of their international career makes them independent employees with more agency over the length of their stay (Doherty, 2013; Howe-Walsh & Schyns, 2010). Their network embeddedness is therefore crucial for retention (Tharenou & Caulfield, 2010), especially since self-initiated expatriates rely on their own abilities when it comes to developing their social ties, rather than accessing an instant network through the parent organization (Cao, Hirschi, & Deller, 2014; Jokinen, Brewster, & Suutari, 2008). All in all, the sole purpose of this article is to contribute to the existing knowledge on self-initiated expatriates, by extending the existing network theory to this international domain and by applying superior empirical methods.

THEORY AND HYPOTHESES

Information seeking theory
Expatriates employed in a foreign organization have to become re-socialized into the new context, a process very similar to domestic employees changing organizations (Bauer & Green, 1994; Lueke & Svyantek, 2000). In their conceptual article, Farh and colleagues (2010) proposed that an extension of the newcomer socialization and advice seeking theories should accommodate research on tie creation in the international context of expatriation. In line with their argument, we have utilized the information seeking theory (Borgatti & Cross, 2003) to categorize the network members according to their characteristics, hence using an established existing theory to shed light on the networks of expatriates. These learned relational characteristics should influence the connection with an expatriate. They are basic knowledge which an expatriate has gained about a potential network member from own observations or third parties. According to Borgatti and Cross (2003) the three main learned characteristics, that will influence whether a tie will be established, are: (1) the extent of useful information and experience or valuable knowledge, (2) the accessibility of the potential network member, (3) the potential cost incurred in seeking information from the potential network member. Based on these characteristics, an expatriate will make the decision whether or not to engage in social interaction with the other person and ask for help. The following theoretical elaboration is aiming to extend and adapt the information seeking theory to the expatriates’ specific situation, since the aim of the article is not contribute to the expatriate body of literature. The factors themselves are not novel, neither is their connection to frequency of socialization and social
support. The combination of these relevant factors has however never been simultaneously applied, tested and magnified in the expatriate research before.

In the context of expatriation, host country expertise is an extremely valuable knowledge (Farh et al., 2010). Awareness about the customs and norms of behavior in the host culture increases expatriates’ understanding of the new environment and therefore the level of comfort as well (Okparaa & Kabongo, 2011; Osman-Gani & Rockstuhl, 2009; Puck, Kittler, & Wright, 2008). Knowing about the generally approved positive behaviors and the least likable negative behaviors in the specific host location is very valuable to expatriate managers (Vance & Paik, 2002). It would therefore only be logical that expatriates will choose to socialize with those who have high host country expertise.

Similar as with valuable knowledge, accessibility of the potential network member is crucial in the expatriate situation. Accessibility as defined by Borgatti and Cross (2003) is the ability of an actor to get the expertise of another individual in a timely fashion. Proximity and time, the physical aspects of accessibility, and trust and obligations, the relational aspects of accessibility, have been widely acknowledged factors for information sourcing behavior (van den Hooff, Schouten, & Woudstra, 2012; Yuan, Carboni, & Ehrlich, 2010). In this perspective, employment status of the potential network member functions as a good proxy, encompassing both the physical and the relational aspects of accessibility.

Finally, cost of interaction should be an important factor for choosing a potential network member. In an international context, shared values and behavioral norms can ease the communication process between individuals (Von Glinow, Shapiro, & Brett, 2004; Voss, Albert, & Ferring, 2014). As Welch and Welch (2008, p. 347) explain, there is an opportunity cost involved in sharing knowledge, especially if it needs to cross language and cultural boundaries: “Time spent explaining or showing the knowledge content to others can be considerable... This is even more pronounced when knowledge has to be translated, thereby accentuating the time and cost involved.” Based on the recent research on expatriate identity (Fan, Cregan, Harzing, & Kohler, 2016; Mao & Shen, 2015), we argue that the mere belonging to the expatriate group will be the most salient boundary increasing cost of interaction with host country nationals (Adams & van de Vijver, 2015; Grinstein & Wathieu, 2012; Toh & Denisi, 2007).
Valuable knowledge

Valuable knowledge about the host country culture could help the expatriate navigate through new social situations. It helps the expatriate to avoid inappropriate behavior and misunderstandings, that could negatively impact his or her efficiency in the host location (Black & Mendenhall, 1990). It is therefore not surprising that knowledge-seeking and proactive information seeking behavior of the expatriate are considered positive characteristics inducing knowledge acquisition necessary to succeed on the assignment (Mahajan & Toh, 2014; Ren, Shaffer, Harrison, Fu, & Fodchuk, 2014). Host country knowledge plays such an important role in the expatriation process that companies try to provide factual information to the expatriate or facilitate interaction with repatriates and locals, for example through cross-cultural training (Littrell, Salas, Hess, Paley, & Riedel, 2006). Some research suggests that the inter-personal contact is more efficient for transfer of knowledge (Gannon & Poon, 1997; Okpara & Kabongo, 2011; Waxin & Panaccio, 2005), especially pointing out the value of interaction with host country nationals (Mahajan & Toh, 2014; Vance, Andersen, Vaiman, & Gale, 2014; Vance, Vaiman, & Andersen, 2009). Host country nationals often become the role models for expatriates, since expatriates can emulate their appropriate behavior (Caligiuri, 2000). Host country nationals are, however, not the only ones who possess valuable knowledge that could aid the expatriate. Biculturals, fellow nationals or other experienced expatriates could be a precious resource too (Okamoto & Teo, 2011, 2012; Pinto & Araújo, 2016; Takeuchi, 2010). It is therefore important to distinguish valuable knowledge as an independent factor, holding everything else constant. Although it is undeniably correlated with the origin, it is a factor that could be possessed by any potential network member, not just host country nationals (Farh et al., 2010). There is indeed some evidence that expatriates will intentionally select and socialize with individuals who are experienced and knowledgeable (Mahajan, 2010). By establishing the importance of host country expertise and detangling it from the other factors, we are allowed to hypothesize about its independent relative effect:

Hypothesis 1: Host country expertise of a network member is positively associated with frequency of socialization between the expatriate and the network member.

Accessibility

Accessibility of the network member is largely influenced by the time constraints of the individual and the relational obligations towards one another (van den Hooff et al., 2012). In this perspective,
individuals of higher status might be considered less accessible because of both time and obligations (Morrison & Vancouver, 2000). Associating with higher-status individuals is highly desirable, especially for newcomers, as it has been shown to improve their job and role learning (Morrison, 2002). However, since many try to interact with the high-status individuals, their communication flows are constrained (Tortoriello, Perrone, & McEvily, 2011). So asking for help from a person of higher status might mean longer waiting periods to access the help and possibly cause feelings of indebtedness because of their time constraints. Moreover, asking for information and help from, for example, a supervisor could lead to some undesirable perceptions of weakness and a lack of competence (van der Rijt et al., 2013). On the other hand, asking a subordinate for information and help could be equally embarrassing because of the possibility of losing face (Lee, 2002). Expatriates experience all these constraints due to accessibility that can be enhanced by different cultural perceptions of status (House, Hanges, Javidan, Dorfman, & Gupta, 2004). For example, higher power distance causes less instrumental and emotional help seeking from the employees of lower status, because they perceive the leader as inaccessible (Ji, Zhou, Li, & Yan, 2015). Increasing knowledge of influential people in the organization is indeed perceived by both self-initiated and company assigned expatriates as being desirable and an important part of increasing career capital (Jokinen et al., 2008; Mäkelä, Suutari, Brewster, Dickmann, & Tornikoski, 2016). The empirical evidence, however, shows that expatriate managers tend to socialize and exchange knowledge mainly with others of similar status and less so with others of higher or lower status (Manev & Stevenson, 2001; Mäkelä, Kalla, & Piekkari, 2007). Hence, accessibility is most likely acting as a hurdle in interaction with others of higher or lower status. Building on the existing evidence, we therefore hypothesize about career status differences, keeping other factors constant:

**Hypothesis 2:** The difference in employment status between a network member and an expatriate is negatively associated with the frequency of socialization between them.

**Cost**

According to the information seeking theory, people do not just contact others who are able to help; they also select those who seem willing to help. This often means those who are similar to the seeker, since they are less costly to approach (Farh et al., 2010). Similarity on some salient characteristics causes a perception of shared identity that in turn leads to positive views of people with shared identity and their preferential treatment (Tajfel & Turner, 1986; Turner, 1978). The
attraction paradigm (Byrne, Griffitt, & Stefaniak, 1967) predicts that strangers with similar attitudes and appearance are more likely to be attracted to each other. Numerous experimental studies have confirmed that similarity matters for interpersonal attraction and interaction. Individuals with kinship ties, same team membership, similar political views, or even music preferences are more likely to interact and help each other (Ben-Ner, McCall, Stephane, & Wang, 2009; Cadsby, Du, & Song, 2016; Grant, 1993). Dealing with similar individuals is less costly, because the interaction is more predictable. Similar others are usually sharing frames of thinking and expectations for the interaction (Murnieks, Haynie, Wiltbank, & Harting, 2011; Mäkelä & Brewster, 2009). This is especially pronounced when interacting with people of a different cultural background (Osbeck, Moghaddam, & Perreault, 1997; Von Glinow et al., 2004) and in a foreign language, which is cognitively taxing and strenuous (Hinds, Neeley, & Cramton, 2014; Volk, Köhler, & Pudelko, 2014).

It is therefore very likely that expatriates select similar others when seeking help, because they can expect a favorable response and easy interaction. Overall, it is a less costly solution to their problems. We argue that the most salient similar characteristic will actually be their own expatriate status. Some novel research indeed supports this notion describing how expatriates can profoundly change their identity to the point that they become “world citizens” able to cope and work effectively in more than one country (Kohonen, 2008; Sussman, 2001, 2011). This cosmopolitan identity might cause preference for engaging with other similar internationals who are as open-minded as the expatriates themselves (Adams & van de Vijver, 2015; Tung, 1998). The linguistic and cultural differences between expatriates of cosmopolitan identity do not matter as much. Empirical evidence shows that expatriates can even create parallel communities, interacting only with fellow expatriates who face similar problems in the host country (Langinier & Froehlicher, 2016; Toyokawa, 2006). Following the same reasoning, expatriates choose not to communicate with host country nationals because of their unpredictability, showcasing the power of shared experience and common ground or lack thereof (Rohmann, Florack, Samochowiec, & Simonett, 2014). Expatriates often feel they can really be understood only by those who have experienced a similar situation, and not by host country nationals or friends at home (Shen & Kram, 2011). Based on the reviewed literature, we therefore hypothesize about the effect of expatriate versus host country national identity:
Hypothesis 3: Dissimilarity in origin between a network member and an expatriate influences the frequency of socialization between them, so that the host country origin of the network member will have a negative association with the socialization frequency.

All in all, the outlined factors that prompt the choice to ask for information or help will influence how many times an expatriate will turn to a specific person. However, interaction in itself is not the end rather the means to the end in the information seeking process. In the following section, the model is therefore extended from frequency of interaction to the actual type and amount of support received, utilizing the theory of strong and weak ties.

Theory of strong and weak ties

The ties that are in focus in this article are event-based connections, not state-based connections (like kinship ties), so the reoccurring interaction between two individuals creates and strengthens the tie between them (Borgatti & Halgin, 2011). It is therefore not surprising that the frequency of interaction has often been used as a proxy for the strength of relationships (Marsden & Campbell, 2012). The theory of weak and strong ties connects high versus low interaction and closeness with the type of benefits one can expect from the relationship (Granovetter, 1983; Granovetter, 1973). According to this theory, strong ties that are characterized by high interaction, affection and closeness are usually providing the socio-emotional support for the individual (Krämer, Rösner, Eimler, Winter, & Neubaum, 2014), while the weak ties, that exist on the outskirts of the individual’s network, provide information that would otherwise be unavailable (Levin & Cross, 2004). We could then interpret Granovetter’s theory as simply connecting information support and emotional support with weak and strong ties that are characterized by, respectively, low and high frequency of interaction. However, in order truly to understand the causal process, it is necessary to outline the assumption of structural characteristics of the weak or strong ties. More specifically, the structural characteristics of the ties increase the probability of specializing in delivering certain types of resources (Friedkin, 1980). Strong ties are part of the highly dense structure, so close friends have overlapping networks, while weak ties are part of a less dense structure, so acquaintances do not have overlapping networks and are better equipped to deliver new information (Granovetter, 1983). The frequency of interaction is just a representation of the structural relation between the ego (in our case the expatriate) and the alter (the expatriate’s network member).
Therefore, close friends mainly deliver emotional support and acquaintances mainly deliver new work information support, simply due to their position in the network structure that is correlated with the closeness between the individuals.

**Strong and weak ties**

Wang (2002, p.330) explains the importance of frequent interaction between expatriates and their network members: “It is expected that the more frequent contact, the more social support the expatriate will obtain to facilitate psychological well-being.” Empirical evidence supported this proposition connecting frequency of interaction with well-being of expatriates across European, American and Asian cultural backgrounds (Wang & Kanungo, 2004). Similarly, Liu and Shaffer (2005) and Shimoda (2013) have confirmed that expatriates who interact with the locals through social ties are better adjusted and performing. This is because they have access to more resources. Although not directly researching expatriates, studies on multicultural and multilingual teams has also shown the importance of communication in international context in order to prevent misunderstandings leading to mistrust, ending in lack of cooperation and support within the team (Hinds et al., 2014; Tenzer, Pudelko, & Harzing, 2014). After all it is only logical that social contact is prerequisite for co-operation and transfer of knowledge and support. Some empirical studies researching interventions to expatriates’ networks, like the formal network set up for female expatriates (Shortland, 2011) and random assignment of expatriates to a local host (van Bakel, Gerritsen, & Van Oudenhoven, 2011) have both shown the importance of the mere opportunity to interact in order to access support. Frequency of contact was moreover directly connected to transfer of valuable information and knowledge (Hsu, 2012; Tsai & Ghoshal, 1998; Wang, 2015).

We therefore hypothesize in the following manner:

\[ Hypothesis \ 4a: \ The \ frequency \ of \ socialization \ between \ a \ network \ member \ and \ the \ expatriate \ is \ positively \ related \ to \ the \ emotional \ support \ and \ the \ work \ information \ support \ that \ the \ expatriate \ receives. \]

Distinguishing between weak and strong ties, previous research has shown that strong ties are connected with higher frequency of interaction (Jones et al., 2013; Sutcliffe, Dunbar, Binder, & Arrow, 2012). Expatriates too create diverse networks of strong and weak ties associated with different interaction patterns spanning across organizational and geographical boundaries (Makela
Empirical results have also revealed the differential function of the ties, specifically, strong ties offer socio-emotional support, while the weak ties can offer non-redundant information that could be instrumental for career progression (Brass, Galaskiewicz, Greve, & Tsai, 2004; Brown & Konrad, 2001). Expatriates are no different in distinct utilization of their strong and weak ties (Chiu, Wu, Zhuang, & Hsu, 2009; Johnson et al., 2003). As Adelman (1988) clearly pointed out, expatriates tend to rely on emotional support, such as feeling of acceptance and affirmation, from their close ties, meanwhile relying on information support from their weak ties. Interaction is necessary to gain support, but not all support will be equally connected by the frequency of interaction (McGuire & Bielby, 2016):

_Hypothesis 4b: The positive connection between the frequency of socialization and the emotional support is higher than between the frequency of socialization and the work information support._

Many studies on expatriates’ networks have tried to connect certain network members with the support they provide. Some suggests that emotional support from host country nationals is possible and very important for the expatriate (Podsiadlowski et al., 2013; van Bakel et al., 2015), others propose that host country nationals are better suited for instrumental support (Bruning et al., 2012). There is also evidence that the emotional support of spouses can be accommodating during the assignment as well (Lauring & Selmer, 2010). Yet others highlight the role of different network members such as supervisors, colleagues and friends (Caligiuri & Lazarova, 2002; Stroppa & Spieß, 2010). Although these articles use different classifications of network members, the majority points to the frequency of interaction for the explanation of why certain individuals provide or withhold their support (Caligiuri, 2000). For example, a stereotypical perception of expatriates as outgroup has been connected to the reduced contact and reduced support from host country nationals (Bonache, Langinier, & Zárraga-Oberty, 2016). Similar experiences and frames of reference have been used as an explanation for increased contact and strong ties with other expatriates (Langinier & Froehlicher, 2016), team members (Mäkelä & Brewster, 2009) or colleagues of equal status and cultural background (Manev & Stevenson, 2001).

The links drawn in the literature connect the different network members to support through the frequency of socialization as an underlying mediation process. We suggest that the mixed results so far might be caused by the labels that have been used for the network members. For
example, a colleague could at the same time be another expatriate who has equal status and high host country expertise. If this colleague is providing high emotional support, it is impossible to know which specific characteristics are causing this, if we do not account for them. These separate characteristics might, moreover, have different effects in terms of their magnitude too (Siciliano, 2015), further obfuscating the matter. Utilizing the theoretically meaningful typology of learned characteristics, we can separate the characteristics of network members and detect how they influence the frequency of interaction. We therefore suggest:

*Hypothesis 5: The effects of the learned characteristics (host country expertise, career status and host country origin) on work and emotional support received are mediated by the frequency of socialization.*

By connecting the information seeking theory and the theory of weak and strong ties, we have developed a model explaining how learned characteristics of the network members influence the support expatriates gain from the tie. As a result, we hypothesize that expatriates will socialize more frequently with individuals who possess high host country knowledge, but are also highly accessible in terms of equal status. Moreover, the interaction with them should require minimal costs, which means that expatriates will favor individuals, who are similar. These characteristics will result in a high frequency of interaction that is essential for gaining support. Interaction, could be a proxy for a strength of a tie, and is therefore more important for gaining emotional than work information support. Thus the learned characteristics will influence the level of emotional support more than the work information support. All the hypothesized relations can be seen in the conceptual model depicted in Figure 1. As a result, the core conjecture of this article is the notion that an expatriate will receive emotional and work information support from network members with different profiles. These profiles are not binary; rather they include a spectrum of important personal characteristics.
Figure 1 - Theoretical model

- Valuable knowledge
  - Host country expertise

- Access
  - Status level (higher/lower)

- Cost
  - Alter’s origin (HCN/expatriate)

H1: Valuable knowledge -> Host country expertise
H2: Access -> Status level
H3: Cost -> Alter’s origin

H5: H1-H3 mediated

H4a/b: Frequency of socialization -> Emotional support
Frequency of socialization -> Work support

Figure 2 - Empirical model

- Valuable knowledge
  - Host country expertise

- Access
  - Status level higher
  - Status level lower

- Cost
  - Alter’s origin (HCN/expatriate)

Frequency of socialization

Frequency of socialization -> Emotional support
Frequency of socialization -> Work support

-0.480*
-1.056***
-0.211**
-0.633*

Emotional support
Work support
METHODS

Sample and data collection procedure

This study was targeting self-initiated expatriates who were at the time of data collection (May, 2014 to September, 2015) employed in an organization located in Denmark. The contact lists for respondents were obtained from alumni offices in three major Danish universities, namely Aarhus University (1100 contacts), Copenhagen Business School (905 contacts) and University of Copenhagen (1789 contacts). To cooperate with alumni offices was a convenient form of contacting former international students who completed their education in Denmark. Assuming that a share of these alumni decided to look for employment in the host country, thus becoming a specific type of self-initiated expatriates, the online survey was sent to 3794 individuals in total. From the contacted, 769 individuals responded to the invitation (20%). Many of the initial 20% did not complete the whole survey or did not fall into our focus group. Only individuals who had been born in a different country than the host location and were employed on an unlimited or fixed-time contract in an organization were part of the focus group. Entrepreneurs, free-lancers, unemployed and students were all excluded leaving 237 individuals who answered the whole survey and belonged to the focus group. Finally, only 165 individuals out of the 237 rated at least one member of their network and did not have any missing values on the measures that were included in this study. Therefore, the final sample includes 165 self-initiated expatriates who in all rated 575 members of their individual network. This large reduction in the sample might have been caused by many students leaving the country after their education and not searching for a job in Denmark. Existing studies on internationals students in Denmark report, that only 39% of them stay three years after graduation. The 165 expatriates were allowed to name and rate up to five network members. They have rated on average 3 members (min 1 and max 5). The final sample consists of 62% women and 38% men who are on average 33 years old and come from mostly other European countries. This sample represents quite well the overall population of international students in Denmark, since most of them are women (76% in 2015)\(^1\). Moreover most of international students in Denmark originate in other European countries (Damvad, 2012). Out of the named 575 network members approximately half (55%) were Danish host country nationals. All in all, the loss of the sample size is substantial, but could be attributed to the inconsistencies in the initial mailing list.

\(^1\) This calculation is based on all the international students in Denmark that are registered by Statistics Denmark as “Exchange students by sex, exchange, length of residence, education and area.” In 2015, there were 890 men and 1176 women registered. Similar gender distribution was observed in the past years as well. Statistics were access on the 28th of August, 2016: http://www.statbank.dk/statbank5a/default.asp?w=1366.
(inactive/inaccurate emails) and to the demanding nature of the network survey, asking a set of question about each network member, thus increasing the number of question substantially (Burt, 1984).

**Measures**

The measures employed in this study have been adapted from the social capital measurement undertakings of the Saguaro Seminar at Harvard Kennedy School and the publicly available sample surveys of David Krackhardt (Krackhardt, 2006). First, a network sizing question asked the respondents to “estimate the number of people (living in Denmark) who have helped you or somehow supported you in your career in this country in the past two years.” Similarly to Cao, Hirschi and Deller (2014), we have asked the respondents to focus on a limited time period and context and have made response categories distinguishing between fellow home country nationals, host country nationals and third country nationals. The total network size was then estimated by summing the three categories together. Next, a name generating question was applied; asking the respondent (ego) to select up to five network members (alters). The subsequent survey questions have solicited more information about each alter and the relationship towards ego. There were no special requirements for selecting these five alters (Liu & Shaffer, 2005). Previous research has shown that respondents are prone to recall and select alters who have a strong relationship and social proximity to the ego (Marin, 2004). This means that the name generating questions are unreliable for estimating the total size of the network and we have therefore chosen to put a network sizing question to estimate the size (Marsden, 2003). The questions that have been used after the name generator were meant to provide more information about the quality of the relationship with each alter. The ego’s tendency to select alters with long-lasting relationship was beneficial to this cause, because people provide more accurate information about the long-lasting relationships rather than recalls of sporadic, short-term interactions (Seibert, Kraimer, & Liden, 2001). The measures are therefore based on very specific single-item socio-metric questions, typical for egocentric networks (Vehovar, Lozar Manfreda, Koren, & Hlebec, 2008).

**Work and emotional support** - The respondents were asked to rate each alter on a 7-point Likert scale in terms of the extent of “emotional” and “work information support” they receive from this specific individual. The responses varied between (1)=“Not at all” and (7)=“To a great extent.”
Frequency of socialization- Similarly to the work and emotional support, the respondents were asked to rate how frequently they socialize with the specific individual. On a 7-point Likert scale they could choose between responses (1)=“Not at all” and (7)=“To a great extent.”

Host country expertise- In order to measure the alters’ valuable host country expertise, the respondents could evaluate the alters’ degree of knowledge in regard to the (Danish) host culture and behavior on a 7-point Likert scale with the following anchors (1)=“Not at all” and (7)=“Equally to a Danish citizen.” Alters who were host country nationals were automatically assigned the highest rank.

Alter’s status- In order to capture the relative status of an alter, the respondents were asked to classify their alters to four categories of employment status, comparing them to their own status. The four categories- (1)=“Higher” (2)=“Same” (3)=“Lower” (4)=“Unemployed” were then recoded to two binary variables. The binary variable “higher status” takes on the value 1 only if the alter was originally classified into “Higher” category, otherwise it remains 0. The binary variable “lower status” takes on the value 1 only if the alter was originally classified into the “Lower” or “Unemployed” category, otherwise it remains 0. Equal employment status then becomes a base level against which the higher and lower statuses are compared. The dummy variable approach was chosen since it does not make any assumptions about symmetrical differences in status. In other words, the difference between higher and lower employment status does not have a specific meaningful value that would put a person with higher status one or two units above/below the other. The status variable is capturing the relative difference as perceived by the ego.

Alter’s origin- The respondents were asked to report the country of origin for each alter they have rated. Based on this information, a binary variable was created, signifying the alter’s identity as either (0)=“Expatriate” or (1)=“Host country national.”

Control variables- Since the factors influencing the potential interaction between the ego and the alter are the focal point of the analysis, we have also controlled for proximity, by asking whether the alter works in the same organization (yes-1/no-0) (Borgatti & Cross, 2003). On the ego-level, we have controlled for potentially relevant demographics such as gender and age of the self-initiated expatriate (Selmer & Lauring, 2011; Selmer, Lauring, & Feng, 2009). Moreover the total network size, as estimated by the network sizing question, was added as well (Liu & Shaffer, 2005).
Table 1: Descriptive statistics and correlations within the sample

<table>
<thead>
<tr>
<th>Variables- within</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>1. frequency of socialization</td>
<td>4.304</td>
<td>2.107</td>
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Notes: For between level- N=165 and for within level- N=575; estimator MLR, the between correlations of variables 1.-8. are estimated based on their mean value on the within level, significance is annotated as: ***p<0.001 ** p<0.01  * p<0.05
Analytical strategy and procedure

All the variables that are part of the conceptual model vary in reality on two levels, due to the natural clustering in the data. For example, each ego, that is the self-initiated expatriate, receives a different amount of support from the specific alters within his or her ego-centered network. The self-initiated expatriates in the sample, however, also vary between each other on how much emotional support they receive from their total ego-centered network. The alters are, therefore, nested under the egos and the egos’ characteristics, such as demographics, that can vary only between egos by definition. In order to test the hypotheses, we want to explain the within variation in the data, scrutinizing the inside of the network. The hypotheses postulate which factors should be connected with socialization between an ego and his or her alter and therefore should be mediated to the support associated with the relationship. In this way, they describe how the expatriate’s context, namely the immediate network, gives rise to the social support. The immediate context is then studied on the within level, as it comprises the set of relationships within the network. Although we hypothesize only about the relationships within the network, we cannot ignore the hierarchical structure of the data, because the observations on the within level are not independent of each other, as is often the case when studying the effects of context.

We therefore estimate the hypothesized model through the multilevel structural equation modelling in the Mplus statistical software (Muthen & Muthen, 1998-2012). Multilevel models estimate random intercepts for every single cluster, taking account of the inherent bias in nested data (Rabe-Hesketh & Skrondal, 2012). They are typically used to study the effects of context, for example team or classroom climate. Moreover, a multilevel model will allow for a different set of predictors explaining variation between the expatriates, between their immediate contexts, and within their networks, within their immediate contexts, at the same time. Following the bottom-up strategy, we have started the analysis with a “null” or “empty” model, then added predictors on the within level of analysis, finishing with the predictors on the between level (Hayes, 2006).

As Preacher et al (2010) explain, the traditional multilevel models are prone to conflation of the between and within effects, which can result in over-estimation or under-estimation of the indirect effect of the mediation. Applying this knowledge to a specific mediation from the introduced conceptual model would have the following repercussions. In the mediation between the alters’ cultural knowledge and work information support, each effect is defined on the within level: the effect a- higher cultural knowledge of the alter positively influences socialization, the effect b- socialization between the ego and the alter positively influences work information support, the
effect c- cultural knowledge of the alter directly effects work information support, the indirect effect- combination of effect a and effect b. One should, however, not forget that there is the possibility of an effect occurring on the between level at the same time, because each variable necessarily varies on the between level as well (Hox, 2010). An ego embedded in a network, made of alters with higher cultural knowledge, could for example have access to more cultural events in the host country and therefore socialize more frequently- effect a on the between level. Similarly, having a network with high cultural knowledge might have a direct effect on work information support- effect c on the between level. The direct effect is not between individuals, rather it is the effect of “associating with the right group” that has, for example, access to information relevant for getting a better position in an organization resulting in higher work information support.

It becomes problematic, when multilevel models ignore the possible between effects (Kenny, Korchmaros, & Bolger, 2003). This issue has been acknowledged, and previously addressed through “unconflated” approaches, that center variables and calculate the between effects based on means of the within effects (Zhang, Zyphur, & Preacher, 2009). However, even this approach can yield somewhat biased results, especially if the cluster sizes are small and the intraclass correlation is low (Preacher, Zhang, & Zyphur, 2011). Preacher et al. (2010) therefore suggest a multilevel structural equation framework for assessing multilevel mediation that can overcome limitations of the classical models. We have therefore specified the hypothesized mediated effects, not only on the within level, but also on the between level (see appendix).

RESULTS

The descriptive statistics and correlations on both levels of analysis can be viewed in Table 1. The table reveals that the relationship between the same variables can be different within and between the ego-centered networks. For example, the correlation between the work and the emotional support amounts to 0.183 on the within and 0.263 on the between level. Due to the lower correlation on the within level, we could conclude that if an expatriate receives emotional support from a specific alter, it is not necessarily correlated with the level of work information support from that specific alter. On the other hand, due to a higher between level correlation we could conclude that if an expatriate receives much emotional support overall, he/she is likely to receive more work information support as well. It would therefore be incorrect to assume that their effects are equal or to ignore the between variation altogether. The interclass correlation for the work information and the emotional support is 0.342 and 0.294 respectively. This means that 34% of the variation in the
work information support and 29% of the variation in the emotional support occur on the between level of the analysis (between self-initiated expatriates). A large proportion of this variation has been explained after fitting the theoretical model as can be seen in Table 2. When comparing Model 1 and Model 2, there is clearly a difference between the results of the conflated multilevel approach (Model 1) and the unconfated multilevel structural equation approach (Model 2). The conflated approach overestimated the within-network effects and their significance. This is also visible from the R squared, suggesting that Model 1 explains 20% of the variation in the frequency of socialization, 36% variance in the work information support and 66% variance in the emotional support on the within level of analysis. After adding the same variables on the between level of analysis, in Model 2, the explained variance within decreases to 16% for the frequency of socialization, 26% for the work information support and 58% for the emotional support. The between effects of the predictors have been conflated with the within effects in Model 1, leading to the biased results. Hence we choose Model 2 to interpret the results.

When examining the separate hypotheses in Model 2, only the access and cost variables have significant effects on the frequency of socialization. Surprisingly, host country expertise, proxy for valuable know-how, does not impact socialization, yielding no support for the first hypothesis. The second hypothesis is partially supported by the results, since only a higher career status of an alter is connected with lower contact between the ego and the alter. Finally, the interpersonal distance, captured by the origin of the alter, proved to be a significant predictor of the frequency of socialization, supporting the third hypothesis. If the alter is a host country national, the frequency of socialization is lowered by 0.633 on the 7-point Likert scale. Continuing with the direct effect, both hypothesis 4a and hypothesis 4b were substantiated by the empirical evidence. The frequency of socialization between the ego and the alter is positively associated with both the emotional and work information support which the ego receives from that particular relationship. Even though both direct coefficients are significant and positive, the connection to the emotional support (0.758; standardized 0.753) is higher than the connection to the work information support (0.151; standardized 0.158). This in turn means that the expected mediated effects will affect the emotional relationship to a greater extent. Indeed, there are two strong indirect effects of the alter’s higher career status and the alter’s host country origin that negatively impact the emotional support. These two effects are fully mediated by the frequency of socialization. On the other hand, only higher career status has a negative indirect impact on the work information support, leaving hypothesis 5 partially supported. The lower career status has been hypothesized to have a positive
effect on the emotional and work information support that should be mediated through the frequency of socialization. Although there is a lack of evidence for the indirect effect of lower status, there is a significant negative connection between lower status and the work information support, adding an interesting link into the final empirical model depicted in Figure 2.

Finally, although the hypotheses were focused only on the within level of the analysis, the representation of the predictors on the between level has been justified. Interesting is especially the effect of the host country expertise. In Model 2, the host country expertise of an alter turned out to be insignificant for the level of socialization or any support received from that particular alter. However, on the between level of analysis, the overall cultural knowledge stemming from all rated relationships is associated with a higher work information support which the ego receives in total. This relationship holds even after adding final control variables, gender, age and total network size of the ego- Model 3. The final model explained 50% of the variance in frequency of socialization, 49% in work information support and 68% in emotional support on the between level of analysis.
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Notes: For between level- N=165 and for within level- N=575; estimator MLR, all coefficients are fixed effects, significance annotated as:

***p<0.001 ** p<0.01  * p<0.05
DISCUSSION

The goal of this study was to explore the contextual factors from an immediate network which influences the work information and the emotional support that self-initiated expatriates gain. More specifically, we were aiming to investigate the process of gaining this support. Building on the established theories, information seeking theory (Borgatti & Cross, 2003) and the theory of weak and strong ties (Granovetter, 1973), we have created a model connecting the network members with the amount and the type of support they provide. Although the theories have been tested and supported in other contexts, they have not yet been extended and tested in the international context of expatriation. Answering the call for a theoretically meaningful classification in this specific field (Farh et al., 2010), the different network members were distinguished according to their learned characteristics, namely level of valuable knowledge, accessibility and cost of interaction. We have thus contributed to our existing knowledge on expatriate’s networks and the support their generate.

The findings of this article revealed the complexities of the studied micro-process of creating network ties. First of all, the fact that the learned characteristics had a different effect on the frequency of interaction confirmed the need for proper classification of network members. The published research that labelled network members as host country nationals, expatriates, spouses, supervisors or friends (e.g. Caligiuri & Lazarova, 2002; Liu & Shaffer, 2005; Stroppa & Spieß, 2010) has muddled the effects of their characteristics, causing plurality of conclusions about their ability to provide a certain type of support. For example, 65% of Danish alters in the presented sample were of higher status than the ego. That means there is a very high overlap between host country origin and status. In a study that would categorize network members in the usual binary manner- to host country nationals and other expatriates, the effect of accessibility (status) and cost of interaction (host country origin) would be conflated together. This would be unfortunate, especially because higher status has a more negative effect on interaction than being of host country origin. We could therefore incorrectly conclude that the host country status would have a larger negative effect on interaction than it actually has.

The specific effects of the learned characteristics are somewhat surprising. The host country knowledge did not prove to be significant for frequency of interaction with a network member. It could be questioned whether the host country know-how can be recognized and acknowledged from observations or third party information. In other words, it might be possible that host country expertise is not easily spotted by an expatriate and therefore cannot be defined as a learned characteristic. Moreover, it seems that many network ties are not based on clear rational choice.
Some network ties might also be coincidental (Jack, 2010). Purposefully interacting with individuals possessing valuable knowledge in comparison to accessibility and cost of interaction requires the most proactive and rational decision-making on the part of expatriates. Choosing the most accessible and least costly interaction could be equated to choosing the path of least resistance. This confirms the results of previous research that have also noted that expatriates are not always strategic about their networking (Shen & Kram, 2011; van Bakel, Gerritsen, & van Oudenhoven, 2016). The results have shown a positive correlation between host country expertise in the ego-centered network overall and the total level of work information support which expatriates receive. So while it does not seem that the expatriates are strategic about their interaction with knowledgeable individuals, belonging to the “right crowd” and having them in the immediate network do have an effect on the work information support. Some evidence shows that individuals utilize their ties to access the alters’ networks (Grenier & Xue, 2011). Expatriates do not need to ask for help and interact with knowledgeable others, but they might hear about better job positions and other relevant information from these individuals if they have them in their networks.

The effect that higher status decreases interaction and thus the work and emotional support was as could be expected due to the effect of low accessibility. In line with previous findings (Manev & Stevenson, 2001), we also found that expatriates mostly interact with others of similar status. The magnitude of the negative high status effect is showing that this is perhaps the largest problem of self-initiated expatriates. Much like any newcomer, the expatriates do not have an established network that would help them to get in touch with individuals with higher employment status. Moreover, while accessibility does not seem to be a problem when interacting with individuals of lower status, the direct negative link between lower status and work information support hints to the inability of these individuals to provide work information support.

The effect of host country origin is supporting the existing research, suggesting that expatriates do interact more with similar others rather than host country nationals. As a result, host country nationals also provide less emotional support. This effect is, however, not strong enough to impact the work information support that depends less on the frequency of socialization. In line with some previous research (Bruning et al., 2012; Johnson et al., 2003) our findings support the notion that host country nationals are better at providing instrumental support.
Limitations and future research

Although the analysis presented went far in trying to prevent bias due to the natural clustering of the data, the results are still based on a cross-sectional sample. The hypotheses, giving direction to the relations in the conceptual model, were theoretically driven. Cross and Borgatti (2000) have based the temporal ordering of the variables on qualitative data, finding that individuals act on their perceptions and choose to interact based on the learned characteristics. There is also some existing empirical evidence on newcomer socialization that has shown that the newcomers’ initial socialization initiatives were indeed reflected in the support they have received in a consecutive order over time (Kammeyer-Mueller, Wanberg, Rubenstein, & Song, 2013). Nevertheless, it is not possible to claim causality in our empirical results; only longitudinal research could confirm the direction of the hypothesized relations. There is also the possibility of feedback loops between support and frequency of socialization. In other words, expatriates are likely to socialize frequently with network members who have been supportive in the past. It is therefore necessary to stress again, that the model tested in this article assumes the temporal ordering and cannot confirm it. The cross-sectional study is however arguably appropriate at this stage of research in the expatriation field. The study is one of the first to test a new classification of the network members and the relevant factors that influence the process of gaining social support from them. To a large extent our findings support the information seeking theory, but there is also evidence that the classification could be further modified. For example, in order to fine-tune the learned characteristics it would be appropriate to add valuable work-related knowledge, beside the valuable host country expertise.

The conceptual model could be more comprehensive and include more ego and alter characteristics and situational factors that might have bearing on the tie-creation process. There are some suggestions in the existing literature such as the expatriates’ motivation, expected benefits from the relationship and similarities with the alter, (van Bakel et al., 2015), stable personal traits (Jannesari, Wang, Brown, & McCall, 2016), cultural empathy, cultural intelligence and cultural distance between the ego and the alter (Farh et al., 2010). The process model could also include expatriate outcome variables, connecting the emotional and work information support with career advancement and performance. From the methodological perspective, it would be possible to use multi-item scales to capture the different variables, such as the amount of emotional and work information support received. However, one-item questions are common in ego-centered network research. Every single attribute of the relationship that is included in the survey has to be repeated for each alter, which would in our case multiply each question five times. The extreme length of the
survey would cause a different set of problems, such as nonresponse (Deutskens, Ruyter, Wetzels, & Oosterveld, 2004; Vicente & Reis, 2010). We have therefore decided to focus on testing the factors suggested by the information seeking theory only and utilizing measures typical for egocentric social support network studies (Hlebec & Kogovšek, 2013).

Despite of the outlined limitations of this article, we believe it is providing a starting point for further theorizing on the process of network creation in the expatriate field. In addition, it has attempted to shift attention to the antecedents of expatriates’ networks, rather than its consequences. We have found some interesting differences in effects of the same variable on different levels of analysis. Meanwhile higher host country knowledge of a specific network member was insignificant; having many knowledgeable individuals in immediate network was significant for work information support. Future research could try to find answers for why this occurs. It might be that expatriates with more knowledgeable immediate network also work in specific organizations that gave them access to such network (skilled mentors). Another possible explanation might be that they use this knowledgeable network to gain access to other individuals. This is only a post-hoc speculation about the possible reason for the between level effect. Since it was not the focus of the article, we do not have any data to confirm these speculations. More research is also necessary to investigate the micro-process that gives rise to the network ties and social support of expatriates. The model we have introduced can only benefit from more empirical testing on multilevel, but also multisource, data taking into account both the expatriate and the network member. Our current knowledge is based on the perception of the expatriate. Perception of the network members is equally important to extend our understanding of the complex interpersonal relations which expatriates create in the host location. Finally, it is also appropriate to discuss the particularities of the presented sample. The self-initiated expatriates in our sample were initially students in the host country; therefore they might have had the chance to develop some of their relations with the host country nationals before they have started their employment. They are quite young and many of them are females, which is atypical for expatriate samples, but in line with the published literature on the rising number of females interested in self-initiated expatriation (Vance & McNulty, 2014). They are not embedded just in their networks; they are also embedded in the larger context of the host country, Denmark. The particularities of the location could also have influenced our results. Denmark is a country that has a vivid expatriate community offering opportunities for socialization. Future research could therefore explore the boundary conditions of the proposed conceptual model.
It is possible that other types of expatriates in countries without established cosmopolitan communities create ties in a different manner.

**Theoretical and practical implications**

The hypothesized model of this study was concentrating on the individual and his or her ties and on the micro-process of gaining support. It is one of the first expatriate studies focusing on the immediate network context that gives rise to the overall level of support that has previously been addressed in published research. Despite of this focus, the empirical results have pointed to the importance of both within network and between network level variables. Further multilevel theoretical development is necessary to tie together the factors influencing the social support of expatriates on both levels, reflecting the complex multilevel reality. The classification of network members presented in this article, namely the learned characteristics, was an important step forward in our theorizing about expatriates’ socialization. The classification could, however, be extended to suit the international context even better, as discussed in the limitation section.

A further contribution of our study is that we tested hypothesized relations on the level of their occurrence (Turner, 2015). Meanwhile it is a common practice in existing network research to distinguish between the effects on the level of ties and on the level of whole networks, expatriate research has been lacking in this perspective. Much of the published research studying expatriates’ networks acknowledges their multilevel nature. However, the measures used are predominantly captured on the macro-level of the whole network (e.g. network diversity), even though the results are explained relying on a micro-process of resource transfer through network ties (Osman-Gani & Rockstuhl, 2008). For example the representation of host country nationals is measured on the network level and then connected to the adjustment, performance or well-being of the expatriate (Wang & Kanungo, 2004). However, not all host country nationals might have the equal capability to offer support. Moreover, as shown in this article, other important characteristics could be bundled together under the host country national status. The overall number of host country nationals is therefore not a precise measure of the specific support they are offering. The presented analysis has corrected the measurement-theory mismatch, therefore filling a gap in our current knowledge. We would encourage future research on expatriate networks to follow this practice.

Our study also has practical implications as it shows the importance of interaction. Expatriates might be apprehensive about approaching individuals who seem inaccessible and dissimilar. Anxiety caused by anticipated interaction with somebody of dissimilar cultural
background and different language skills has been noted in previous research (Neeley, 2013; van Bakel et al., 2015). Expatriates might, as a result of this apprehension, avoid dissimilar individuals who could be quite beneficial for their integration. Specifically designed interventions could help expatriates to overcome these barriers and start communication with host country nationals and others of different employment status than their own. Mentoring programs and official networks created for expatriates could facilitate the initial interaction. It is important that expatriates have correct information about the potential network members. Their observations do not always have to provide a correct evaluation of the learned characteristics. These interventions could supply expatriates with accurate profiles of their colleagues for example. The tie-creation process can hardly be controlled. Knowing how expatriates make their decisions in regard to networking is, however, essential for human resource practitioners, who could assist expatriates in the initial phases of their integration in the host country.

**CONCLUSION**

In this article, we have explored the immediate network context of self-initiated expatriates. Combining the established theories, information seeking theory and the theory of strong and weak ties, we have created and hypothesized about a mediation model that connects the learned characteristics of expatriates’ network members with the type and level of support they provide. Although the theories might have been tested in different context, the major contribution of our article is extending and adapting them to the international context of expatriation. In this way, we have inspected how the selection of ties gives rise to the network context that in turn influences the emotional and work information support of the expatriate. Our results have shown that accessibility (status differences) and cost of interaction (host country origin) are significant learned characteristics; while the valuable knowledge (host country expertise) does not seem to be relevant for interaction and hence support. All in all, the composition of the immediate network clearly influences the support of the expatriate as expatriates embedded in different networks receive different amounts of work information and emotional support.
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