

**KNOWLEDGE TRANSFER IN MULTINATIONALS: THE ROLE OF INPATRIATES'  
BOUNDARY SPANNING**

**B. Sebastian Reiche**

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B. Sebastian Reiche, PhD  
Assistant Professor  
IESE Business School  
Department of Managing People in Organizations  
Ave. Pearson, 21  
Barcelona 08034, Spain  
Tel: +34 93 602 4491  
Fax: +34 93 253 4343  
E-mail: [sreiche@iese.edu](mailto:sreiche@iese.edu)

# **KNOWLEDGE TRANSFER IN MULTINATIONALS: THE ROLE OF INPATRIATES' BOUNDARY SPANNING**

## **Abstract**

Viewing knowledge as rooted in individuals, this study investigates knowledge transfer in multinational corporations (MNCs) from an individual-level perspective. Specifically, I focus on inpatriates as a particular group of knowledge actors in MNCs and examine the role of inpatriates' boundary spanning between their home unit and the headquarters for their knowledge transfer to headquarters staff. Based on a sample of 269 inpatriates in ten German MNCs, I find that inpatriates' boundary spanning is positively related to inpatriates' individual efforts for transferring and perceived HQ staff efforts for acquiring subsidiary-specific knowledge, and that both perceived HQ absorptive capacity and mentoring by HQ staff moderate these relationships.

*Keywords:* inpatriates; MNC knowledge flows; boundary spanning; absorptive capacity; mentoring

## INTRODUCTION

International assignees have long been regarded as facilitators of cross-unit knowledge flows in multinational corporations (MNCs) (Hocking, Brown, & Harzing, 2007; Lazarova & Tarique, 2005; Wang, Tong, Chen, & Kim, 2009). Key to this argument is the notion that assignees are able to adapt culturally and institutionally instilled knowledge from one context to the other (Argote & Ingram, 2000). Whereas most scholars have applied an ethnocentric perspective, focusing on the transfer of staff and thus knowledge from the corporate headquarters (HQ) to the MNC periphery (Kamoche, 1997), more recent research has highlighted the role of subsidiary staff in providing knowledge benefits for the wider MNC. Specifically, employees that are transferred from a MNC's foreign subsidiaries to the HQ for a limited period of time, which I define as inpatriates, may serve as a crucial mechanism to diffuse local contextual knowledge from MNC subsidiaries into the HQ (Harvey, Novicevic, & Speier, 2000; Reiche, 2006).

In addition to their role as knowledge transmitters, international assignees in general and inpatriates in particular also serve as boundary spanners that link previously unconnected individuals at different MNC units (Burt, 1992; Kostova & Roth, 2003; Reiche, Harzing, & Kraimer, 2009). Specifically, I define inpatriates' boundary spanning as their brokerage between the social ties they have established at the HQ, and the social ties they maintain at their home unit. These cross-unit ties offer an opportunity to be subsequently leveraged by individuals from both MNC units for further cross-unit exchanges (Adler & Kwon, 2002). I argue that inpatriates' roles as knowledge transmitters and boundary spanners are related. Specifically, inpatriates will need to provide HQ staff with context-specific knowledge about the subsidiary environment to ensure that HQ employees can benefit from future exchanges with subsidiary staff resulting from inpatriates' boundary spanning.

At the same time, knowledge transfer is not automatic but also depends on specific catalysts (Szulanski, 2000). One line of inquiry has examined the transferability of knowledge in terms of the recipient's ability to utilize the acquired knowledge, commonly referred to as absorptive capacity (Cohen & Levinthal, 1990). In this vein, scholars highlight the limitations of ignoring a firm's individual members in conceptualizations of absorptive capacity (Lane, Koka, & Pathak, 2006; Mahnke, Pedersen, & Verzin, 2005). I contend that individual perceptions of absorptive capacity may influence individual knowledge transfer activities. For example, if inpatriates consider the HQ to have less absorptive capacity, inpatriates will less likely diffuse their subsidiary knowledge to HQ staff as a result of their boundary spanning. Further, whether knowledge transfer occurs not only depends on the recipient's *ability* to acquire the knowledge but also on whether actors are *willing* to initiate the transfer. Research has identified important motivational issues for those individuals that are in the position to contribute to knowledge flows in MNCs (Gupta & Govindarajan, 2000; Minbaeva, Pedersen, Björkman, Fey, & Park, 2003). I argue that mentoring provided to inpatriates at the HQ may serve as a signal of inpatriates' value for the organization, thus further encouraging both parties to engage in knowledge transfer upon inpatriates' boundary spanning.

Building on these ideas, the present study aims at investigating some of the determinants that facilitate knowledge transfer from inpatriates to HQ staff. In doing so, it makes three contributions to the literature. First, I expand the international assignment perspective by explicitly concentrating on inpatriates. While previous research has examined the expatriation of parent-country nationals to foreign subsidiaries (see Bonache, Brewster, & Suutari, 2001) and the resulting knowledge outcomes (e.g., Hocking et al., 2007; Riusala & Suutari, 2004), little is known about how individuals from other countries-of-origin deal with transitions into the HQ and how this affects their ability to transfer knowledge. Second, my focus on the individual assignee

and the role of the underlying social processes addresses the call for developing the micro-level foundations of knowledge flows in MNCs (Felin & Hesterly, 2007; Foss, 2006) and examines *how* and *why* international assignees in general and inpatriates in particular diffuse knowledge across MNC units. While recent research has begun to explore the role of assignees' social ties for cross-unit knowledge transfer (Mäkelä & Brewster, 2009; Reiche et al., 2009), our theoretical and empirical understanding of the processes underlying such knowledge flows is still limited.

Third, I incorporate additional theoretical mechanisms to provide a more refined analysis of MNC knowledge flows at the individual level. Specifically, I consider the moderating roles of perceived HQ absorptive capacity and mentoring by HQ staff, thereby specifying the boundary conditions of *when* the use of such cross-unit agents entails knowledge benefits for the MNC. While recent research has advanced our understanding of absorptive capacity in facilitating MNC knowledge flows (Mahnke et al., 2005; Minbaeva et al., 2003), studies applying the concept to the context of international assignments are scarce. Similarly, researchers have begun to link the provision of mentoring not only to favorable adjustment outcomes for the individual assignee but also to longer-term benefits for the organization (Carragher, Sullivan, & Crocitto, 2008; Mezas & Scandura, 2005). This study provides a first empirical test of how inpatriates' perceptions of absorptive capacity at the HQ and mentoring by HQ staff may affect the extent of MNC knowledge benefits resulting from inpatriates' boundary spanning.

## **THEORY AND HYPOTHESES**

### **The Role of Inpatriate Assignments in MNCs**

Over the past decade, there has been an increased scholarly interest in the inpatriation of subsidiary staff into the HQ of MNCs (Collings, McDonnell, Gunnigle, & Lavelle, 2010; Harvey, Novicevic, Buckley, & Fung, 2005; Reiche, 2006; Tharenou & Harvey, 2006; Van der Heijden,

van Engen, & Paauwe, 2009), reflecting a growth in the overall inpatriate population. This growth can be explained by MNCs' greater focus on business opportunities in less developed countries such as Central and Eastern Europe (Peterson, 2003), where MNCs lack detailed local knowledge. By transferring subsidiary staff to the HQ the MNC can better access this expertise. In addition, by socializing inpatriates into the HQ corporate culture the MNC establishes social control mechanisms across the MNC network (Harvey, Novicevic, & Speier, 1999).

Different conceptualizations of inpatriation exist in the literature concerning its time frame and specific purposes. Harvey and colleagues, who have contributed the most to our understanding of inpatriate issues, view these assignments as semi-permanent to permanent relocations with the aim of building a global management team at the HQ that is capable of developing a pluralistic management philosophy (Harvey et al., 1999; Harvey et al., 2005). In comparison, the large majority of published empirical studies conceptualizes and investigates inpatriation as an assignment of limited time frame (Peterson, 2003; Reiche, 2006; Shaffer, Harrison, & Gilley, 1999; Van der Heijden et al., 2009). The latter view also considers developmental purposes in terms of providing inpatriates with firm-specific training to prepare them for future management tasks in the MNC (Bonache et al., 2001), either at their home unit or at other subsidiaries.

I argue that there are specific reasons for inpatriating subsidiary staff to the HQ both for a limited and a more permanent time period, and that the integration of these different approaches helps to broaden the applicability of the concept of inpatriation in academic research and corporate practice. For example, from a boundary spanning and knowledge transfer perspective the inpatriation for a limited time frame is particularly relevant for two reasons. First, a temporary relocation enables inpatriates to maintain their social ties at the home subsidiary which is important for the type of cross-unit brokerage I outline. If inpatriates remain in the HQ on a

permanent basis, their social ties at the home subsidiary may degenerate (Burt, 2000). Second, temporary inpatriation enables assignees not only to contribute to knowledge transfer to the HQ but also to other MNC units once assignees complete their postings and diffuse the acquired knowledge in their subsequent roles, either at the home unit or elsewhere in the MNC (Lazarova & Tarique, 2005). This is important because assignees' main role as knowledge agents concerns the transfer of tacit, context-specific knowledge that requires face-to-face contact (Argote & Ingram, 2000; Riusala & Suutari, 2004). Given these arguments, in the current study I focus on inpatriate assignments of limited duration (3-4 years in length). At the same time, whereas an inpatriate assignment may initially be a relocation of limited duration it may evolve into a more permanent posting due to limited career opportunities at the inpatriate's home unit, especially in the case of smaller subsidiaries. Also, although assignees may officially complete their HQ assignments and move elsewhere, they often remain part of and continue to coordinate with the global management team at the HQ.

Inpatriates differ from parent-country expatriates in various ways. For example, evidence suggests that inpatriates experience substantially different adjustment processes in the host country compared to expatriates (Shaffer et al., 1999). Given their status as outsiders of the MNC parent firm, inpatriates are also likely to possess fewer sources of influence and credibility in the host unit than expatriates (Harvey et al., 2005). This will make it more difficult for inpatriates to have their unique value for the organization recognized by HQ staff. Third, by extending their operations to developing and emerging economies, MNCs face unprecedented social, cultural, institutional and economic gaps that complicate market entry and the successful management of local business activities. To bridge these gaps, inpatriates are able to provide in-depth social and contextual knowledge about the subsidiary which their expatriate counterparts often do not possess (Harvey et al., 1999). However, despite the theoretical reasons for why inpatriates may

facilitate knowledge flows from MNC subsidiaries to the HQ, little empirical research has examined the determinants and conditions for such knowledge transfer to occur.

### **Inpatriates' Boundary Spanning and Knowledge Transfer**

Following the view that knowledge primarily resides in individuals (Felin & Hesterly, 2007; Grant, 1996) the process of transferring knowledge between individuals is contingent on social interaction. Such interaction may either occur through formal position-based relationships or through informal ties that are sustained due to their inherent social resources such as access to information (Lin, Ensel, & Vaughn, 1981). While formal relationships may account for regular communication flows in organizations, evidence suggests that informal ties among organizational members in particular contain important knowledge benefits (Reagans & McEvily, 2003; Seibert, Kraimer, & Liden, 2001). Under conditions of low physical proximity between actors, for example in the case of staff in geographically dispersed MNC units, the development of social ties and the resulting access and transmission of knowledge will be more difficult (Nebus, 2006). In this vein, the literature has emphasized the role of individual boundary spanning as a crucial means to link resources across different units, thus making them more widely available in the organization (Druskat & Wheeler, 2003).

In the MNC context, Kostova and Roth (2003) view boundary spanners as subsidiary employees that maintain direct personal contact with HQ employees, thereby linking the HQ to its subsidiaries. While it is the boundary spanners that initially develop these cross-unit ties and are able to benefit from them (Burt, 1992), they may also share their contacts at one unit with individuals from the other unit, either because it is demanded of them or because they expect benefits from doing so (Leana & Van Buren, 1999). By connecting these previously unconnected individuals with each other, the cross-unit ties become a “public good” (Kostova & Roth, 2003:

304). Specifically, once a boundary spanner has established ties in each unit and shared these ties with staff from the respective other unit, individuals in both units may leverage these ties for further cross-unit exchanges to benefit the wider MNC. Following these arguments, I define inpatriates as boundary spanners when they broker between the social ties they have established at the HQ, and the social ties they maintain at their home unit.

This brokerage may occur, for example, by explicitly referring a HQ employee to a particular contact person at the subsidiary, organizing regular communication between staff from both units, or by involving staff from both units in virtual project teams. These situations provide opportunities for individuals from the HQ and the subsidiary to start interacting with each other more regularly and develop social relationships (Adler & Kwon, 2002). However, in the absence of direct personal contact individuals from both units may not necessarily benefit from the developed social relationships as they lack specific knowledge about the other unit's context (Jarvenpaa & Leidner, 1999). Given their intimate understanding of both the local subsidiary context and the HQ, inpatriates can provide such knowledge (Harvey et al., 1999).

Since knowledge requires a certain effort to be successfully transferred (Szulanski, 2000), I define knowledge transfer from inpatriates to HQ staff in terms of two dimensions: inpatriates' effort to transfer their knowledge to HQ staff, and HQ staff effort to acquire this knowledge from inpatriates. These two dimensions recognize that both parties in the exchange relationship can make an effort to transfer or acquire knowledge about the inpatriates' home subsidiary. For example, an inpatriate may take the initiative to transmit information about a typical customer in their home country to HQ staff, or, alternatively, a HQ staff member may ask the inpatriate about the typical customer in their home country. Either way, knowledge transfer has occurred once the inpatriate describes the typical customer in their home country to the HQ colleague. In addition, the knowledge that both parties make an effort to transfer is likely to be tacit and complex in

nature given that the transfer occurs in a cross-cultural context where knowledge is often instilled with context-specific meaning (Bhagat, Kedia, Harveston, & Triandis, 2002). For example, the knowledge about a typical customer in inpatriates' home country includes knowledge about culture-specific customer preferences and expectations in that country. Evidence indeed suggests that international assignees serve as conduits of transferring tacit knowledge in MNCs (Hocking et al., 2007; Riusala & Suutari, 2004; Wang et al., 2009).

When inpatriates share their personal contacts at the subsidiary with HQ staff, thus engaging in boundary spanning, they will be interested in facilitating efficient and useful exchanges between the two units. Specifically, drawing on social resources theory (Lin et al., 1981), inpatriates' brokerage between HQ and subsidiary staff implicitly signals to their HQ colleagues that the subsidiary ties entail valuable resources. To maintain their credibility at the HQ, inpatriates will be motivated to ensure that HQ staff can interact with subsidiary staff without misunderstandings and capitalize on these benefits. One important way to achieve this is by making an effort to transfer knowledge about their subsidiary context to HQ staff.

Similarly, when HQ employees gain access to the subsidiary social network by the inpatriate, they will be inclined to acquire more detailed knowledge about this local context to meet subsidiary staff expectations and leverage the ties for future cross-unit exchanges. Given the cross-cultural environment in which the boundary spanning occurs, HQ staff will consider the inpatriate as someone who can interpret subsidiary staff expectations and provide insider knowledge about the subsidiary context. Due to their established relationship with the inpatriate, HQ staff is likely to positively evaluate the knowledge the inpatriate possesses (Borgatti & Cross, 2003), and perceive him or her to be reliable (Reagans & McEvily, 2003). As a result, inpatriates' development of cross-unit ties will prompt HQ staff to consciously acquire local subsidiary

knowledge from them. Since inpatriates serve as the principal unit of analysis in this study, I measured HQ staff effort to acquire knowledge as perceived by inpatriates.

*H1a: Inpatriates' boundary spanning will positively relate to their effort in transferring knowledge to HQ staff.*

*H1b: Inpatriates' boundary spanning will positively relate to perceived HQ staff effort in acquiring knowledge from inpatriates.*

### **Perceived HQ Absorptive Capacity as a Moderator**

Hypotheses 1a and 1b theorize about *why* inpatriates' boundary spanning may positively relate to (1) inpatriates' effort to transfer their local subsidiary knowledge, and (2) HQ staff effort to acquire this knowledge. However, other factors may influence *under which conditions* such efforts are more or less likely to occur. I consider two specific conditions: an ability-related condition conceptualized as perceived HQ absorptive capacity, and a motivational condition conceptualized as mentoring by HQ staff.

Concerning perceived HQ absorptive capacity, for knowledge to be successfully diffused HQ staff needs to be able to interpret and make sense of the information they obtain from inpatriates (Louis, 1980). This processing is particularly important in a cross-cultural context, where information entails many culture-specific cues (Bhagat et al., 2002). At the firm level, this ability has been referred to as absorptive capacity, defined as "the ability to recognize the value of new information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal 1990: 128). Echoing the arguments of learning theorists at the individual level, scholars argue that a firm's capability to identify and make use of new related information derives from the stock of knowledge it has accumulated over the past (Cohen & Levinthal, 1990; Lane et al., 2006). Evidence indeed suggests that absorptive capacity impacts intra-organizational knowledge

transfer (Minbaeva et al., 2003; Szulanski, 1996). In this study, I argue that perceived HQ absorptive capacity will moderate the relationship between inpatriates' boundary spanning and both inpatriates' and HQ staff efforts for knowledge transfer. This is because absorptive capacity exerts a conditional effect on knowledge transfer resulting from social relationships (Tsai, 2001).

Specifically, the process of communicating what one knows takes time away from potentially more urgent tasks (Reagans & McEvily, 2003). Therefore, inpatriates will more likely make an effort to transfer their subsidiary-specific knowledge to HQ staff as a result of their boundary spanning, if these HQ colleagues are able to understand this knowledge and consider it relevant for future interactions with subsidiary staff. In contrast, if inpatriates perceive HQ absorptive capacity to be low, inpatriates will consider the knowledge transfer to be a waste of time because the knowledge is less likely to be understood by HQ staff. As a result, inpatriates will less likely make an effort to transfer knowledge due to their boundary spanning.

Similarly, inpatriates' boundary spanning is more likely to relate to HQ effort for acquiring knowledge from inpatriates, if HQ staff expects to be able to absorb and make sense of this knowledge. This is because HQ staff with high levels of absorptive capacity will share knowledge commonalities with inpatriates. Given that the acquisition of knowledge is contingent upon diverse personal, situational and social factors (Ellis, Hollenbeck, Ilgen, Porter, & West, 2003), it will be easier for a recipient to acquire knowledge from its sender if both individuals share certain knowledge commonalities such as similar background characteristics (Reagans & McEvily, 2003). In the context of cross-cultural interaction, these commonalities entail an understanding of the counterpart's frames of reference and attitudes (Mendenhall & Oddou, 1985) and correspond to what Lane et al. (2006) understand as the characteristics of learning relationships that drive absorptive capacity. These commonalities may be rooted in HQ staff experiences with cross-cultural interactions or result from the provision of intercultural training.

In contrast, if perceived HQ absorptive capacity is low there will be fewer knowledge commonalities between inpatriates and HQ staff. This will increase the risk of misunderstandings and thus make it less likely that HQ staff engages in efforts to acquire subsidiary-specific knowledge from inpatriates as a result of inpatriates' boundary spanning.

In this study, I focus on inpatriates' perceptions of HQ absorptive capacity for two reasons. First, inpatriates are newcomers to the HQ that continue to learn about the new organizational environment and its members (e.g., Morrison, 2002). Therefore, inpatriates' decision to make an effort to transfer knowledge to HQ staff as a result of their boundary spanning is more likely based on inpatriates' own and possibly incomplete assessment of whether HQ staff is able to understand and make sense of this knowledge. Second, although inpatriates work in a particular work group and unit they may develop their boundary spanning ties not only within but also selectively *beyond* this context to reach those HQ contacts that are in the position to make use of interactions with subsidiary staff. Since existing measures of absorptive capacity are usually limited to a specific unit of the firm (e.g., Jansen, van den Bosch, & Volberda, 2005) they may inadequately capture the ability of those HQ employees that form part of inpatriates' boundary spanning ties to understand the knowledge transferred by the inpatriate. In addition, given the size of the HQ an overall HQ-based measure may simply be too broad as a proxy of absorptive capacity of inpatriates' HQ contacts. Inpatriates' perceptions can thus be considered a more direct measure of absorptive capacity in the context of individual-level knowledge transfer efforts. In sum, it is reasonable to assume that inpatriates' boundary spanning will more (less) likely lead to inpatriates' individual effort and perceived HQ staff effort for knowledge transfer if the HQ is perceived to possess high (low) levels of absorptive capacity.

*H2a: Perceived HQ absorptive capacity will moderate the positive relationship between inpatriates' boundary spanning and their effort in transferring knowledge to HQ staff such that the relationship will become stronger when perceived HQ absorptive capacity is high, but weaker when perceived HQ absorptive capacity is low.*

*H2b: Perceived HQ absorptive capacity will moderate the positive relationship between inpatriates' boundary spanning and perceived HQ staff effort in acquiring knowledge from inpatriates such that the relationship will become stronger when perceived HQ absorptive capacity is high, but weaker when perceived HQ absorptive capacity is low.*

### **Mentoring by HQ Staff as a Moderator**

In addition to HQ staff's ability to acquire knowledge, the relationship between inpatriates' boundary spanning and both inpatriate and HQ effort for knowledge transfer may also depend on the motivational disposition of the two actors involved in the knowledge transfer. For example, given inpatriates' status as newcomers to the HQ, HQ staff may not regard inpatriates as credible or valuable sources of knowledge (Harvey et al., 2005) and therefore refrain from making an effort to acquire knowledge from them. In a similar vein, inpatriates may be tempted not to diffuse certain subsidiary-related knowledge to the HQ to maintain their home subsidiary's strategic position within the overall MNC network (Gupta & Govindarajan, 2000; Mudambi & Ram, 2004). It is also possible that inpatriates may seek to withhold information from certain HQ colleagues to receive a reputation as subject matter experts from senior management and use this status to ensure their employability within the MNC. Importantly, once inpatriates broker cross-unit ties and transfer their subsidiary-specific knowledge for HQ staff to leverage these cross-unit ties, they effectively reduce their own unique value in the MNC. To maintain their employability, inpatriates may thus feel inclined to keep their unique knowledge to themselves.

These incentive problems can be addressed by organization-level inducements. Leana and Van Buren (1999) discuss the use of long-term oriented employment practices such as career development to reward those employees that contribute to the sharing of organizationally useful resources. Whereas scholars have discussed several practices for providing career developmental assistance to international assignees, including social support (Kraimer & Wayne, 2004) and repatriation support (Lazarova & Caligiuri, 2001), mentoring has received increased attention as a particular instrument to facilitate assignee retention and long-term career development (Carragher et al., 2008; Mezias & Scandura, 2005). Consistent with previous research, I define mentoring as developmental assistance provided by a senior organizational member to a less experienced employee (Kram, 1985).

While the international assignment literature has considered mentors both at the home and host units (Carragher et al., 2008), I focus on host-unit (i.e., HQ) mentoring for several reasons. First, mentoring by senior staff provides different long-term resources for protégés. For example, mentors are able to introduce their protégés to existing colleague networks and senior organizational members that may provide individuals with important career benefits in the wider organization (Seibert et al., 2001). In the case of inpatriates, senior HQ staff will be more able to provide such career benefits in the wider MNC than senior subsidiary staff. Second, the mentor's backing allows protégés to receive attention from colleagues and have their qualifications assessed and acknowledged by seniors, which signals the protégé's value to the organization (Fagenson, 1988). This is particularly relevant for inpatriate newcomers as their qualities and skills may be more difficult to assess by HQ staff due to cross-national differences in educational and organizational promotion systems. Third, once a HQ mentor introduces an inpatriate to other colleagues, he or she implicitly communicates a certain level of confidence in the protégé's skills. In this vein, Higgins and Nohria (1999) argue that the mentor's support is likely to create a more

favorable image of the newcomer among other employees. Finally, HQ mentors are able to provide their protégés with access to resources such as important information about politics, power structures and informal communication channels (Chao, Walz, & Gardner, 1992) and, by assigning highly visible work tasks, offer protégés opportunities to build a reputation at HQ.

In sum, mentoring by HQ staff is likely to increase inpatriates' employability in the organization, providing them with access to key contacts and resources at the HQ. As a result, once inpatriates engage in boundary spanning they may be more motivated to make an effort to transfer their subsidiary-specific knowledge to HQ staff. In contrast, low levels of mentoring will make inpatriates less motivated to do so given the potentially negative implications of transferring their unique knowledge for inpatriates' future careers in the MNC. In a similar vein, mentoring is likely to have an important signaling effect to HQ staff about how valuable the inpatriate is for the HQ. Therefore, if an inpatriate receives high (low) levels of mentoring by a senior HQ person, HQ staff will be more (less) motivated to make an effort to acquire subsidiary-specific knowledge from the inpatriate as a result of inpatriates' boundary spanning.

*H3a: Mentoring by HQ staff will moderate the positive relationship between inpatriates' boundary spanning and their effort in transferring knowledge to HQ staff such that the relationship will become stronger when mentoring is high, but weaker when mentoring is low.*

*H3b: Mentoring by HQ staff will moderate the positive relationship between inpatriates' boundary spanning and perceived HQ staff effort in acquiring knowledge from inpatriates such that the relationship will become stronger when mentoring is high, but weaker when mentoring is low.*

## METHOD

### Sample and Procedure

To test the hypothesized relationships, an online survey was sent to a sample of 643 inpatriates at the HQs of 10 German MNCs. Since the overall inpatriate population is still relatively small compared to expatriates (Reiche, 2006; Tharenou & Harvey, 2006), respondents had to be sampled across different companies and functions. At the same time, I held the national culture of the assignment destination constant to reduce potential variation due to cultural differences of the assignment context (Mendenhall & Oddou, 1985). I included only those MNCs that, at the time of data collection, employed at least 10 inpatriates at their HQs. This ensured that all participating MNCs had, at least to a certain extent, introduced a formalized inpatriation process and maintained a regular inflow of inpatriates at their HQ. This regularity was considered important for examining inpatriates' role in facilitating MNC knowledge flows. The number of inpatriates per company ranged from 10 to 130. The motives for inpatriation in these MNCs included building up relationships with HQ staff, being developed for future management tasks, learning the corporate culture, fostering communication and exchange between the HQ and the subsidiary, transferring and acquiring market-related knowledge, transferring technical knowledge, and receiving technical training. The 10 MNCs operate in different industries (automotive, chemical, pharmaceutical, banking, consumer goods, and aviation), with their worldwide staff ranging from 15,900 to 344,900 and their HQ staff ranging from 2,070 to 51,000 employees. The HR manager at each MNC agreed to cooperate by officially inviting all of their inpatriates to participate in the survey. Confidentiality of survey responses was ensured to all participants and all surveys were directly returned to me. A reminder email was sent two weeks after the initial email. In addition, I promised a summary report of the study's results to increase motivation to participate.

A total of 286 surveys were completed (a 44.5% response rate), ranging from 7 to 70 responses per company. After eliminating cases with missing data, the final sample consisted of 269 inpatriates. Respondents' demographic breakdown was as follows: They came from a total of 45 different countries-of-origin, had an average age of 37.3 years and had spent an average time of 24 months on their assignment (with an intended overall assignment length of 3-4 years). In addition, 76% of the inpatriates were male and 80% were married or had a partner. Average organizational tenure was 9.25 years. While I was unable to systematically test for non-response bias, information from the companies' respective HR managers suggests that respondents' demographic characteristics represent the overall inpatriate population at the respective companies well. No significant response differences across companies could be identified.

## **Measures**

All items were measured at the individual level of analysis and, apart from respondents' personal and demographic information, measured along seven-point Likert scales. As some measures had to be adapted or newly developed, I applied the following process to assess their content and face validity. First, I subjected the items of each respective measure to an assessment by four scholars with expertise in the knowledge transfer and international assignment literatures. Second, to evaluate the face validity of each measure I interviewed a random sample of 8 inpatriates at a German MNC as part of a survey pilot test. The interviewees were asked to indicate any ambiguity regarding the phrasing of the items and confirm that the items are relevant for them. I then further enhanced the phrasing of the items, resulting in a final version of each measure.

***Inpatriates' boundary spanning.*** Since no measure of inpatriates' boundary spanning existed that appropriately reflected the brokering of social ties between the home unit and the HQ, I developed a new scale. I generated items based on existing research indicating that the construct entails two principal content dimensions. First, implicit to boundary spanning is the

notion that the individual boundary spanner has developed direct contacts at the host unit, i.e., HQ (Kostova & Roth, 2003). This content dimension thus taps into inpatriates' motivation to build social ties at the HQ. Second, boundary spanning implies inpatriates' sharing of their personal contacts at the subsidiary with staff at the HQ, establishing cross-unit ties (Reiche et al., 2009). My measurement scale consisted of five items (full scale is reproduced in the Appendix). All items were then averaged to create a scale score ( $\alpha = .78$ ).

***Inpatriates' knowledge transfer.*** Following extant research practice (e.g., Riusala & Suutari, 2004; Hocking et al., 2007), I focused on different types of knowledge transferred by assignees. In the case of inpatriation, this knowledge includes local market knowledge such as formal and informal business norms, knowledge on the wider political, economic and social environment of the home country, knowledge on the local subsidiary context, and specific knowledge about potential contact persons at the home unit (Harvey et al., 1999). As a result, I developed two four-item scales (1 = "low effort" to 7 = "high effort"), asking respondents to rate the extent to which (1) they have made the effort to transfer these four types of knowledge to HQ staff and (2) they think HQ staff has made the effort to acquire these four types of knowledge from them. The four respective items were averaged to create a scale score for inpatriate effort for knowledge transfer ( $\alpha = .77$ ) and perceived HQ effort for knowledge transfer ( $\alpha = .86$ ).

***HQ absorptive capacity.*** I measured HQ absorptive capacity as perceived by the inpatriate. The literature on absorptive capacity differentiates between two clusters of drivers of absorptive capacity (Cohen & Levinthal, 1990; Van den Bosch, Van Wijk, & Volberda, 2003). Whereas a first cluster refers to general aspects such as basic skills, problem-solving methods and shared language, the second cluster concerns internal mechanisms that affect a firm's absorptive capacity, for example the character and distribution of expertise and knowledge in the organization. As I was particularly interested in the quality of HQ staff's ability to absorb, value

and process information through cross-cultural encounters, I built on Mahnke et al.'s (2005) measure to develop a three-item scale that explicitly taps into this characteristic, including "HQ staff can easily acquire new knowledge through cross-cultural encounters" and "HQ staff receives intercultural training when having to interact with colleagues from other cultural backgrounds" (1 = "strongly disagree" to 7 = "strongly agree"). Again, all three items were averaged to create a scale score ( $\alpha = .62$ ). I acknowledge that this measure has a lower reliability than the remaining variables. However, given that lower reliabilities tend to reduce the statistical power to detect an existing moderation effect (Aguinis, 1995) the analysis can be considered to provide a conservative test of moderation.

***Mentoring by HQ staff.*** To operationalize mentoring by HQ staff, I used the first four items of Dreher and Ash's (1990) career mentoring scale. On the survey, I defined a mentor as a senior person at the HQ who has engaged in developmental activities. These activities were then specified in the four items consistent with Dreher and Ash (1990). To avoid misunderstandings, I changed the word 'assignment' to 'task' in each of the items as the former term was consistently used to refer to the international transfer throughout the survey. Two example items are "To what extent has a mentor at the HQ (before or during the current assignment) given or recommended you for challenging tasks that helped you meet new colleagues?" and "To what extent has a mentor at the HQ (before or during the current assignment) given or recommended you for tasks that increased your contact with higher-level employees (1 = "not at all" to 7 = "to a large extent"). The items were averaged to create a scale score ( $\alpha = .93$ ).

***Control variables.*** Recent research (e.g., Riusala & Suutari, 2004) indicates that international assignees may obtain specific objectives regarding the knowledge they are expected to transfer during their assignment. When such knowledge transfer objectives are explicitly communicated to the inpatriate prior to or during the assignment, they may influence the scope of

knowledge transfer. I therefore included a two-item measure of knowledge transfer objectives ( $\alpha = .85$ ), including “I have received clear objectives regarding the information and knowledge I am expected to share with my colleagues at HQ.” (1 = “strongly disagree” to 7 = “strongly agree”). In addition, knowledge transfer between inpatriates and HQ staff is unlikely to be unilateral. Rather, inpatriate assignments are also thought to entail an important learning dimension for the individual assignee (Tharenou & Harvey, 2006). It is thus possible that inpatriates may engage in more knowledge transfer and perceive HQ staff to make a stronger effort to acquire knowledge from them if inpatriates themselves feel they have learned something new during their assignments. Accordingly, I constructed a four-item scale to measure inpatriates’ learning during the assignment ( $\alpha = .86$ ), including the item “During my assignment to the HQ I have learned how things are done at the HQ.” (1 = “strongly disagree” to 7 = “strongly agree”).

I further controlled for the extent of cultural differences between inpatriates and HQ staff. To determine the cultural distance between inpatriates’ own culture and the German culture, I used the respective country scores along Hofstede and Hofstede’s (2005) four cultural dimensions (power distance, individualism, masculinity and uncertainty avoidance) and calculated the aggregate cultural distance scores using Kogut and Singh’s (1988) algebraic index. I also constructed a three-item scale to account for inpatriates’ German language proficiency ( $\alpha = .96$ ). An example item is “Please indicate how comfortable you feel participating in meetings that are conducted in German.” (1 = “not at all comfortable” to 7 = “very comfortable”). Finally, I controlled for gender (1 = “male”, 2 = “female”), age (in years), organizational tenure (in months) and the time respondents had already spent on their assignment (in months).

## RESULTS

### Preliminary Analyses

To evaluate the convergent and discriminant validity of all variables measured on the survey (inpatriates' boundary spanning, knowledge transfer (inpatriate effort), knowledge transfer (perceived HQ effort), perceived HQ absorptive capacity and mentoring by HQ staff) I first conducted an exploratory factor analysis (EFA) and subjected all 20 items to a principal component analysis using oblimin rotation. As shown in Table 1, the EFA revealed five clear factors with eigenvalues greater than 1.0 that together explained 67.12% of the variance and corresponded to the expected constructs. The average item loading on the hypothesized construct was .74 and no cross-loadings of above .40 among the items could be detected.

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Insert Table 1 about here

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Given my reliance on perceptual data, I took several preventive measures to minimize the risk of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), including the separation of items for the independent and dependent variables into different sections of the questionnaire and the use of different scale endpoints. In this regard, it has to be noted that common method variance acts as a main effect. Therefore, it only inflates zero-order correlations and does not inflate the possibility of falsely detecting moderator variables (Shaffer et al., 1999). Before testing the hypotheses, I also conducted two sets of preliminary analyses to examine the potential for common method bias in my sample. First, I conducted Harman's single-factor test (Podsakoff et al., 2003) and inspected the unrotated EFA solution reported earlier. The first factor

accounted for only 29.64% of the variance, compared with 67.12% of the variance explained by all five factors.

Second, in line with Lindell and Whitney's (2001) recommendations I tested for common method bias by introducing a marker variable. Such a marker should be measured by the same instrument as the scales used in the analysis and should be theoretically unrelated to the substantive variables in the study. In the present case, I chose the variable "identification with subsidiary management" (three-item scale,  $\alpha = .79$ ) as a marker variable because this variable was not used in my analyses, a theoretical relationship to the other substantive variables was not to be expected and because it was measured in the same way as most of my other variables. An examination of the partial correlations between all perceptual variables, controlling for identification with subsidiary management, showed that all significant correlations in Table 1 remained significant. Taken together, these tests provide confidence that common method bias is not an important issue in this study. Table 2 reports means, standard deviations and correlations among the study's variables.

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Insert Table 2 about here  
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### **Analytic Procedure**

I used moderated regression analyses to test all hypotheses, centering the substantive variables (in-patriates' boundary spanning, perceived HQ absorptive capacity and mentoring by HQ staff) before creating interaction terms to reduce potential multicollinearity problems (Aiken & West, 1991). For each of the two dependent variables – knowledge transfer (in-patriate effort) and

knowledge transfer (perceived HQ effort) – I conducted a separate regression analysis. In the first step, the eight control variables were entered. In the second step, I added inpatriates’ boundary spanning, perceived HQ absorptive capacity and mentoring by HQ staff to examine the main effects. The third and fourth steps separately added the two-way interaction terms between inpatriates’ boundary spanning and perceived HQ absorptive capacity, and between inpatriates’ boundary spanning and mentoring by HQ staff to examine each effect individually. In the fifth step, I entered both interaction terms simultaneously to test whether they have a distinct explanatory value.

### **Tests of Hypotheses**

Table 3 summarizes the OLS regression results for inpatriates’ knowledge transfer. Hypotheses 1a and 1b propose that inpatriates’ boundary spanning is positively related to both inpatriates’ effort to transfer knowledge to HQ staff and perceived HQ staff effort to acquire knowledge from inpatriates. As expected, and as shown by Models 2 and 7, the effect of inpatriates’ boundary spanning was positive and significant for inpatriates’ effort ( $b = .24, p < .01$ ) and perceived HQ staff effort ( $b = .12, p < .05$ ) for knowledge transfer. Thus, Hypotheses 1a and 1b are supported.

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Insert Table 3 about here  
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According to Hypothesis 2a, perceived HQ absorptive capacity moderates the relationship between inpatriates’ boundary spanning and their effort for knowledge transfer. As can be seen in Model 3, the interaction term is positive and significant ( $p < .05$ ), indicating a synergistic interaction effect of inpatriates’ boundary spanning and perceived HQ absorptive capacity on

inpatriates' effort to transfer knowledge. Figure 1 shows the regression equation at high and low levels of perceived HQ absorptive capacity (one standard deviation above and below mean).

Post-hoc analyses (Aiken & West, 1991) revealed that inpatriates' boundary spanning is positively related to inpatriates' effort to transfer knowledge to HQ staff when perceived HQ absorptive capacity is both low ( $b = .18, t = 2.38, p < .05$ ) and high ( $b = .37, t = 4.61, p < .01$ ) and that the relationship is stronger when perceived HQ absorptive capacity is high but weaker when it is low. Hypothesis 2a is therefore supported.

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Insert Figure 1 about here  
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According to Hypothesis 2b, perceived HQ absorptive capacity also moderates the relationship between inpatriates' boundary spanning and perceived HQ staff effort for knowledge transfer. Model 8 reveals a positive and significant interaction term ( $p < .05$ ), thus supporting a synergistic interaction effect of inpatriates' boundary spanning and perceived HQ absorptive capacity on perceived HQ staff effort to acquire knowledge. Figure 2 plots this interaction effect at high and low levels of perceived HQ absorptive capacity. Post-hoc analyses demonstrated that inpatriates' boundary spanning is positively related to perceived HQ staff effort for knowledge transfer only when perceived HQ absorptive capacity is high ( $b = .29, t = 3.83, p < .01$ ) but not when perceived HQ absorptive capacity is low ( $b = .09, t = 1.22, p > .05$ ). This supports Hypothesis 2b.

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Insert Figure 2 about here  
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Hypothesis 3a asserts that mentoring by HQ staff moderates the relationship between inpatriates' boundary spanning and their effort for knowledge transfer. Model 4 shows that the interaction term is positive and significant ( $p < .05$ ), indicating a synergistic interaction effect of inpatriates' boundary spanning and mentoring on inpatriates' effort to transfer knowledge. Figure 3 visualizes the regression equation at high and low levels of mentoring. Post-hoc analyses revealed that inpatriates' boundary spanning is positively related to inpatriates' effort to transfer knowledge to HQ staff when mentoring is both low ( $b = .23, t = 2.90, p < .01$ ) and high ( $b = .43, t = 4.62, p < .01$ ) and that the relationship is stronger when mentoring is high but weaker when it is low. Hypothesis 3a is therefore supported.

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Insert Figure 3 about here  
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Hypothesis 3b posits that mentoring by HQ staff also moderates the relationship between inpatriates' boundary spanning and perceived HQ staff effort for knowledge transfer. Model 9 reveals a positive and significant interaction term ( $p < .05$ ), therefore supporting a synergistic interaction effect of inpatriates' boundary spanning and mentoring on perceived HQ staff effort to acquire knowledge. Figure 4 illustrates this interaction effect at high and low levels of mentoring. Post-hoc analyses demonstrated that inpatriates' boundary spanning is positively related to

perceived HQ staff effort for knowledge transfer only when mentoring is high ( $b = .38, t = 3.80, p < .01$ ) but not when it is low ( $b = .09, t = 1.04, p > .05$ ). This supports Hypothesis 3b.

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Insert Figure 4 about here  
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Finally, given the positive correlation between both moderating variables as shown in Table 2 ( $r = .29, p < .01$ ), I entered both hypothesized interaction terms simultaneously for each of the two dependent variables to investigate the extent to which they have complementary explanatory value. As can be seen in Model 5, the interaction effect between inpatriates' boundary spanning and perceived HQ absorptive capacity on inpatriates' effort for knowledge transfer remains significant ( $p < .05$ ) whereas the interaction effect between inpatriates' boundary spanning and mentoring by HQ staff is now insignificant ( $p > .05$ ). Therefore, for inpatriates' effort for knowledge transfer the moderating effect of mentoring has no additional explanatory value beyond inpatriates' perceptions of HQ absorptive capacity. In contrast, Model 10 demonstrates that, when entered simultaneously, the interaction effect between inpatriates' boundary spanning and perceived HQ absorptive capacity on perceived HQ staff effort for knowledge transfer is insignificant ( $p > .05$ ) whereas the interaction effect between inpatriates' boundary spanning and mentoring remains significant ( $p < .05$ ). As a result, for perceived HQ staff effort for knowledge transfer the moderating effect of perceived HQ absorptive capacity is fully explained through the influence of mentoring by HQ staff. I also probed for a possible three-way interaction effect between inpatriates' boundary spanning, perceived HQ absorptive capacity and mentoring by HQ staff. However, no significant effect was found.

## DISCUSSION

This study highlights the roles of inpatriates' boundary spanning between their home unit and the HQ, perceived HQ absorptive capacity and mentoring by HQ staff for knowledge transfer in MNCs, thereby complementing the mostly conceptual understanding of inpatriates as knowledge conduits in the literature (e.g., Harvey et al., 2000). While inpatriates' boundary spanning is directly positively associated with their knowledge transfer to HQ staff, this effect is contingent upon the HQ being perceived to possess absorptive capacity and inpatriates being provided with mentoring at the HQ. When considered simultaneously, the two moderating effects were found to differ in their relative impact concerning the locus of efforts for knowledge transfer. Whereas perceived HQ absorptive capacity appears to be more important in moderating the relationship between inpatriates' boundary spanning and their own effort for transferring knowledge, the moderating effect of mentoring by HQ staff is more salient for the relationship between inpatriates' boundary spanning and perceived HQ staff effort for acquiring knowledge. These findings hold over and above several control variables that were included in the study, such as the existence of specific knowledge transfer objectives for inpatriates, and inpatriate learning.

### **Theoretical Implications**

The study's findings have several contributions for research on MNC knowledge flows. Despite Grant's (1996: 121) call for an "emphasis upon the role of the individual as the primary actor in knowledge creation and the principal repository of knowledge" our theoretical understanding about how MNC knowledge flows occur at the individual level remains underdeveloped, both in the knowledge (Foss, 2006) and HR literatures (Wright, Dunford, & Snell, 2001). To address these shortcomings, I integrated different theoretical mechanisms that may explain how and when cross-unit knowledge transfer through boundary spanners occurs. First, drawing on social

resources theory (e.g., Lin et al., 1981), I argued that elements of social structure may serve to initiate knowledge transfer in MNCs, focusing on inpatriates in their role as boundary spanners that establish cross-unit ties. In this vein, my study was not so much interested in the knowledge being transferred through the cross-unit ties built by the boundary spanner but rather in the knowledge inpatriates need to transfer in order for HQ staff to be able to make use of the ties with subsidiary staff. Theoretically, such knowledge transfer is thus a necessary condition for more widespread MNC knowledge flows and resource exchanges to occur, and it highlights that international assignees' roles as knowledge transmitters and boundary spanners are interdependent rather than separate functions (see Reiche et al., 2009).

Second, I complemented my social resources-based arguments with two additional theoretical mechanisms. Specifically, I proposed that both abilities and motivations of the actors involved in knowledge transfer serve as conditions under which this transfer is more or less likely to occur. Concerning the ability-based condition, my study contributes to research on absorptive capacity by highlighting the role of cross-cultural elements for its development in MNCs. In this vein, I found that low levels of perceived HQ absorptive capacity inhibit a positive relationship between inpatriates' boundary spanning and perceived *HQ staff* effort to acquire this knowledge. To explain this finding, it is important to recall that the absorptive capacity measure used in this study tapped into the perceived ability of HQ staff to absorb knowledge in *cross-cultural* settings. We can assume that inpatriates, in making an effort for knowledge transfer, are likely to be more conscious of and will explicitly consider potential cross-cultural barriers. Given the overall marginal number of inpatriates at the companies' HQs, the cross-cultural nature of the exchange relationships with inpatriates may be less evident for HQ staff and, if not appropriately taken into account, may prevent HQ staff from engaging in efforts to acquire knowledge from inpatriates. It is also possible that HQ staff with a low ability to absorb knowledge in a cross-cultural context is

simply not willing to make an effort to acquire this knowledge. In this vein, my findings contribute to research discussing the role of organizational actors that, through their provision of information, help to develop absorptive capacity (Lane et al., 2006; Lenox & King, 2004). In the MNC context, a more strategic allocation of staff with previous cross-cultural experiences across the HQ may help to increase HQ absorptive capacity and, in turn, facilitate knowledge transfer as a result of inpatriates' boundary spanning.

With regard to the motivation-based condition, I contribute to the growing evidence of the importance of host-country mentors for international assignees (e.g., Carraher et al., 2008). The lack of such mentoring may not only entail disadvantages for the individual assignee but, as my findings show, also for the wider MNC. In particular, my results indicate that a lack of mentoring inhibits a positive relationship between inpatriates' boundary spanning and perceived HQ staff effort to acquire knowledge. It thus seems that the signaling effect (Higgins & Nohria, 1999) that mentoring offers to HQ staff in terms of the value that inpatriates convey to the HQ may be even more important than initially assumed. This corresponds to the notion that inpatriates may lack the same level of credibility and respect that their expatriate counterparts possess (Harvey et al., 2005). This lack of credibility and respect will be further exacerbated for inpatriates from a country that represents a visible ethnic minority with regard to the HQ country. As a result, inpatriates that do not receive explicit backing by senior HQ staff may not be considered as carriers of relevant knowledge and resources. Taken together, these findings highlight how specific HR practices, for example in the form of mentoring, can help to refine the micro-foundations of MNC knowledge flows.

The results also imply that the different theoretical mechanisms considered are not entirely independent. Specifically, the moderating effect of mentoring was found to have no additional explanatory value beyond the moderating effect of perceived HQ absorptive capacity

for inpatriates' effort for knowledge transfer whereas the opposite effect occurs for perceived HQ staff effort for knowledge transfer. These results are echoed by existing research that has shown individuals' abilities and motivations to be interrelated in their effect on knowledge outcomes in MNCs (Minbaeva & Michailova, 2004; Minbaeva et al., 2003). The finding that both moderators in the present study had a differential influence on the two dimensions of knowledge transfer suggests that inpatriates' decision to make an effort for knowledge transfer as a result of their brokering of cross-unit ties is primarily moderated by their assessment of HQ staff *abilities*. In contrast, HQ staff is more likely to attempt to acquire knowledge from inpatriates as a result of inpatriates' boundary spanning when inpatriates receive mentoring by HQ staff. This developmental assistance signals inpatriates' value to HQ staff and thus *motivates* HQ staff to engage in efforts for knowledge transfer. These findings suggest that to understand what drives individual-level knowledge transfer in MNCs it is fruitful to consider alternative and even competing theoretical mechanisms and integrate them in our study designs.

Finally, the results indicated that age was significantly negatively correlated with both inpatriates' boundary spanning and their effort for knowledge transfer, although the effect was insignificant once the substantive variables were entered into the regression models. We may speculate that older inpatriates have engaged in some boundary spanning and knowledge transfer already before their current posting, for example during previous HQ visits.

### **Managerial Implications**

Several implications for managers are worth mentioning. First, my results indicate how inpatriates can be more effective knowledge conduits by highlighting the importance of their cross-unit boundary spanning for knowledge transfer. At the same time, the study also points to extant restrictions in the use of such brokerage for inpatriates' knowledge transfer. For example,

low levels of HQ absorptive capacity were found to disrupt the positive effect of inpatriates' boundary spanning on perceived HQ staff effort for knowledge transfer. Therefore, if a company intends to capitalize on inpatriates' boundary spanning ties, it is not sufficient to provide organizational support to the actual assignee but also to involve HQ staff in the inpatriation process and provide them with intercultural training to facilitate effective interactions with inpatriates. This is likely to help HQ staff to engage in the acquisition of new knowledge through cross-cultural encounters.

Additionally, the importance of mentoring by HQ staff as a primary indication of inpatriates' value for the HQ implies that inpatriates' strategic role as conduits of important subsidiary-specific knowledge resources is not yet well recognized within MNCs' HQs. As a result, HQ managers need to communicate more explicitly the value that inpatriates are considered to provide at the HQ. Finally, my findings have important implications concerning MNCs' recent trend to increase their share of virtual assignments, for example as a means to reduce cost (see Welch, Worm, & Fenwick, 2003). This assignment type does not entail an individual's physical relocation to a foreign organizational unit but rather distributes international responsibilities as managed from the individual's home base. However, as cross-unit ties can only be developed through individuals brokering these ties and providing the necessary contextual knowledge for home- and host-unit staff to make use of them, virtual assignments may not be appropriate if more far-reaching knowledge transfer is to be achieved.

### **Limitations and Future Research**

The study's contributions need to be viewed in light of its limitations. A first limitation refers to the measurement of the firm-level constructs as perceived by inpatriates. For example, the occurrence of knowledge transfer between inpatriates and HQ staff was only captured through

inpatriates' perceptions of extant knowledge transfer efforts both in terms of their own efforts and those of HQ staff. This may be particularly problematic with regard to the latter measure.

Although the similarity of the empirical results across both knowledge transfer dimensions suggests that the perceptions are fairly robust, the study implicitly assumes that (1) inpatriates' perceptions of HQ staff efforts to acquire knowledge are reasonable and (2) that knowledge transfer efforts translate into an actual transmission of knowledge. Thus, the study only indirectly measured a change in the stock of knowledge at the HQ. Future research would benefit from a more direct measure of knowledge outcomes, for example by including aggregated assessments of the knowledge recipients themselves. This would require a matched sample of inpatriates and corresponding HQ contacts. Since the inpatriates in my study worked in different companies, units and work groups, and were likely to engage in knowledge transfer with more than one HQ employee, achieving a sufficiently large matched sample to allow for statistical analyses would have been unfeasible under the current research design. However, future research could re-focus on a single organization, using an in-depth case study design to more closely investigate both knowledge senders and recipients.

Another limitation, as noted in the method section, is the potential of common method bias due to the use of single-source self-report data, which can inflate relationships among variables. Although the robustness analyses reported earlier showed no evidence for the existence of these biases future studies could improve on my work by gathering data from different sources. This approach will, of course, pose its own research challenges. Furthermore, the study included a few newly developed or adapted measurement scales. Although several steps were taken to ensure content and face validity of these measures, it would be useful to further enhance these measurements and develop more elaborate scales. Also, the specific characteristics of the survey population and research context necessarily limit the findings to inpatriates of limited

transfer duration in German MNCs. I would encourage future research to replicate the study in other assignment countries and also investigate whether the findings hold for more permanent inpatriate assignments. We can speculate that permanent inpatriates, whose commitment and identification are likely to be more geared towards the HQ, may be more willing to share their unique subsidiary knowledge with HQ staff, in which case the moderating effect of mentoring may be less pronounced.

It would also be useful for future research to examine how MNCs can select those inpatriate candidates that are more likely to fulfill the boundary spanning role and contribute to MNC knowledge flows. One possible selection criterion may include candidates' past boundary spanning activities across functions or work groups at the subsidiary. In addition, given the time it may take for an inpatriate newcomer to establish social relationships at the HQ it is possible that inpatriates may engage in boundary spanning and the resulting knowledge transfer only during later stages of their inpatriation life cycle, with a relatively stronger focus on developmental aspects at the outset of the transfer. A closer investigation of these dynamics would help to establish the necessary minimum duration for inpatriate transfers.

Finally, this study focused on the knowledge transfer between inpatriates and HQ staff in order for HQ staff to make better use of their future interactions with subsidiary staff. However, it is also possible that subsidiary staff require context-specific information about the HQ environment from the inpatriate to be able to leverage future interactions with HQ staff. This knowledge transfer may, for example, occur once inpatriates have acquired detailed knowledge about the HQ and return to their home subsidiary.

In sum, the study highlights that the mere movement of people across intra-organizational boundaries does not automatically entail knowledge outcomes for the MNC, demonstrating *how* knowledge benefits are generated through assignees' brokerage of home- and host-unit social

ties. At the same time, the study also reveals *why* and *when* knowledge is transferred. Inpatriates diffuse knowledge *because* HQ staff will have the opportunity to apply it through future interactions with subsidiary staff. In this vein, the existence of perceived HQ absorptive capacity and mentoring by HQ staff provide the necessary *conditions* under which knowledge transfer from inpatriates to HQ staff is more or less likely to occur.

## REFERENCES

- Adler, P. S., & Kwon, S.-W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), 17-40.
- Aguinis, H. (1995). Statistical power problems with moderated multiple regression in management research. *Journal of Management*, 21(6), 1141-1158.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Argote, I., & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, 82(1), 150-169.
- Bhagat, R. S., Kedia, B. L., Harveston, P. D., & Triandis, H. C. (2002). Cultural variation in the cross-border transfer of organizational knowledge: An integrative framework. *Academy of Management Review*, 27(2), 204-221.
- Bonache, J., Brewster, C., & Suutari, V. (2001). Expatriation: A developing research agenda. *Thunderbird International Business Review*, 43(1), 3-20.
- Borgatti, S. P., & Cross, R. (2003). A relational view of information seeking and learning in social networks. *Management Science*, 46(4), 432-445.
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- Burt, R. S. (2000). Decay functions. *Social Networks*, 22(1), 1-28.
- Carraher, S. M., Sullivan, S. E., & Crocitto, M. M. (2008). Mentoring across global boundaries: An empirical examination of home- and host-country mentors on expatriate career outcomes. *Journal of International Business Studies*, 39(8), 1310-1326.
- Chao, G. T., Walz, P. M., & Gardner, P. D. (1992). Formal and informal mentorships: A comparison on mentoring functions and contrast with nonmentored counterparts. *Personnel Psychology*, 45(3), 619-636.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.
- Collings, D. G., McDonnell, A., Gunnigle, P., & Lavelle, J. (2010). Swimming against the tide: Outward staffing flows from multinational subsidiaries. *Human Resource Management*, 49(4), 575-598.

- Dreher, G. F., & Ash, R. A. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of Applied Psychology*, 75(5), 539-546
- Druskat, V. U., & Wheeler, J. V. (2003). Managing from the boundary: The effective leadership of self-managing work teams. *Academy of Management Journal*, 46(4), 435-457.
- Ellis, A. P. J., Hollenbeck, J. R., Ilgen, D. R., Porter, C. O. L. H., & West, B. J. (2003). Team learning: Collectively connecting the dots. *Journal of Applied Psychology*, 88(5), 821-835.
- Fagenson, E. A. (1988). The power of a mentor: Protégés' and nonprotégés' perceptions of their own power in organizations. *Group and Organization Studies*, 13(2), 182-194.
- Felin, T., & Hesterly, W. S. (2007). The knowledge-based view, nested heterogeneity, and new value creation: Philosophical considerations on the locus of knowledge. *Academy of Management Review*, 32(1), 195-218.
- Foss, N. J. (2006). Knowledge and organization in the theory of the multinational corporation: Some foundational issues. *Journal of Management and Governance*, 10(1), 3-20.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(Winter Special Issue), 109-122.
- Gupta, A. K., & Govindarajan, V. (2000). Knowledge flows within multinational corporations. *Strategic Management Journal*, 21(4), 473-496.
- Harvey, M., Novicevic, M. M., Buckley, M. R., & Fung, H. (2005). Reducing inpatriate managers' 'liability of foreignness' by addressing stigmatization and stereotype threats. *Journal of World Business*, 40(3), 267-280.
- Harvey, M., Novicevic, M. M., & Speier, C. (1999). Inpatriate managers: How to increase the probability of success. *Human Resource Management Review*, 9(1), 51-81.
- Harvey, M., Novicevic, M. M., & Speier, C. (2000). An innovative global management staffing system: A competency-based perspective. *Human Resource Management*, 39(4), 381-394.
- Higgins, M., & Nohria, N. (1999). The sidekick effect: Mentoring relationships and the development of social capital. In R. T. A. J. Leenders & S. M. Gabbay (Eds.), *Corporate social capital and liability* (pp. 161-179). Boston: Kluwer Academic Publishers.
- Hocking, J. B., Brown, M. E., & Harzing, A.-W. (2007). Balancing global and local strategic contexts: Expatriate knowledge transfer, applications and learning within a transnational organization. *Human Resource Management*, 46(4), 513-533.
- Hofstede, G., & Hofstede, G. J. (2005). *Cultures and organizations: Software of the mind* (2nd ed.). New York: McGraw-Hill.

- Jansen, J. J. P., van den Bosch, F. A. J., & Volberda, H. W. (2005). Managing potential and realized absorptive capacity: How do organizational antecedents matter? *Academy of Management Journal*, 48(6), 999-1015.
- Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual teams. *Organization Science*, 10(6), 791-815.
- Kamoche, K. (1997). Knowledge creation and learning in international HRM. *International Journal of Human Resource Management*, 8(3), 213-225.
- Kogut, B., & Singh, H. (1988). The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, 19(3), 411-432.
- Kostova, T., & Roth, K. (2003). Social capital in multinational corporations and a micro-macro model of its formation. *Academy of Management Review*, 28(2), 297-317.
- Kraimer, M. L., & Wayne, S. J. (2004). An examination of perceived organizational support as a multidimensional construct in the context of an expatriate assignment. *Journal of Management*, 30(2), 209-237.
- Kram, K. E. (1985). *Mentoring at work: Developmental relationships in organizational life*. Glenview, IL: Scott, Foresman.
- Lane, P. J., Koka, B. R., & Pathak, S. (2006). The reification of absorptive capacity: A critical review and rejuvenation of the construct. *Academy of Management Review*, 31(4), 833-863.
- Lazarova, M., & Caligiuri, P. (2001). Retaining repatriates: The role of organizational support practices. *Journal of World Business*, 36(4), 389-401.
- Lazarova, M., & Tarique, I. (2005). Knowledge transfer upon repatriation. *Journal of World Business*, 40(4), 361-373.
- Leana, C. R., & Van Buren, H. J. (1999). Organizational social capital and employment practices. *Academy of Management Review*, 24(3), 538-555.
- Lenox, M., & King, A. (2004). Prospects for developing absorptive capacity through internal information provision. *Strategic Management Journal*, 25(4), 331-345.
- Lin, N., Ensel, W. M., & Vaughn, J. C. (1981). Social resources and strength of ties. *American Sociological Review*, 46(4), 393-405.
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method bias in cross sectional research designs. *Journal of Applied Psychology*, 86(1), 114-121.

- Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly*, 25(2), 226-251.
- Mäkelä, K., & Brewster, C. (2009). Interunit interaction contexts, interpersonal social capital, and the differing levels of knowledge sharing. *Human Resource Management*, 48(4), 591-613.
- Mahnke, V., Pedersen, T., & Verzin, M. (2005). The impact of knowledge management on MNC subsidiary performance: The role of absorptive capacity. *Management International Review*, 45(Special Issue 2), 101-119.
- Mendenhall, M., & Oddou, G. (1985). The dimensions of expatriate acculturation: A review. *Academy of Management Review*, 10(1), 39-47.
- Mezias, J. M., & Scandura, T. A. (2005). A needs-driven approach to expatriate adjustment and career development: A multiple mentoring perspective. *Journal of International Business Studies*, 36(5), 519-538.
- Minbaeva, D. B., & Michailova, S. (2004). Knowledge transfer and expatriation in multinational corporations: The role of disseminative capacity. *Employee Relations*, 26(6), 663-679.
- Minbaeva, D. B., Pedersen, T., Björkman, I., Fey, C. F., & Park, H. J. (2003). MNC knowledge transfer, subsidiary absorptive capacity, and HRM. *Journal of International Business Studies*, 34(6), 586-599.
- Morrison, E. W. (2002). Newcomers' relationships: The role of social network ties during socialization. *Academy of Management Journal*, 45(6), 1149-1160.
- Mudambi, R., & Navarra, P. (2004). Is knowledge power? Knowledge flows, subsidiary power and rent-seeking within MNCs. *Journal of International Business Studies*, 35(5), 385-406.
- Nebus, J. (2006). Building collegial information networks: A theory of advice network generation. *Academy of Management Review*, 31(3), 615-637.
- Peterson, R. B. (2003). The use of expatriates and inpatriates in Central and Eastern Europe since the wall came down. *Journal of World Business*, 38(1), 55-69.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Reagans, R., & McEvily, B. (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly*, 48(2), 240-267.
- Reiche, B. S. (2006). The inpatriate experience in multinational corporations: An exploratory case study in Germany. *International Journal of Human Resource Management*, 17(9), 1572-1590.

- Reiche, B. S., Harzing, A.-W., & Kraimer, M. L. (2009). The role of international assignees' social capital in creating inter-unit intellectual capital: A cross-level model. *Journal of International Business Studies*, 40(3), 509-526.
- Riusala, K., & Suutari, V. (2004). International knowledge transfers through expatriates. *Thunderbird International Business Review*, 46(6), 743-770.
- Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal*, 44(2), 219-237.
- Shaffer, M. A., Harrison, D. A., & Gilley, K. M. (1999). Dimensions, determinants, and differences in the expatriate adjustment process. *Journal of International Business Studies*, 30(3), 557-581.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 17(Winter Special Issue), 27-43.
- Szulanski, G. (2000). The process of knowledge transfer: A diachronic analysis of stickiness. *Organizational Behavior and Human Decision Processes*, 82(1), 9-27.
- Tharenou, P., & Harvey, M. (2006). Examining the overseas staffing options utilized by Australian headquartered multinational corporations. *International Journal of Human Resource Management*, 17(6), 1095-1114.
- Tsai, W. (2001). Knowledge transfer in intraorganizational networks: Effects of network position and absorptive capacity on business unit innovation and performance. *Academy of Management Journal*, 44(5), 996-1004.
- Van den Bosch, F. A. J., Van Wijk, R., & Volberda, H. W. (2003). Absorptive capacity: Antecedents, models, and outcomes. In M. Easterby-Smith & M. A. Lyles (Eds.), *The Blackwell handbook of organizational learning and knowledge management* (pp. 278-301). Malden, MA: Blackwell.
- Van der Heijden, J. A. V., van Engen, M. L., & Paauwe, J. (2009). Expatriate career support: Predicting expatriate turnover and performance. *International Journal of Human Resource Management*, 20(4), 831-845.
- Wang, S., Tong, T. W., Chen, G., & Kim, H. (2009). Expatriate utilization and foreign direct investment performance: The mediating role of knowledge transfer. *Journal of Management*, 35(5), 1181-1206.
- Welch, D. E., Worm, V., & Fenwick, M. (2003). Are virtual assignments feasible? *Management International Review*, 43(Special Issue 1), 95-114.
- Wright, P. M., Dunford, B. B., & Snell, S. A. (2001). Human resources and the resource based view of the firm. *Journal of Management*, 27(6), 701-721.

**Table 1: Principal Component Analysis of Survey Items**

<b>Item</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>	<b>Factor 5</b>
Knowledge transfer (HQ effort) 3	<b>.81</b>	-.10	.03	.10	.08
Knowledge transfer (HQ effort) 4	<b>.80</b>	-.06	.03	.05	.11
Knowledge transfer (HQ effort) 2	<b>.71</b>	-.16	-.04	.05	.19
Knowledge transfer (HQ effort) 1	<b>.50</b>	-.21	-.11	.17	.34
Mentoring by HQ staff 3	.03	<b>-.92</b>	-.02	-.00	-.01
Mentoring by HQ staff 2	-.09	<b>-.90</b>	-.03	.01	.05
Mentoring by HQ staff 1	.09	<b>-.88</b>	.06	-.00	-.06
Mentoring by HQ staff 4	.14	<b>-.85</b>	.10	-.03	-.10
Inpatriates' boundary spanning 3	-.01	-.01	<b>.81</b>	.02	-.18
Inpatriates' boundary spanning 4	-.01	.05	<b>.80</b>	.08	.00
Inpatriates' boundary spanning 1	-.06	-.08	<b>.75</b>	-.07	.08
Inpatriates' boundary spanning 2	.23	.04	<b>.65</b>	.01	.05
Inpatriates' boundary spanning 5	-.18	-.18	<b>.53</b>	.06	.25
Perceived HQ absorptive capacity 1	-.27	-.02	-.03	<b>.80</b>	.21
Perceived HQ absorptive capacity 3	.20	.09	.10	<b>.71</b>	-.13
Perceived HQ absorptive capacity 2	.18	-.09	.00	<b>.70</b>	-.12
Knowledge transfer (Inpatriate effort) 1	-.07	-.11	-.07	.07	<b>.81</b>
Knowledge transfer (Inpatriate effort) 3	.19	.13	.10	-.07	<b>.72</b>
Knowledge transfer (Inpatriate effort) 2	.08	.06	.07	-.03	<b>.70</b>
Knowledge transfer (Inpatriate effort) 4	.30	.12	.18	-.05	<b>.55</b>
<i>Eigenvalues</i>	<i>5.93</i>	<i>2.79</i>	<i>2.18</i>	<i>1.44</i>	<i>1.20</i>
<i>Cumulative % of variance explained</i>	<i>29.64</i>	<i>43.57</i>	<i>54.46</i>	<i>61.65</i>	<i>67.12</i>

n = 269. Direct oblimin rotation. Pattern coefficients reported.

Items in bold are included in final scales.

**Table 2: Means, Standard Deviations and Correlations**

<b>Variable</b>	<b>Mean</b>	<b>Std.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>1</b> Inpatriates' boundary spanning	5.30	1.01												
<b>2</b> Knowledge transfer (Inpatriate effort)	4.82	1.24	.30**											
<b>3</b> Knowledge transfer (Perceived HQ effort)	3.78	1.38	.27**	.57**										
<b>4</b> Perceived HQ absorptive capacity	4.01	1.15	.21**	.13*	.36**									
<b>5</b> Mentoring by HQ staff	4.64	1.63	.27**	.11	.38**	.29**								
<b>6</b> Age	37.30	7.05	-.28**	-.13*	-.09	-.03	.01							
<b>7</b> Gender	1.24	.43	.01	.10	.04	-.11	-.03	-.24**						
<b>8</b> Organizational tenure (months)	111.04	72.38	-.12	-.04	.01	.03	.08	.63**	-.15*					
<b>9</b> Time on assignment (months)	23.96	18.01	-.06	-.02	.05	.07	.21**	.26**	-.06	.38**				
<b>10</b> Cultural distance	1.07	.81	.09	.00	.06	.02	.01	-.08	.00	-.10	-.20**			
<b>11</b> Host language fluency	3.95	2.02	.07	.00	.02	.01	.14*	-.10	-.02	.08	.23**	-.01		
<b>12</b> Knowledge transfer objectives	3.56	1.70	.24**	.10	.25**	.34**	.29**	-.00	-.01	.05	-.05	.09	-.04	
<b>13</b> Inpatriate learning	5.84	.95	.30**	.17*	.20**	.30**	.39**	-.11	-.05	.01	.21**	-.08	.25**	.16*

n = 269. Two-tailed tests.

\*  $p < .05$

\*\*  $p < .01$

**Table 3: Regression Results for Inpatriates' Knowledge Transfer**

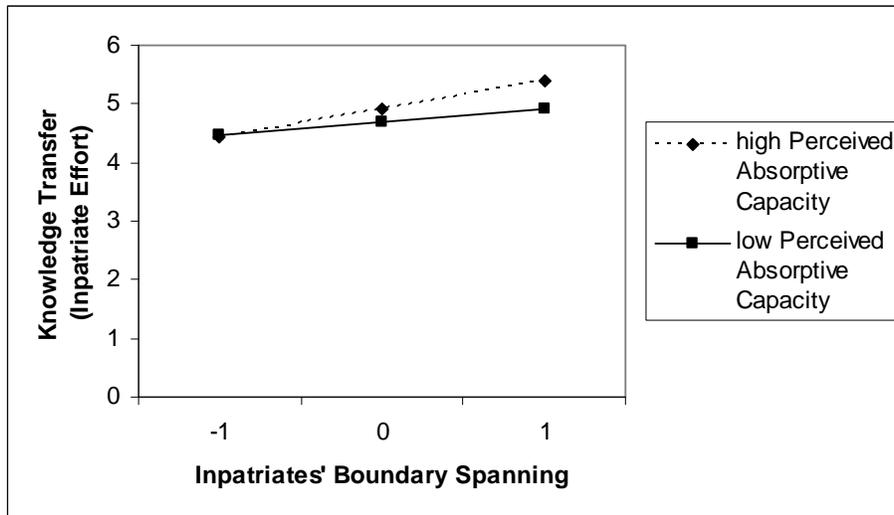
Variables	Knowledge transfer (Inpatriate effort)					Knowledge transfer (Perceived HQ effort)				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Age	-.15*	-.07	-.08	-.07	-.07	-.11	-.06	-.07	-.06	-.06
Gender	.08	.10	.10	.11	.11	.04	.07	.07	.09	.08
Organizational tenure	.07	.04	.04	.05	.04	.06	.04	.04	.05	.05
Time on assignment	-.02	-.01	-.01	-.01	-.01	.06	.05	.01	.01	.01
Cultural distance	-.01	-.02	-.04	-.04	-.05	.06	.04	.02	.01	.01
Host language fluency	-.05	-.05	-.04	-.04	-.04	-.04	-.03	-.02	-.02	-.02
Knowledge transfer objectives	.07	.01	.01	.02	.01	.22**	.06	.06	.07	.06
Inpatriate learning	.17*	.10	.08	.09	.08	.16*	-.02	-.03	-.02	-.03
Perceived HQ absorptive capacity		.07	.08	.07	.07		.25**	.26**	.25**	.25**
Mentoring by HQ staff		-.01	.00	.01	.01		.26**	.27**	.29**	.29**
Inpatriates' boundary spanning		.24**	.26**	.27**	.27**		.12*	.13*	.15*	.15*
Inpatriates' boundary spanning × Perceived HQ absorptive capacity			.13*		.12*			.12*		.10
Inpatriates' boundary spanning × Mentoring by HQ staff				.12*	.09				.14*	.12*
$\Delta R^2$		.05**	.02*	.02*	.02*		.14**	.02*	.02*	.02*
$R^2$	.06	.12	.13	.13	.14	.10	.24	.26	.26	.26
F	1.97*	2.84**	3.01**	2.94**	3.04**	3.27**	6.82**	6.72**	6.88**	6.95**

n = 269. Standardized regression coefficients are shown here. Two-tailed tests.

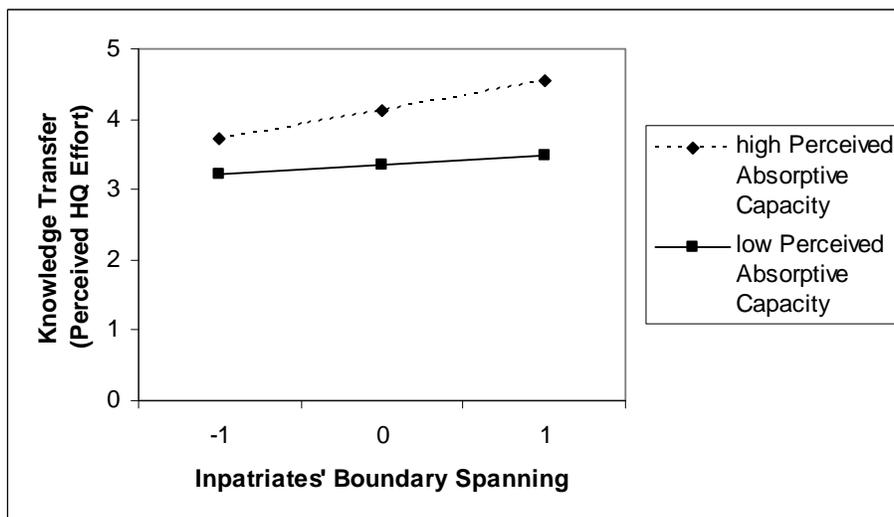
\*  $p < .05$

\*\*  $p < .01$

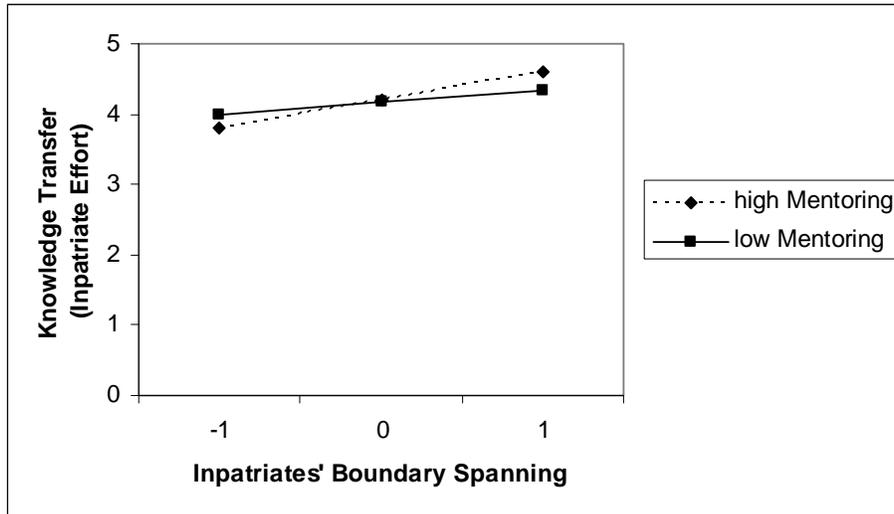
**Figure 1: The Relationship between Inpatriates' Boundary Spanning and Knowledge Transfer (Inpatriate Effort) at High and Low Levels of Perceived HQ Absorptive Capacity**



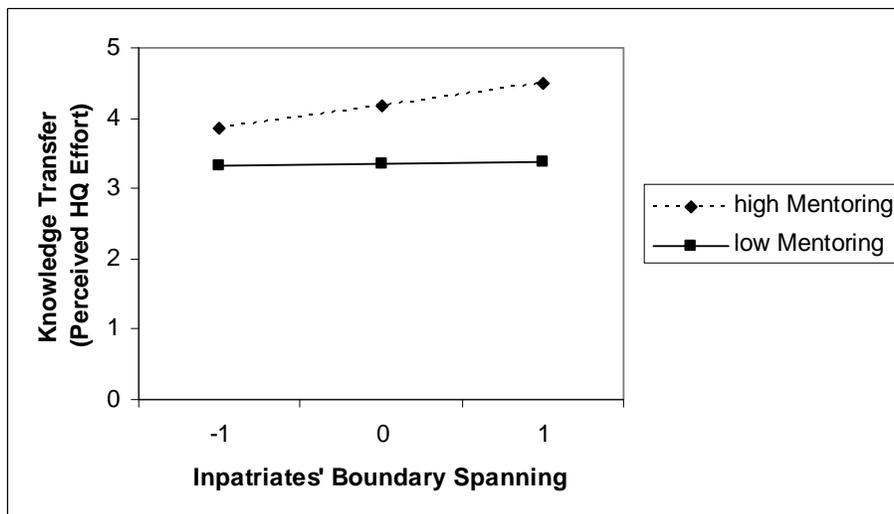
**Figure 2: The Relationship between Inpatriates' Boundary Spanning and Knowledge Transfer (Perceived HQ Effort) at High and Low Levels of Perceived HQ Absorptive Capacity**



**Figure 3: The Relationship between Inpatriates' Boundary Spanning and Knowledge Transfer (Inpatriate Effort) at High and Low Levels of Mentoring by HQ Staff**



**Figure 4: The Relationship between Inpatriates' Boundary Spanning and Knowledge Transfer (Perceived HQ Effort) at High and Low Levels of Mentoring by HQ Staff**



## **APPENDIX. Items of Inpatriates' Boundary Spanning Scale**

(1 = “strongly disagree” to 7 = “strongly agree”)

- (1) I am willing to share my personal contacts at my home unit with HQ staff.
- (2) It is important for me to establish close working relationships with as many local employees at the HQ as possible.
- (3) I see myself as a key person who links employees at the HQ and my home unit.
- (4) I concentrate on establishing relationships with employees at the HQ who are useful for my learning and professional development.
- (5) I concentrate on establishing relationships with employees at the HQ who are useful for my career advancement within the company.