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Predicting Expatriate Job Performance for Selection Purposes: A Quantitative Review

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Abstract

This article meta-analytically reviews empirical studies on the prediction of expatriate job performance. Using 30 primary studies (total N=4046), it was found that predictive validities of the big five were similar to big five validities reported for domestic employees (Barrick & Mount, 1991; Hertz & Donovan, 2000; Salgado, 1997; Tae & Byung, 2002). Extraversion, emotional stability, agreeableness, and conscientiousness were predictive of expatriate job performance; openness was not. Other predictors that were found to relate to expatriate job performance were cultural sensitivity and local language ability. Cultural flexibility, selection board ratings, tolerance for ambiguity ego strength, peer nominations, task leadership, people leadership, social adaptability, and interpersonal interest emerged as predictors from exploratory investigations (K<4). Surprisingly, intelligence has seldom been investigated as a predictor of expatriate job performance.

Predicting Expatriate Job Performance for Selection Purposes: A Quantitative Review

Research aimed at improving expatriate selection practices shows characteristics of a domain in its pre-paradigmatic state. According to Kuhn (1962), the pre-paradigmatic period is typified by a lack of cohesion and consensus about research methods and objects, by the appearance of schools of thought, and by a conflict between these schools.

Although there is little evidence of a conflict, the lack of cohesion and consensus about research objects is striking within the expatriate management literature. On the basis of either a theory or a review of earlier empirical work, many authors (e.g., Arthur & Bennett, 1995; Brislin, 1981; Gudykunst & Hammer, 1984; Hannigan, 1990; Jordan & Cartwright, 1998; Kealey, 1996; Kealey & Ruben, 1983; Leiba-O'Sullivan, 1999; Mendenhall & Oddou, 1985; Ones & Viswesvaran, 1997; Ronen, 1989) have compiled substantive lists of predictors that almost consistently show more uniqueness than overlap when compared to one another. For example, while Arthur and Bennett (1995) identify job knowledge and motivation, relational skills, flexibility/adaptability, extra-cultural openness and family situation as factors that appear to contribute to international assignment success, Ones and Viswesvaran (1997) focus on the big five personality dimensions (emotional stability, extraversion, openness to experience, agreeableness, and conscientiousness) in the prediction of aspects of expatriate success. It is difficult to find a common denominator within these lists (cf. Sinangil & Ones, 2001).

The quest for consensus on the criterion side of the equation has not fared much better. In this respect Arthur and Bennett (1995) note that more than five decades of research on expatriate selection has failed to yield a clear and explicit knowledge structure of what it is we should be training and selecting for. Evidence for

different schools of thought may be found in the fact that some researchers seek an answer to this criterion issue in the expatriate's adjustment (e.g., Black, 1990), while others (e.g., Dalton & Wilson, 2000) emphasize the expatriate's job performance as the criterion of choice.

Although the antecedents and consequences of expatriate *adjustment* have been well documented (see Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Hechanova, Beehr, & Christiansen, 2003, for meta-analytic reviews), many authors within the expatriate management literature have lamented the unavailability of *job performance* criteria for expatriates (see for example Arthur & Bennett, 1995, 1997; Hawes & Kealey, 1979; Kealey & Protheroe, 1996; Mol, Born, & Van der Molen, 2003; Ones & Viswesvaran, 1997; Sinangil & Ones, 2001; Werner, 2002).

Nevertheless, there has recently been an increase in empirical publications vis-à-vis expatriate job performance. This is affirmed by two meta-analytic publications about the relationship between training and expatriate job performance (see Deshpande & Viswesvaran, 1992; Morris & Robie, 2001). To our knowledge, however, a quantitative review of the relationship between selection context predictors and expatriate job performance has never been executed. Since an appreciation of criterion-related validities of predictor measures could prove to be invaluable for selection purposes, the time has come for a critical examination of these studies. In this way, future directions for research and theory-building may be identified and prioritized.

This article aims to meta-analytically review empirical studies to answer the following question: What are the (most promising) predictors of expatriate job performance? Meta-analytic procedures were employed whenever technically feasible (i.e., whenever the number of primary studies for a particular relationship exceeded

one). Theoretical support for expected relationships, and our hypotheses are presented after the central terms in our review namely *expatriate*, *criterion* and *predictor* are defined. Such definition is necessary because ambiguity in terms makes it difficult to integrate theoretical deliberations and research findings. In his chapter on expatriate selection, Deller (1997) for instance has aptly coined the existing ambiguity in the criterion domain a “Babylonian confusion of criteria” (p. 97).

For the definition of the *expatriate* we follow Aycan and Kanungo (1997), who have defined expatriates as “...employees of business and government organizations who are sent by their organization to a related unit in a country which is different from their own, to accomplish a job or organization-related goal for a pre-designated temporary time period of usually more than six months and less than five years in one term.” (p. 250).

The second term that needs to be defined is *criterion*. The previously cited Babylonian confusion of criteria is especially pervasive within the realm of expatriate management. In fact, Deller’s (1997) understanding of the criterion, which includes adjustment, seems much broader than the frequently cited Austin and Villanova (1992) definition. The latter definition, which has become a convention in the field of personnel psychology, states that “A criterion is a *sample of [job] performance* [italics added] (including behavior and outcomes), measured directly or indirectly, perceived to be of value to organizational constituencies for facilitating decisions about predictors or programs.” (p. 838). Although many other definitions of criteria may be found within the extant literature, this review will be limited to a discussion of criteria that are in accordance with the aforementioned Austin and Villanova (1992) definition.

A myriad of other variables such as family situation (i.e., the ability of the expatriate's family to adjust to living in a foreign environment), spouse adjustment and other family related variables (Tung, 1981), adjustment to living abroad (Hough & Dunnette, 1992) and cross-cultural adjustment (Caligiuri, 1997) have been investigated as dependent variables in validation research. However, it is our opinion that these may constitute important *correlates* of expatriate job performance rather than operationalizations of expatriate effectiveness (see also Mol et al., 2003; Sinangil & Ones, 1997; Sinangil & Ones, 2001).

The final term that needs to be defined is *predictor*. For our purposes, we define the predictor as any selection-context individual differences variable that may be used to forecast a criterion (cf. Binning & Barrett, 1989).

The Big Five Dimensions as Predictors of Expatriate Job Performance

A major issue in expatriate management research has been the apparent lack of interest in investigating whether domestic findings may be generalizable to the expatriate context. Indeed the most valid predictors of domestic¹ job performance, being the work sample test, the cognitive ability test, and the structured interview (Robertson & Smith, 2001; Schmidt & Hunter, 1998), have seldom or never been investigated in relation to expatriate job performance (see Table 2). It appears that for a long time research was based on the premise that employees are from Venus and expatriates are from Mars. Other domestic predictors such as the big five personality dimensions (i.e., extraversion, emotional stability, agreeableness, conscientiousness, and openness), have only since the change of the millennium received any (research) attention within the expatriate context (see Table 2). This state of affairs is in stark contrast with the amount of research that has been conducted into the big five dimensions as predictors of domestic job performance. The fact that domestic meta-

analyses from all corners of the world have been published within the last fifteen years or so (see Barrick & Mount, 1991; Hertz & Donovan, 2000; Salgado, 1997; Tae & Byung, 2002; Tett, Jackson, & Rothstein, 1991) illustrates this point. Mischel (1968) is cited within the domestic personnel selection literature as being partly responsible for the decline of personality psychology in the 1960's (Hogan & Roberts, 2001). It is intriguing that his often cited notion of the 'personality coefficient', "... coined to describe the correlation between .20 and .30 which is found persistently when virtually any personality dimension inferred from a questionnaire is related to almost any conceivable external criterion involving responses sampled in a different medium" (Mischel, 1968, p. 78) appears to be based in part on his earlier work among Peace Corps expatriates and his evaluation of other Peace Corps studies (cf. Sinangil & Ones, 2001).

Personality psychology has made an undisputable comeback, despite the fact that within domestic personnel selection the notion of the personality coefficient appears to be as valid today as it was several decades ago (cf. Barrick & Mount, 1991; Hertz & Donovan, 2000; Salgado, 1997). Thus, rather than solely attributing this resurgence to the fact that meta-analytic reviews signaled that "personality measures were more valid than generally believed" (Hogan & Roberts, 2001), we believe that this resurgence should be attributed to an increased realization of the potential utility of personality measures.

The expected difference in profit and cost between an excellent employee and a poor employee is much larger for expatriates than it is for domestic employees. Under these circumstances, even a predictor with a small-to medium predictive validity can result in a substantial improvement in utility. Interpreted in this way, the fact that personality psychology has made a comeback in selecting domestic

employees certainly makes a case for a comeback of personality psychology within the expatriate selection context. Especially when one considers that recent research has demonstrated that the five-factor model is cross-culturally invariant (Ones & Anderson, 2002; Salgado, Moscoso, & Lado, 2003). However, what remains to be demonstrated is that the big five are at least as predictive of expatriate job performance, as they are of domestic job performance.

Church (2000) on the basis of his review of the literature on culture and personality, has noted that there is “ample evidence of the validity of personality traits in predicting societally relevant criteria across cultures, with very preliminary indications that trait-criterion relationships may be weaker in ... [individuals from collectivistic] ...cultures” (p. 663). Judging from our set of primary studies (see Table 1) it emerged that expatriates were typically nationals of Western countries, and as such, it was assumed that trait-criterion relationships would not be affected by the finding that such relationships might be weaker in collectivistic cultures. Caligiuri (2000) and Ones and Viswesvaran (1997) argue that each of the big five dimensions should relate positively to expatriate job performance and do not see any reasons why these dimensions should not be related to job performance which takes place in another country than one’s home country. This led us to the following hypothesis:

Hypothesis 1(a-e): All of the big five personality dimensions, i.e., extraversion (1a), emotional stability (1b), agreeableness (1c), conscientiousness (1d), and (1e) openness, will relate positively to expatriate job performance.

Second, and relatedly, it was examined whether the size of the validities of the big five in predicting domestic job performance would generalize to an expatriate

context. Although, the expatriate context is markedly different from the domestic context (i.e., the expatriate has to adjust to living and finding his way in another country), we believe these differences will pertain mainly to the expatriate's non-work lives. In the end, an expatriate at work will be expected to exhibit a behavioral repertoire, which is highly similar to that of a domestic manager, namely, task oriented activities in a social context. For effectively demonstrating such behaviors, all big five personality dimensions will have predictive validity. Thus, although some of the intercultural exchanges that an expatriate may engage in at work might call for some behaviors that do not belong to the criterion domain of a domestic employee, it is argued here that at work the work context will override the cultural context in determining the predictive validities of the big five dimensions. According to Ones and Viswesvaran (1999) the results of policy capturing studies with regard to the relative *perceived* importance of personality dimensions for expatriate selection and domestic selection are generally consistent (cf. Dunn, Mount, Barrick, & Ones, 1995). It was hypothesized that this finding would be corroborated empirically, leading to the following hypothesis:

Hypothesis 2(a-e): Domestic and expatriate findings regarding the relationship between the big five personality dimensions, i.e., extraversion (2a), emotional stability (2b), agreeableness (2c), conscientiousness (2d), and (2e) openness will not differ.

Third, it was examined whether the validities of the big five dimensions in predicting expatriate job performance would be moderated by self- versus other-ratings of performance. Such moderation is quite pertinent to expatriate management

researchers, since in practice obtaining performance evaluations from others is often unattainable. In their domestic meta-analysis, Harris and Schaubroeck (1988) found major differences between self- and other-ratings of performance. In addition, Mount, Barrick and Straus's (1994) domestic data indicate that other-ratings of the big five personality dimensions account for more criterion variance than self-ratings, with the criterion itself being a supervisor rating. However, they did not examine whether the same holds true for the relationship between self-rated personality versus self- and other-ratings of performance. That is, does criterion rater type (self vs. other) moderate the predictive validity of the big five? It is known that self-ratings of performance are likely to be inflated due to defensiveness on the part of the rater, leading to a more positive evaluation than ratings provided by others. According to Harris and Schaubroeck, "this would lead the self-ratings to have a restricted range, thereby attenuating the correlation between self- and others' ratings" (p. 45). Their data however indicated that although self-ratings were inflated, this inflation remained the case even after correcting for this range restriction. Thus, they found no direct effect of defensiveness on this inflation. Although Harris and Schaubroeck subsequently set out to see whether the moderator of defensiveness was itself somehow moderated, the following is hypothesized for the purposes of the present investigation:

Hypothesis 3(a-e) The predictive validities of the big five personality dimensions, i.e., extraversion (3a), emotional stability (3b), agreeableness (3c), conscientiousness (3d), and (3e) openness will be lower for self-rated expatriate job performance than for other-rated expatriate job performance.

Expatriate Context-Specific Variables as Predictors of Expatriate Job Performance

Within the above, it was argued that the big five personality dimensions, which traditionally have been applied within the domestic context, will explain an untrivial amount of expatriate criterion variance. This, however, does not rule out that expatriate context specific predictors (cf. Fernandez de Cueto, 2004) of expatriate job performance may explain additional variance. Indeed, it is quite plausible that expatriate context-specific predictors, such as cultural sensitivity for example, could explain additional variance in an expatriate-specific criterion domain (see Caligiuri, 1997; Caligiuri & Day, 2000's assignment-specific performance). Although assignment-specific performance has seldom been assessed in studies that have been aimed at the prediction of expatriate job performance, there is some evidence to suggest that raters implicitly include assignment-specific performance in their ratings of overall performance. Indeed, Liu (2003) found a high correlation ($r = .67, p < .05, N = 101$) between these performance sub-dimensions and Caligiuri (1997) found an average correlation (over self, leader, and peer ratings) of ($r = .24, p < .05, N = 115$) between expatriate-specific performance and overall performance. It was therefore anticipated that expatriate context-specific predictors (such as local language ability) relate to expatriate overall performance. So, in addition to the big five factors, meta-analyses were conducted on other predictor variables, namely: local language ability, cultural sensitivity, previous international experience, and flexibility. Hypotheses for the relationships of these variables with expatriate job performance are presented below.

Although the English language has become quite standard in the globalized economy, for many expatriates it may be a second or even a third language. In addition, English may not be widely understood in the host country. Therefore, it may

be expected that *local* language ability (see Clegg & Gray, 2002) is a crucial factor to effective performance. Indeed nearly every expatriate in a survey conducted by Oddou and Mendenhall (1991) felt that having an ability to communicate with foreign nationals was as, if not more, important to successful job performance than technical competence. In this context Oddou and Mendenhall (Oddou & Mendenhall, 1991) note that “regardless of how much an expatriate knows, if he or she is unable to communicate with and understand the host nationals, the work will not get done.” (p. 369). Jordan and Cartwright (1998) based on their review of the literature pertaining to the selection of international managers, also identified linguistic skills as a core selection competency for international assignments. From this, the following hypothesis is derived:

Hypothesis 4: Local language ability will relate positively to expatriate job performance.

Cultural sensitivity facilitates an understanding of the host country nationals. It was defined by Chen and Starosta (2000, p. 409) as “an individual’s ability to develop a positive emotion towards understanding and appreciating cultural differences that promotes appropriate and effective behavior in intercultural communication”. As such, cultural sensitivity may be expected to positively affect expatriate job performance. That is, an expatriate who routinely violates the norms and values of local colleagues, clients and the general public, is unlikely to excel. On the basis of their review of the literature, Jordan and Cartwright (1998) identify cultural sensitivity as a competency that cannot be omitted in an assessment of suitability for selection. It is therefore hypothesized that:

Hypothesis 5: Cultural sensitivity will relate positively to expatriate job performance.

Aycan (1997) states that “in [the] face of demanding circumstances (domestic or international), experience may be more valuable than knowledge to guide individuals in finding sound solutions to problems.” (p. 17). In addition, Torbiorn (1997) has suggested previous international experience to be important. Finally, Bell and Harrison (2002) proposed that expatriate adjustment would lead to further and future development of bicultural competencies. Because these bicultural competencies may serve to facilitate performance, it is hypothesized that:

Hypothesis 6: Previous international experience will relate positively to expatriate job performance.

Arthur and Bennett (1995) identified flexibility as one of five factors perceived by expatriates to contribute to success. In fact, flexibility ranked second, surpassed in perceived importance only by family situation. Ronen (1989) in his review on expatriate selection and training also identified flexibility as an attribute of success in overseas assignments. It was therefore hypothesized that flexibility, which for the purposes of the present investigation is defined as “...the capability to accept new ideas and see more than one’s own way of approaching and solving problems” (Tucker, Bonial, & Lahti, 2004, p.230) would be predictive of expatriate job performance:

Hypothesis 7: Flexibility will relate positively to expatriate job performance.

Adjustment as an On-Assignment Correlate of Expatriate Job Performance

On-assignment adjustment may not be used as a predictor of expatriate job performance. However, the magnitude of the relationship between (on-assignment) adjustment and performance is highly relevant to future theoretical developments in the prediction of expatriate job performance (e.g., perhaps it moderates this relationship). In addition, the demonstration of an empirical linkage between adjustment and performance may serve to reconcile the previously mentioned dissimilar schools of thought regarding the criterion of choice. Therefore, the relationship between facets of expatriate adjustment and performance is meta-analytically investigated within this review.

Black (1988) was among the first to suggest that adjustment is a multi-faceted construct. Factor analysis of an eleven-item adjustment scale administered to American expatriates employed in Japan revealed the following three factors: general adjustment (i.e., adjustment to general living conditions and everyday life), interaction adjustment (i.e., adjustment to interacting with locals), and work adjustment (i.e., adjustment to work responsibilities) (Black, 1988). These facets have been replicated countless times within the expatriate management literature (see Bhaskar-Shrinivas et al., 2005; Hechanova et al., 2003, for meta-analytic reviews).

In his original study, Black (1988) did not assess (supervisor-rated) performance because he felt this would unnecessarily restrict response rates. However, Black pointed to the relationship between adjustment and performance, when he stated that “Objectively [adjustment] is the degree to which the person has mastered the role requirements and is able to demonstrate that adjustment via his or

her performance” (p. 278). Because adjustment may thus be conceived of as a meaningful on-assignment correlate of expatriate job performance, it is proposed here that all facets of adjustment will relate positively to expatriate job performance:

Hypothesis 8(a-c): General adjustment (a), interaction adjustment (b), and work adjustment (c) will be positively related to expatriate job performance.

Exploratory meta-analyses on predictors of expatriate job performance

Quite a few other generalized domestic predictors and expatriate context-specific predictors have been investigated within the expatriate context. However, oftentimes, primary data for these predictors could not be aggregated due to a lack of studies examining the relationship at hand (i.e. $K < 2$). Although we did not aspire to take a stand on variables that have seldom been investigated within the expatriate management context, all meta-analyses that could be conducted on such predictors are reported here in order to ensure a comprehensive review of the state of the art of predicting expatriate job performance. Variables for which such exploratory meta-analyses were conducted are: cultural flexibility, level of education, ego-strength, English language ability, fulltime work experience, intelligence, Meyers-Briggs Type Indicator (MBTI) introversion, number of previous assignments, peer nominations, relevant experience, selection board ratings, tolerance for ambiguity, ethnocentrism, task leadership, people leadership, open-mindedness, tolerance, patience, social adaptability, interpersonal interest and locus of control.

Exploratory analyses on biographical/control variables

Finally, in order to examine the influence of a number of control/biographical variables on expatriate job performance exploratory meta-analyses were conducted on

the following variables: gender, age, assignment tenure, individualism, masculinity, power distance, uncertainty avoidance, and cultural distance.

Method

Literature search

Several approaches to locating studies that had examined expatriate job performance were employed. The ABI-INFORM Archive Complete, ABI Inform Global, Dissertation Abstracts, PsychInfo, SSCI, Scirus, and Anne-Wil Harzing's (2002) Literature Databases were searched using multiple keywords. The Anne-Wil Harzing Literature Database (2002) is available online and contains thousands of literature references in the area of International Management/Business, Comparative and Cross-cultural Management. Keywords included all possible derivatives and combinations of the following terms: expatriate, international assignee, performance and effectiveness. Past and present conference programs of the Academy of Management and the Society for Industrial and Organizational Psychology were also examined for relevant studies. In order to prevent an overemphasis on U.S. studies, online search engines were also consulted using both country extensions (e.g. .cn for China) and alternative languages in addition to the (translated) keywords. "Snow balling" (i.e., the examination of references of articles for the identification of other relevant studies) was conducted on all identified studies. In addition, prominent authors within the field were contacted by e-mail and asked whether they knew of any published/unpublished studies on expatriate job performance. Finally, a request for validity data was placed on two relevant bulletin boards (i.e., the SIOP Bulletin Board and the International HR Digest), and 27 consulting companies that advertised expatriate selection services were contacted by e-mail with a request for validity data.

Inclusion criteria

Only those studies that had explicitly examined the prediction of expatriate job performance were included. No attempt was made to force related but not identical variables, such as work adjustment, into the performance domain. Only studies that focused on expatriates (as opposed to repatriates) were included.

Sixteen studies that had focused on the prediction of expatriate job performance were identified through literature searches employing keywords. Two of these (Caligiuri, 1996; Gelles, 1996) refer to unpublished works that could not be tracked down. Nonetheless, it emerged that all data reported in Caligiuri's (1996) dissertation had since been published (P. Caligiuri, personal communication, September 10, 2003) and had already been located.

Another 11 studies were identified through snowballing. An anonymous reviewer of an earlier version of this manuscript suggested three further studies (reported in Shaffer, Ferzandi, Harrison, Gregersen, & Black, 2003). Two final studies (Fernandez de Cueto, 2004; Robinson & Williams, 2003) were obtained through our search of conference programs. In total, 30 studies could be included.

Sample characteristics

Summary statistics for the 30 studies may be found in Table 1. The average response rate for the typical study was 42%. In addition, it is noteworthy that the typical study seems to employ American expatriates residing in Asia. Average tenure in the current country was approximately 26 months, while average total expatriate tenure appeared to be only 20 months higher (average standard deviations could not be estimated because these were seldom reported). It should be noted that these findings are rather inconclusive because only 6 of the 30 studies reported both average tenure in the current country and total expatriate tenure. With a mean percentage of 83%, males were highly overrepresented. This finding appears to be

characteristic of the expatriate population in general (see Sinangil & Ones, 2003). On the basis of studies reporting on marital status, it appears that 81% of expatriates were married, although it is unclear what percentage of spouses actually joined the expatriates on assignment. The average expatriate was 40 years old (again a standard deviation could not be calculated). Finally, it is remarkable that only five studies included in this review employed longitudinal designs.

Categorization

The categorization of the predictor variables and correlates is depicted in Table 2. Categorizations of studies in which an analogous predictor content domain had a different variable name than that reported in the column headings of Table 2. and other considerations that pertained to the meta-analyses on a study-by-study level are described below. Information regarding the specific instruments used, insofar as these are mentioned in the primary studies are available upon request from the first author.

Both Mischel (1965), and Guthrie and Zektick (1967) assessed manifest anxiety, the effects of which were mirrored and used within the emotional stability meta-analysis. Following Costa and McCrae's (1985) procedure, effects of Meyers-Briggs Type Indicator (MBTI) extraversion, MBTI feeling, MBTI judging, and MBTI intuiting from the study by Furnham and Stringfield (1993) were included in the extraversion, agreeableness, conscientiousness, and openness meta-analyses, respectively. Effects of acculturation attitudes (Stierle, Van Dick, & Wagner, 2002), and intercultural sensitivity (Volmer & Staufienbiel, 2003) were aggregated in the cultural sensitivity meta-analysis. Sinangil and Ones (1997) report that "In [their] data general adjustment to living abroad and interaction adjustment were highly correlated and therefore not retained as separate variables." (p. 185). The effect of this

aggregated measure was therefore included in the meta-analyses of both general and interaction adjustment. The interaction adjustment meta-analysis included an effect size of relationships with host nationals obtained from Feldman and Thomas (1992), an effect size of perceived effectiveness in the host community which was obtained from Guthrie and Zektick (1967), an effect size of quantity of contact with host nationals obtained from Stierle et al. (2002), and an effect size of interaction with local people obtained from Tucker et al. (2004). An effect for tolerance for uncertainty (Black & Porter, 1991) was labeled as tolerance for ambiguity.

Of the 30 studies, eight (Furnham & Stringfield, 1993; Kraimer, Wayne, & Jaworski, 2001; Liu, 2003; Shaffer et al., 2003 - 3 studies; Sinangil & Ones, 1997, 2003) had employed multidimensional operationalizations of expatriate job performance. This seems to be in accordance with the current state of affairs in domestic personnel selection research and with Motowidlo and Schmitt (1999), who posit that the performance domain is behaviorally multidimensional. However, the fact that *different* multidimensional operationalizations were used, posed some problems for aggregation. Fortunately, three of these eight studies (Furnham & Stringfield, 1993; Sinangil & Ones, 1997, 2003) also reported correlations of predictors with an aggregated or overall performance measure. For the first study reported in Shaffer et al. (2003) these could be obtained (M. A. Shaffer, personal Communication, March 15, 2004). For the four other studies, effects on the different performance dimensions (e.g., contextual and task performance) were averaged, since entering both correlations would entail a violation of the independence assumption (Hunter & Schmidt, 1990).

Of the 30 studies, all but eleven (i.e., Black & Porter, 1991; Gross, 2002; Liu, 2003; Parker & McEvoy, 1993; Robinson & Williams, 2003; Shaffer et al., 2003 -

study 2 and 3; Tsang, 2001; Tucker et al., 2004) had avoided potential common method variance by obtaining performance ratings from the supervisor or coworker rather than relying on self-rated performance. Both Deller (2000), and Stierle, Von Dick, and Wagner (2002) only had supervisory performance ratings (vs. self-ratings) available for a fraction (28% and 47% respectively) of their samples. Therefore, effects of self-rated predictors on self-rated performance were entered into the initial meta-analyses for these thirteen studies. Although Stierle et al., (2002) did not discuss the actual supervisor-rated criterion-related validity estimates, they report a moderate correlation between self- and supervisor-rated performance ($r = .41, p < .01, n = 126$).

In the case of the first study reported by Shaffer et al., (2003), several options were available, as performance was rated by expatriates themselves and their colleagues, and the Big Five were rated by their spouses and their colleagues. The effects for spouse-rated personality and self-rated performance were entered into the initial meta-analyses for this study, since this avoided common method variance and yielded the highest sample size. Effects for spouse-rated personality on colleague-rated job performance were entered into the other-rated performance moderator analyses for the big five (data obtained from M.A. Shaffer, personal communication, March 15, 2004).

In addition to host country manager performance ratings, the study by Dalton and Wilson (2000) also included performance ratings from the home country supervisor. Both agreeableness ($r = .48, p < .05, n = 22$) and conscientiousness ($r = .49, p < .05, n = 22$) related significantly to home country supervisor ratings of job performance, but no significant relationships were found between the various big five dimensions and host country-rated job performance. However, since it was felt that host country ratings would more accurately reflect the expatriates' job performance it

was decided to obtain the host country ratings (M. Dalton, personal communication, July 23, 2003). Data in the form of 360-degree performance evaluations were available for two studies (Guthrie & Zektick, 1967; Schneider, 1997). In a very early appearance of 360-degree evaluations, Guthrie and Zektick aggregated their one-item performance measure across at least three ratings per subject. Ratings in Schneider's (1997) study were supplied by the expatriate him or herself ($n = 76$), managers inside the host country ($n = 30$), managers outside the host country ($n = 9$), subordinates ($n = 74$), peers ($n = 90$), and customers ($n = 38$). Interestingly, correlations between self-rated job performance and the performances as rated by the managers in the host country ($r = -.14$) and the host country subordinates ($r = -.17$) were negative, albeit not significant. Unfortunately, the author did not explore this issue further, because the purpose was "...not to examine the difference in ratings across various rater populations." (Schneider, 1997, p. 61). Instead, these scores were simply averaged to form a composite performance evaluation.

In case of unreported reliabilities, authors were first contacted to see whether these could be obtained. In cases where no reply was received, it was examined whether the reliability for the scale in question could be obtained from a manual. The reliabilities for which this was not possible were estimated by averaging the reliabilities of the identical variables from the other studies.

Analyses

According to Rothstein, McDaniel, and Borenstein (2002) "random effects models are appropriate whenever there is reason to suspect that the studies are truly heterogeneous, that is they are not drawn from a single population" (p. 543). Because there was quite some diversity (e.g., in host country, expatriate nationality, and

occupations) between the samples from which our data were drawn, a random effects model was thus decided upon.

Correlations from the 30 primary studies were analyzed using Schwarzer's Statistics Software for Meta Analysis 5.3 (Schwarzer, 1989b). Although the program provides output on the basis of the procedures developed by both Hunter, Schmidt, and Jackson (1982) and Hedges and Olkin (1985), only the output based on the procedures developed by the former was used for the purposes of the present investigation (i.e., data were not transformed using Fisher's Z -transformation). This was decided because when sample sizes are greater than 20, the positive bias in Fisher Z -transformations outpaces the negative bias in averaging raw correlations (Hunter & Schmidt, 1990). The Schmidt and Hunter (1977) method was employed to correct for artifacts.

In addition it should be noted that instead of using the confidence intervals from the output file, these were calculated on the basis of formulae provided by Whitener (1990) which were expected to yield a more accurate estimate and had the added advantage of allowing the calculation of confidence intervals for heterogeneous cases.

In line with the optimal sequence for decisions and calculations to be made in meta-analysis delineated by Whitener (1990), first the credibility intervals and in particular their residual standard deviation terms, were examined in order to detect the presence of moderators. The difference between the confidence and the credibility interval is that the first is centered around the sample -size weighted mean effects sizes, while the latter is centered around the estimated true -score correlations (see also Barrick & Mount, 1991; Whitener, 1990). As a decision rule, homogeneity was ascertained when the residual standard deviation ($SD?$) was smaller than 25% of the

corrected population effect size (d) (see Schwarzer, 1989a; Stoffelmayr, Dillavou, & Hunter, 1983).

Upon conducting the different meta-analyses, it appeared that quite a few of the residual standard deviations could not be calculated because residual variances for some relationships were estimated to be negative, which caused the residual standard deviation to be undefined (i.e. the square root of a negative number). Although this was likely the result of an inflated sampling error due to the relatively small number of studies included in those analyses, we followed Schwarzer's (1989a) recommendation, who in discussing the Schmidt-Hunter method states that these should be interpreted as being equal to zero.

The second step in Whitener's (1990) optimal sequence is to calculate the confidence intervals so that the accuracy of the estimate of the mean effect size may be approximated. The 95% confidence interval for homogeneous results was calculated using a formula which was derived from a formula for calculating the standard error reported by Whitener (1990, p. 316) and in case of heterogeneous results, 95% confidence intervals were calculated using a formula which was constructed on the basis of the formula for calculating the standard error for heterogeneous studies reported by Whitener (1990, p. 317). She states that in case of heterogeneous results such intervals may "be generated around the mean of the subpopulations using the standard error for the heterogeneous case" (p. 317). Significant effects of a predictor on expatriate performance were concluded only in those cases where the (homo- or heterogeneous) confidence intervals excluded zero.

Additional information regarding the analyses used to investigate hypothesis 2(a-e) concerning the equivalence of domestic and expatriate validities of the big five,

and 3(a-e) concerning rating source (self vs. other) as a moderator of big five validities is provided below.

To investigate hypothesis 2(a-e), the following procedures were followed. Due to an emphasis on their search for moderators, none of the domestic meta-analyses reported 95% confidence intervals. Therefore, these were computed on the basis of the two formulae for calculating sampling error (for the homogeneous and heterogeneous case), which were obtained from Whitener (1990). The decision rule for ascertaining homogeneity was first applied to the big five data reported within the different meta-analyses. Subsequently the corresponding (heterogeneous or homogeneous) 95% confidence interval was calculated. Unfortunately both Barrick and Mount (1991) and Tae and Byung (2002) did not report residual standard deviations for the sample -weighted mean. Therefore, the confidence intervals for their heterogeneous effects could not be estimated.

As a test for the equality of the big five validities across the four domestic meta-analyses and the meta-analytic data reported in this article, a formula for testing the equality of any number of independent correlations obtained from Brannick (2004) was employed. Only when this calculation resulted in a significant finding, indicating that not all of the meta-analytic correlations entered into the equation were equal, further analyses were conducted using the formula for testing the equality of two independent correlations which was also obtained from Brannick (2004).

The moderator analyses that needed to be conducted to investigate hypothesis 3(a-e) concerning the big five predictive validities for self- vs. other-rated performance, were conducted by splitting the original primary data files of big five validities into self- and other-rated performance subsets. In order to establish the presence of a moderator it was examined whether the homo- or heterogeneous

confidence intervals showed any overlap. In case there was no overlap, it was concluded that the effect was moderated. Having discussed some of the particularities of the analyses that were conducted, the results for the various meta-analyses are presented below.

Results: Meta -Analytic and Quantitative Review of Expatriate Job Performance Correlates

Results of the various meta-analyses are presented in Table 3. Column two through seven respectively contain the total sample size, K (i.e., the number of correlation coefficients) on which each analysis was based, the observed population effect size (sample weighted mean r), the estimated true population effect size after correction for attenuation (r^*), the estimated true residual standard deviation (SD^*), the lower bound of the 95% confidence interval, the lower bound of the 95% credibility interval, and the results for the employed decision rule for homogeneity ($SD^* < 1/4^*$). In those cases where the data were homogeneous (indicated by 'yes' in column 7), a homogeneous confidence interval was calculated and vice versa.

The Big Five Factors as Predictors of Expatriate Job Performance

Hypothesis 1a-1e stated that the Big Five personality dimensions would relate positively to expatriate job performance. As may be observed from Table 3, the heterogeneous confidence intervals for extraversion, emotional stability, and agreeableness, and the homogeneous confidence interval for conscientiousness excluded zero. Support was therefore found for the hypothesized relationships with job performance of extraversion (1a), emotional stability (1b), agreeableness (1c), and conscientiousness (1d), although the effects of extraversion, emotional stability, and agreeableness appear to be moderated. No support was found for the relationship of openness (1e) with expatriate job performance. Since this effect was also moderated,

it might well be that more positive findings for a certain subset may emerge in future studies. It should also be noted that all of the effect sizes were small, although not smaller than those typically found within domestic contexts, as will be demonstrated below.

To test hypothesis 2a-2e (concerning the equivalence of domestic and expatriate big five validities), the sample-size weighted mean uncorrected correlations and associated 95% confidence intervals that were found within the present study were compared with those found within culturally diverse contexts (see Figure 1). Of the available domestic meta-analyses that had examined the relationship between the big five dimensions and job performance, the meta-analysis by Tett et al. (1991) was excluded because apparently some serious errors were made in its analyses (Ones, Mount, Barrick, & Hunter, 1994). Although Hertz and Donovan (2000) focused exclusively on US studies, Barrick and Mount (1991) also included Canadian studies in their meta-analysis. In addition, Salgado focused exclusively on European studies while Tae and Byung (2002) included only Korean studies. Since Barrick and Mount (1991) did not report an N and a K for their mean (across populations) estimates, data from their managerial subsample were used for these analyses.

As may be observed from Figure 1, all of the sample-size weighted mean uncorrected correlations employing expatriate samples were equal to or higher than the sample-size weighted mean uncorrected correlations found within domestic studies. The largest difference between these correlations amounted .10 (for the comparison of our effect for agreeableness with that of Tae and Byung (2002)). In order to test the equivalence of the big five validities across the different meta-analyses, a Q -statistic was calculated for each of the dimensions and compared to a chi-square value with $k-1$ degrees of freedom and $p = .05$ (see Table 4).

For all of the big five dimensions (i.e., extraversion, emotional stability, agreeableness, conscientiousness and openness), the (null)hypothesis, that all (domestic and expatriate) meta-analytic sample-size weighted mean uncorrected correlations were equal, had to be rejected (see Table 4). Therefore, pair-wise analyses for our effects with all of the other effects were conducted (see Table 4). It was found that the expatriate sample -size weighted mean uncorrected correlation of extraversion was significantly higher than the domestic validities for extraversion that were reported by Hurtz and Donovan (2000) and Salgado. No differences were found between the expatriate validity for emotional stability and the validities for emotional stability that were reported in the domestic meta-analyses. With regards to agreeableness, it was found that the expatriate mean uncorrected correlation was significantly higher than those reported for agreeableness by Salgado (1997) and Tae and Byung (2002). No differences between the expatriate validity of conscientiousness and the domestic validities for conscientiousness were found. For openness, finally, it was found that the expatriate mean uncorrected correlation was only significantly higher than the mean uncorrected correlations for openness that was reported by Tae and Byung (2002). Based on the confidence intervals shown in Figure 1 and these analyses it appears that personality is at least as predictive of expatriate job performance as it is of domestic job performance. Thus, although the effect sizes are small, they are comparable to the effect sizes found in domestic meta -analyses.

In order to investigate hypothesis 3(a-e), it was examined whether the confidence intervals for each of the big five dimension subsets (self- vs. other-rated performance) showed any overlap (see Table 3). In case rater type (self versus other) had been the one and only moderator at work, one would expect these analyses to result in homogeneous confidence intervals. However, only the self and other rater

performance subsets for conscientiousness were both homogeneous and none of the homo- or heterogeneous confidence intervals were non-overlapping. Hypothesis 3(a-e) regarding moderation of performance rater type (self vs. other) on big five validities were the refore not supported within the present investigation.

Expatriate Context-Specific Variables as Predictors of Expatriate Job Performance

The results for the relationship between local language ability and expatriate job performance (Hypothesis 4) are also presented in Table 3. The uncorrected and corrected correlations between language ability and expatriate job performance were small and in the hypothesized direction. In addition, the lower bound of the (heterogeneous) 95% confidence interval excluded zero. This finding supports the hypothesis that local language ability is predictive of expatriate job performance. However, more research may be needed on the moderators of this relationship.

Of all the hypothesized relationships between selection context predictors and expatriate job performance, the effect for cultural sensitivity on expatriate job performance (Hypothesis 5) was strongest ($r = .24$) as may be observed from Table 3. The homogeneous 95% confidence interval for this effect excluded zero. Although this effect was still only moderate, it supports the hypothesis that cultural sensitivity is related to expatriate job performance.

Hypothesis 6, which stated that prior international experience would relate positively to expatriate job performance, was not supported. That is, the heterogeneous confidence interval for this effect included zero. Judging from the rather extreme breadth of the credibility interval and the ratio of the residual standard deviation to the corrected population effect size, moderators are clearly implicated.

It was found that the (homogeneous) confidence interval for flexibility included zero, which led us to conclude that hypothesis 7, stating that flexibility

would relate positively to expatriate job performance was not supported. A possible explanation for this finding could be sought in the generality of the flexibility construct. Findings regarding cultural flexibility appear much more promising (see below in the exploratory analyses section).

Adjustment as an On-Assignment Correlate of Expatriate Job Performance

Results of the meta-analyses of the relationships between the three types of adjustment (general, interaction and work adjustment) and expatriate job performance (Hypothesis 8a-c) are also presented in Table 3.

The heterogeneous confidence interval for general adjustment and the homogeneous confidence intervals for interaction and work adjustment all excluded zero, which supports the hypothesis regarding the relationship of these facets with expatriate job performance (8a, 8b, and 8c). It should be noted, though, that the effects ($r = .14$, $r = .24$, $r = .27$, respectively) were only small to moderate in size. In addition, more research may be needed to find the moderators for the relationships between general adjustment and expatriate job performance.

Exploratory Analyses on Predictors of Expatriate Job Performance

Meta-analyses were also carried out on effects for which less than four effect sizes were available. Although the results for these analyses are less robust than the results for the meta-analyses with a higher K , they are more robust than the effects reported in the single studies that comprise them.

The homogeneous confidence intervals for cultural flexibility, ego strength, peer nominations, selection board ratings, tolerance for ambiguity, task leadership, social adaptability, and interpersonal interest, and the heterogeneous confidence intervals for ethnocentrism and people leadership all excluded zero. These variables therefore hold promise as predictors of expatriate job performance, although the

actual effect sizes were small in most instances. As may be observed from Table 3, the relationships between English language ability, ethnocentrism, people leadership and locus of control with expatriate job performance were moderated. Interestingly, it appears that peers are to some extent able to distinguish between who will and who will not succeed on international assignments.

No effects were found for the relationships between expatriate job performance and level of education, English language ability, fulltime work experience, intelligence, MBTI introversion, number of previous assignments, relevant experience, open-mindedness, tolerance, patience and locus of control. It seems that these variables are less useful within the expatriate selection context.

Exploratory analyses on biographical/control variables

Although some of the studies reported correlates of expatriate job performance that may not be very practical for selection purposes, such as cultural distance and gender (see Caligiuri & Tung, 1999), estimates of the effects of these variables on expatriate job performance were included because of their significance as potential moderators in future research. Although the effect is small, it appears from its heterogeneous confidence interval that assignment tenure is somewhat predictive of expatriate job performance, with expatriates who have been on assignment for a longer period of time outperforming the new arrivals.

The heterogeneous confidence intervals for cultural distance and individualism and the homogeneous confidence intervals for the remaining biographic/control variables all included zero and it was thus concluded that none of these variables had a significant relationship with expatriate job performance. Cultural distance, operationalized either through a computation on Hofstede's (1980) dimensions (individualism, masculinity, power distance, and uncertainty avoidance) or measured

through a self-report scale, does not seem to affect expatriate performance. The same may be said for the effects of age and gender. On the basis of these results, future research, in our view, does not need to be especially concerned with controlling for these latter variables, although assignment tenure should be considered when conducting research on expatriates.

Discussion

In this section we start with a general overview of the state of affairs in the prediction of expatriate job performance on the basis of the findings of this study. Subsequently a tentative profile of the ideal overseas type will be presented. In addition, limitations of our study will be discussed including their reflections of the limitations of the primary studies we were able to obtain. Finally, some promising research directions will be pointed out.

One of the important findings from these meta-analyses is that the domestic relationships of the Big Five personality factors and job performance were clearly reproduced in the expatriate realm (Hypotheses 1a-e). Indeed, based on a comparison of meta-analytic findings from studies conducted in several parts around the world (Hypothesis 2a-e), it appears that personality is as, if not more predictive of expatriate job performance than it is of domestic job performance. Although hypothesized to be positive (Hypothesis 1e), the apparent non-existence of a relationship between openness and expatriate job performance corresponds with domestic findings. Within the expatriate context, it thus seems that extraversion, emotional stability, agreeableness and conscientiousness contribute to successful job performance: being assertive, stable, dutiful, and not shy, easily worried or nervous seem to be indicators of success in the foreign assignment. It is noteworthy that the counterhypothetical findings for openness are diametrically opposed to the common thought within the

expatriate management literature (e.g., Caligiuri, Hyland, Joshi, & Bross, 1998; Jordan & Cartwright, 1998) that being open to new and unknown experiences are important attributes of the successful expatriate. Interestingly the (near) equivalence of domestic and expatriate (non)findings regarding openness does provide additional support for the notion that domestic predictive validities generalize to the expatriate context.

No support was found for any moderation effects of criterion rater type (self- vs. other) on expatriate big five validities (Hypothesis 3a-e). Although this finding is rather tentative due to the relatively small number of studies that could be included, it appears that expatriates are not prone to a defensiveness that would lead them to inflate their self-rated performance. This finding may provide some comfort to expatriate researchers who can only obtain self-ratings of both the predictor and the criterion. However, another explanation of this finding could be that an inflation in validity due to common method variance (i.e., both the predictor and the criterion are rated by the expatriate), is cancelled out by a deflation due to the range restriction that results from defensiveness. It should be noted, that in relation to the overall big-five meta-analyses, a larger percentage of the self- and other- performance rating subsets yielded homogeneous results. Taken together with the fact that differences (albeit not significant) between the self- vs. other- subsets were in the expected direction for emotional stability, conscientiousness, and openness, it could well be that the power of these moderator analyses was too small to detect the presence of moderators. More research is clearly needed on this issue before firm conclusions can be drawn.

Of the expatriate context-specific predictors that were examined, cultural sensitivity (Hypothesis 5) in particular showed a relatively strong and positive relationship with job performance ($r = .24$). In addition, local language ability

(Hypothesis 4) also seems to be predictive of expatriate job performance. Previous international experience (Hypothesis 6) and broad bandwidth flexibility (as opposed to cultural flexibility) on the other hand do not seem to be predictive (Hypothesis 7).

All of the relationships of the facets of adjustment with expatriate job performance (Hypotheses 8a-c) were in the expected positive direction. The findings reported within this meta-analysis seem to corroborate earlier meta-analytic findings regarding the relationship between the adjustment facets and expatriate job performance. With regard to general, interaction, and work adjustment Bhaskar-Shrinavas (2005) found uncorrected correlations of $r = .15$, $r = .15$, and $r = .31$ while Hechanova et al., (2003) found uncorrected correlations of $r = .13$, $r = .17$ en $r = .40$ respectively. It should be noted that the former findings are probably more robust than the latter, since the meta-analyses of the adjustment facets on expatriate job performance in the Hechanova et al., (2003) study were only based on two coefficients. It appears then, that the magnitude of the correlations between expatriate job performance and the various facets do not provide very strong support for Black's (1988) definition of adjustment in terms of performance that was cited within the introduction.

From the explorative analyses that were carried out, it emerged that cultural flexibility, MMPI ego-strength, peer nominations, selection board ratings, tolerance for ambiguity, ethnocentrism, task leadership, people leadership, social adaptability and interpersonal interest all appear to hold promise as valid predictors of expatriate job performance. Absolute values for the sample-weighted correlations for these relationships ranged from $r = .11$ to $r = .34$. Although these findings are likely to be less robust than meta-analytic findings that are based on more studies, we believe these variables are certainly worthy of further investigation.

The findings regarding 'broad bandwidth' flexibility and cultural flexibility are of particular interest. Although no support was found for the relationship of 'broad bandwidth' flexibility with expatriate job performance, the current investigation provides preliminary evidence that more expatriate context-specific (cf. Fernandez de Cueto, 2004) aspects of flexibility do relate to expatriate job performance. That is, the exploratory meta-analysis on the effect of cultural flexibility on expatriate job performance revealed much more promising results ($r = .21$ instead of $r = .08$). It appears that for this predictor at least, higher context-specificity results in a higher predictive validity.

Based on domestic findings (Schmidt & Hunter, 1998), the fact that no relationship was found between intelligence and expatriate job performance is surprising. However, of all (exploratory) meta-analyses reported in this article, the combined sample size for the effect of intelligence on expatriate job performance was smallest ($N = 76$). In addition it should be noted that Mischel (1965), from whom one of the effects ($r = .00$, $N = 41$) originated calls for caution in the interpretation of his findings since the administration of the Wechsler Adult Intelligence Scale (WAIS) was "...drastically deviant from the standard procedure" (p. 511). The moderate correlation ($r = .26$, $N = 35$) between intelligence and self-rated expatriate job performance that was reported by Deller (2000) appears more congruous with the domestic literature. Research into intelligence as a predictor of expatriate job performance should therefore not be abandoned on the basis of the findings reported here.

With the exception of assignment tenure, biographic and control variables did not appear to have any relationship with expatriate job performance. Although the effect was only small, future researchers working at identifying selection context

predictors of expatriate job performance, might consider taking into account the fact the longer expatriates are on assignment, the better they appear to perform.

The meta-analysis on the relation between gender and expatriate job performance showed that the high prevalence of males within this occupational category is unjustified. No gender differences in performance were found. Several biographic/background variables that were examined in relation to expatriate job performance did not hold up to what could be expected, e.g. cultural distance and Hofstede's (1980) dimensions. Based on the results of this investigation it appears that cultural distance does not affect job performance.

Finally, it is important to realize that the predictive validity of several strong domestic predictors such as cognitive tests, work sample tests, and the structured interview (see Schmidt & Hunter, 1998) unfortunately have barely been investigated in the expatriate context. As previously mentioned, only two studies (i.e., Deller, 2000; Mischel, 1965) could be located that had used intelligence tests, but no studies using assessment center scores or other work samples. Moreover, only two studies (i.e., Mischel, 1965; Volmer & Staufienbiel, 2003) had used an interview.

Although a definitive profile of the "ideal overseas type" may be premature at this point, we believe that the findings reported in this review are the most comprehensive basis currently available for the development of a valid predictor instrument. Based on the data reported earlier it would appear that such an instrument should focus on expatriates' extraversion, emotional stability, agreeableness, conscientiousness, local language ability, cultural sensitivity, cultural flexibility, social adaptability, ego-strength, interpersonal interest, tolerance for ambiguity, ethnocentrism, task leadership, and people leadership. In our opinion attributing any

other characteristics to successful expatriates is not possible at this point because of the instability of the results.

This brings us to the more general issue of weaknesses of our study. To a certain extent these limitations are related to limitations of the primary studies. Firstly, the number of primary studies available for each predictor was quite limited (the maximum being twelve for both extraversion and emotional stability). In addition, these studies also had relatively small sample sizes, the largest being 339 (Kraimer et al., 2001). Of the studies identified in the literature search a large percentage was theoretical in nature and only a small minority had attempted to actually validate predictors. Apart from the already mentioned omission of several potentially strong predictors in this research domain, the vast majority of studies lacked information on the relationship between marital status and job success even though marital status had been recorded in many studies (see Table 1). Because spousal and family support issues have had quite some attention as potential factors in the relevant literature (e.g., Ali, 2003), this omission is surprising. Yet another peculiar and important omission is the general unavailability of primary study information on the nationality of the supervisor responsible for the job performance ratings. Whether a supervisor has the home- or host-country nationality to our view is an important factor that may influence predictor-job performance relationships. Indeed, in their study on the cross-cultural equivalence of job performance ratings, Ployhart, Weichmann, Schmitt, Sacco, and Rogg (2002) found that error variances of the ratings, the pattern of construct variances, and intercorrelations with rater/ratee characteristics (age, tenure, and the supervisor's opportunity to observe the ratee) were largely culture-specific.

Another limitation is that the combination of types of operationalizations of job performance (task performance, overall performance, contextual performance and

assignment-specific performance) could be responsible for at least some of the heterogeneity in the findings. In addition to types of dependent measures many other potential moderators exist, such as host vs. home country coworker-rated performance, self- vs. other-rated predictors, expatriate nationality, assignment tenure, kind of predictor instrument used (e.g. openness to experience vs. intellect), and assignment type (e.g. managerial vs. technical). Future research should set out to examine the influence of these and other moderators on the predictor-performance relationships.

As a final limitation, it should be noted although many of the effect sizes came out significant (i.e. their confidence intervals excluded zero), the size of the effects was moderate at best and the percentage of explained variance (i.e. r^2) did not exceed 12% for any variable. Although it was demonstrated that the expatriate big five factor validities were at worst equal to and in many cases exceeded the validities reported in domestic meta-analyses, one could express doubts regarding the utility of these variables for expatriate selection. However, when one takes into consideration that assignments cost anywhere from US\$ 300,000 to 1 million dollars annually (Black & Gregersen, 1999) and that the financial gain from improved selection is directly related to validity (Warr, 1996), it appears that expatriate selection on the basis of the variables identified in this review could result in considerable cost-savings, especially when multiple predictor variables that have low intercorrelations are included.

The aforementioned limitations readily point to several interesting future directions for research. First, several voids need to be filled. In particular, more data is needed on the predictive validity of cognitive ability tests, work sample tests and the structured interview. Additional background information on the supervisor is needed and should be checked for its effect on predictor -job performance relationships. The

same point can be made for the potential effect of marital status and spousal support. Second, the mere size of the empirical database in the realm of expatriate job performance needs to increase. In this regard, Morris and Robie (2001) in their meta-analyses of the effects of cross-cultural training on expatriate performance and adjustment noted that “Most of the extant literature consists of the anecdotal experiences of former expatriate managers and tends to focus on rules of thumb or broad guidelines for behavior and training design without empirical support” (p. 121). The same criticism seems to apply to the expatriate selection literature.

A few notable exceptions notwithstanding, it appears that many consulting companies that offer expatriate selection instruments were not particularly eager to make their criterion related validity data available for inclusion in this investigation. Although this was more likely due to privacy concerns rather than lack of such data, the possibility remains that such data are simply unavailable. The relatively small empirical database on which this investigation was based is likely to be a reflection of the extreme practical difficulties encountered in gathering data from expatriates. Conducting research through e-surveys on the World Wide Web might alleviate this issue. Since most studies seem to have employed male American expatriates stationed in Asia, future research should endeavor to include samples that are more diverse so that findings may be generalized across all members of the expatriate population. Finally, Gregersen et al., (1996) have pointed to the importance of contextual criteria. These result from the situation in which the expatriate is performing and pertain to factors which are beyond his or her control. An example of a contextual criterion would be the general economic climate for an expatriate who needs to sign an important contract with a local contractor. Although contextual criteria were not *perceived* to be positively related to expatriate performance appraisal accuracy in the

study conducted by Gregersen et al., such criteria undoubtedly work to constrain or facilitate the expatriate's performance. It would be prudent for future researchers employing multidimensional operationalizations of expatriate job performance to address this issue as it relates to the performance dimensions at hand.

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Footnote

¹ Please note that the word 'domestic' is used within this article as an antonym for expatriate. Thus, a domestic employee is a non-expatriate employee.

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Table 1. Summary statistics for studies included in this review^a

	1	2	3	4	5	6	7	8	9	10	11	12	13
Author(s)	N(Resp.) ^b	Nation.	Location	AVTT(SD)	AVTE(SD)	Occ.	%Male	%Married	MAge	L	Ti	Pub	Loc.
Black & Porter (1991)	46 (32%)	US	HK	-	-	Man.	88	-	46 (-)	N	On	Y	Snow
Bolino & Feldman (2000)	268(33%)	80% US	Mixed	-	27(24.6)	Mixed	90	85	-	N	On	Y	Psych
Caligiuri (2000)	143 (51%)	81% US	25 C	21.6 (-)	-	85% Tech	83	75	40 (-)	N	On	Y	ABI
Caligiuri & Tung (1999)	98 (35%)	US	25 C	21.6 (-)	-	-	82	78	39 (-)	N	On	Y	Snow
Dalton & Wilson (2000)	61(-)	Arab	Arab	23 (14)	-	Man.	100	-	42 (-)	N	On/Post	Y	SSCI
Deller (2000)	83 (36%)	German	Korea	37.9 (-)	37.9 (-)	54% Man.	97	81	43 (-)	N	On	Y	Snow
Fernandez de Cueto (2004)	75(-)	Mixed	Dom.	-	31.2 (-)	-	75	-	38 (-)	N	On	N	SIOP
Feldman & Thomas (1992)	118(40%)	Mixed	Mixed	72 (-)	30(-)	Mixed	97	'Typically'	45 (-)	N	On	Y	ABI
Furnham & Stringfield (1993)	148 (-)	Euro	SEA	-	-	Man.	93	-	-	N	On	Y	SSCI
Grösch (2004)	202(-)	Mixed	Mixed	36 (-)	-	-	70	52	-	N	On	N	ABI
Gross (2002)	32 (26%)	US	Asia	10 (16)	12 (13)	Miss.	66	75	41(16)	N	On	N	Psych
Guthrie & Zektick (1967)	278 (-)	US	Ph.	24 (-)	-	PC Volunt	53	-	-	Y	Pre/On	Y	Snow

Table 1 (continued). Summary statistics for studies included in this review^a

	1	2	3	4	5	6	7	8	9	10	11	12	13
Author(s)	N(Resp.)	Nation.	Location	AVTT(SD)	AVTE(SD)	Occ.	%Male	%Married	MAge	L	Timing	Pub	Loc.
Harrison & Shaffer (2001)	108 (13%)	Mixed	HK	-	-	Man.	87	84	45 (-)	N	On	N	Snow
Kraimer et al. (2001)	339 (58%)	US	Mixed	23 (-)	-	Man/Tech	98	100	44 (-)	N	On	Y	Psych
Leslie et al. (2002)	75 (-)	-	-	-	-	Man.	-	-	-	N	On	Y	Snow
Liu (2003)	101 (51%)	TW	-	-	-	Medical	-	-	-	N		N	Snow
Mischel (1965)	41(-)	US	Nigeria	-	-	PC Vol.	68	-	-	Y	Pre/On	Y	Snow
Parker & McEvoy (1993)	169 (63%)	62% US	44% Euro	-	-	-	57	65	36(-)	N	On	Y	Snow
Robinson & Williams (2003)	105 (35%)	Mixed	Mixed	-	15.6 (-)	-	89	68	37 (-)	N	On	N	SIOP
Schneider (1997)	90 (-)	Mixed	China	-	-	67% Man.	92	-	-	N	On	N	Psych
Shaffer et al. (2003) - Study 1	81 (15%)	Mixed	HK	84 (-)	3 (-)	-	87	85	45 (9)	N	On	N	Rev.
Shaffer et al. (2003) - Study 2	309 (31%)	Korean	Mixed	-	-	Man.	100	96	39 (5)	N	On	N	Rev.
Shaffer et al. (2003) - Study 3	71 (47%)	Japanese	Mixed	156 (-)	48 (-)	Man.	100	92	39 (9)	Y	Pre/On	N	Rev.
Sinangil & Ones (1997)	220 (49%)	Mixed	Turkey	-	37 (63)	Service	75	85	40(10)	N	On	Y	Snow

Table 1 (continued). Summary statistics for studies included in this review^a

Author(s)	1	2	3	4	5	6	7	8	9	10	11	12	13
Author(s)	N(Resp.)	Nation.	Location	AVTT(SD)	AVTE(SD)	Occ.	%Male	%Married	MAge	L	Timing	Pub	Loc.
Sinangil & Ones (2003)	220 (-)	Mixed	Turkey	-	37 (63)	Service	75	85	41(10)	N	On	Y	SSCI
Stierle et al. (2002)	126 (50%)	German	41 C	32 (-)	-	Mixed	96	89% steady	-	N	91%On	Y	SSCI
Tsang (2001)	107 (91%)	Chinese	Sing.	38 (28)	-	Academic	88	-	-	N	On	Y	SSCI
Tucker et al. (2004)	100(-)	US	25C	-	>10	Corp.	92	85	42 (-)	Y	Pre/On	Y	ABI
Volmer & Staufenbiel (2003)	66 (-)	German	US	66 (-)	5 (5)	Trainees	47	-	25 (2)	Y	Pre/On	N	Snow
Wang (2001)	166(42%)	Mixed	China	-	-	-	82	68	-	N	On	N	ABI

^a Key to variable headings and value labels

1 = sample size (response rate)

2 = Expatriate nationality: US = United States; Euro = European; TW = Taiwan

3 = Host country: C = countries; DOM = Dominican Republic; HK = Hong Kong; Ph.

= Philippines; PR = Pacific Rim countries; SEA = Southeast Asia; Sing = Singapore; 11 = Measurement timing: Pre = prior to expatriation; On = On assignment; Post = After assignment

4 = Average Total Tenure in months (SD in Months)

5 = Average Expatriate Tenure in months (SD in months)

6 = Occupation: Man = Managerial; Tech = Technical; PC Vol. = Peace

Corps Volunteer; Miss. = Missionary; Corp = Corporate

7 = Percentage of males in the sample

8 = Percentage of married expatriates in the sample

9 = Mean age in years (SD in years)

10 = Longitudinal: Y = Yes; N = No

11 = Measurement timing: Pre = prior to expatriation; On = On assignment; Post = After assignment

12 = Published: Y = Yes; N = No

13 = Location Method: ABI = ABI Inform; Psych = PsychInfo; Rev. = Suggested by anonymous reviewer; Snow = Snowballing; SIOP = SIOP

^b N's reflect subsets of the original sample in cases where criterion data were only available for that subset

Table 2 (continued). Sources of effect sizes used per predictor for the meta-analyses on expatriate job performance

Study	Extraversion	Emotional Stability	Agreeableness	Conscientiousness	Openness	Local Language Ability	Cultural Sensitivity	Prior International Experience	Flexibility	General Adjustment	Interaction Adjustment	Work Adjustment	Cultural Flexibility	Level of Education	Ego Strength	English Language Ability	Fulltime Work Experience	Intelligence	MBTI Introversion	Number of Previous Assignments	Peer Nominations	Relevant Experience	Selection Board	Tolerance for Ambiguity	Ethnocentrism	Task Leadership	People Leadership	Openmindedness	Tolerance	Patience	Social Adaptability	Interpersonal Interest	Locus of Control	Gender	Age	Assignment Tenure	Individualism	Masculinity	Power Distance	Uncertainty Avoidance	Cultural Distance						
Shaffer et al.(2003) - Study 3										✓		✓												✓	✓	✓																					
Sinangil & Ones (1997)								✓		✓	✓						✓																														
Sinangil & Ones (2003)											✓																																				
Stierle et al. (2002)	✓	✓	✓	✓	✓		✓				✓																																				
Tsang (2001)	✓					✓		✓		✓	✓																																				
Tucker et al. (2004)											✓																	✓	✓	✓	✓	✓	✓														
Volmer & Staufenbiel (2003)						✓	✓		✓																																						
Wang (2001)								✓																																							

¹ Checkmarks denote that coefficients for the variable in a particular column were obtained from the study identified on the specified row

K = Total number of effect sizes included for each variable

Table 3. Meta-Analytic Results for the Effects on Expatriate Job Performance

	Total	<i>K</i>	Sample	<i>r</i>	<i>SD</i> ?	95%	95%	<i>SD</i> ?
			weighted			Confidence interval	Credibility interval	
	<i>N</i>		mean	<i>r</i>		lower	lower	< 1/4?
Big Five Dimensions								
Extraversion	1114	12	.14	.17	.07	.08	.04	No
Emotional Stability	1189	12	.09	.10	.10	.01	-.10	No
Agreeableness	1021	11	.09	.11	.09	.02	-.06	No
Conscientiousness ¹	1023	11	.14	.17	.00	.08	.17	Yes
Openness	1023	11	.05	.06	.11	-.03	-.15	No
Moderator Analyses (by performance rater)								
Extraversion (Self) ¹	586	6	.15	.20	.00	.07	.20	Yes
Extraversion (Other)	621	8	.16	.18	.11	.05	-.04	No
Emotional Stability (Self)	497	5	.05	.06	.18	-.10	-.28	No
Emotional Stability (Other) ¹	786	9	.12	.13	.00	.05	.13	Yes
Agreeableness (Self) ¹	494	5	.18	.23	.00	.10	.23	Yes
Agreeableness (Other)	621	8	.12	.14	.06	-.04	-.34	No
Conscientiousness (Self) ¹	496	5	.12	.14	.00	.03	.14	Yes
Conscientiousness (Other) ¹	621	8	.17	.21	.00	.10	.21	Yes
Openness (Self)	496	5	.04	.05	.07	-.06	-.09	No
Openness (Other)	621	8	.11	.13	.26	-.06	-.38	No

Table 3 (continued). Meta-Analytic Results for the Effects on Expatriate Job Performance

	Total	<i>K</i>	Sample	<i>r</i>	<i>SD</i> ?	95%	95%	<i>SD</i> ?
			weighted			Confidence	Credibility	
	<i>N</i>		mean	<i>r</i>		interval	interval	< 1/4?
						lower	lower	
Context Specific Predictors								
Local Language Ability	496	5	.15	.19	.12	.03	-.05	No
Cultural Sensitivity ¹	339	4	.24	.29	.00	.13	.29	Yes
Prior International Experience	938	6	.02	.02	.20	-.08	-.38	No
Flexibility ¹	345	5	.08	.09	.00	-.03	.09	Yes
Adjustment								
General Adjustment	1373	9	.14	.18	.14	.06	-.09	No
Interaction Adjustment	1897	12	.24	.30	.05	.20	.21	Yes
Work Adjustment	964	6	.27	.34	.06	.21	.22	Yes

Table 3 (continued). Meta-Analytic Results for the Effects on Expatriate Job Performance

	Total	K	Sample	? SD?	95%	95%	SD?	
			weighted		Confidence interval	Credibility interval		
	N		mean r		lower	lower	< 1/4?	
Explorative Analyses for Predictors with K<4								
Cultural Flexibility ¹	380	2	.21	.25	.00	.11	.25	Yes
Level of Education ¹	191	2	.12	.13	.00	-.02	.13	Yes
Ego Strength ¹	313	2	.20	.24	.00	.09	.24	Yes
English Language Ability	368	2	.10	.11	.13	-.10	.15	No
Fulltime Work Experience ¹	310	2	.09	.09	.00	-.02	.09	Yes
Intelligence ¹	76	2	.12	.12	.00	-.10	.12	Yes
MBTI Introversion ¹	204	2	-.10	-.11	.00	-.24	-.11	Yes
Number of Previous Assignments ¹	310	2	.06	.06	.00	-.05	.06	Yes
Peer Nominations ¹	319	2	.19	.23	.00	.09	.23	Yes
Relevant Experience ¹	259	2	.09	.09	.00	-.03	.09	Yes
Selection Board ¹	319	2	.34	.41	.00	.24	.41	Yes
Tolerance for Ambiguity ¹	122	2	.27	.35	.00	.11	.35	Yes
Ethnocentrism	600	3	-.15	-.20	.06	-.23	-.32	No
Task Leadership ¹	380	2	.11	.13	.00	.01	.13	Yes
People Leadership	380	2	.18	.22	.12	.01	-.01	No

Table 3 (continued). Meta-Analytic Results for the Effects on Expatriate Job Performance

	Total	K	Sample	? weighted	SD?	95% Confidence interval	95% Credibility interval	SD?
	N		mean	r		lower	lower	< ¼?
Openmindedness ¹	190	2	.06	.74	.00	-.09	.07	Yes
Tolerance ¹	135	2	-.02	-.03	.00	-.19	-.03	Yes
Patience ¹	190	2	.12	.16	.00	-.02	.16	Yes
Social Adaptability ¹	166	2	.24	.30	.00	.10	.30	Yes
Interpersonal Interest ¹	190	2	.20	.27	.00	.06	.27	Yes
Locus of Control	266	2	-.09	-.11	.17	-.31	-.45	No
Biographic/Control variables								
Gender ¹	690	5	-.04	-.05	.00	-.12	-.05	Yes
Age ¹	490	3	.04	.05	.00	-.05	.05	Yes
Assignment Tenure	1170	6	.09	.09	.08	.01	-.05	No
Individualism	162	2	.06	.06	.03	-.10	.00	No
Masculinity ¹	162	2	.00	.00	.00	-.15	.00	Yes
Power Distance ¹	162	2	-.11	-.11	.00	-.26	-.11	Yes
Uncertainty Avoidance ¹	162	2	.02	.02	.00	-.13	.02	Yes
Cultural Distance	816	4	.07	.08	.18	-.10	-.28	No

¹ These credibility intervals were based on a residual standard deviation of zero (the residual variance estimate for these cases was negative).

Figure Captions

Figure 1. Comparison of the 95% confidence intervals for the big five -performance relationships for expatriates and domestic employees within various countries.

Note. E = Extraversion, Em = Emotional Stability, C = Conscientiousness, A = Agreeableness, O = Openness. Expatriate data obtained from the present study; domestic data from US and Canada from Barrick and Mount (1991); domestic data from Europe from Salgado (1997); domestic data from Korea from Tae and Byung (2002); and domestic data from the US from Hertz and Donovan (2000).

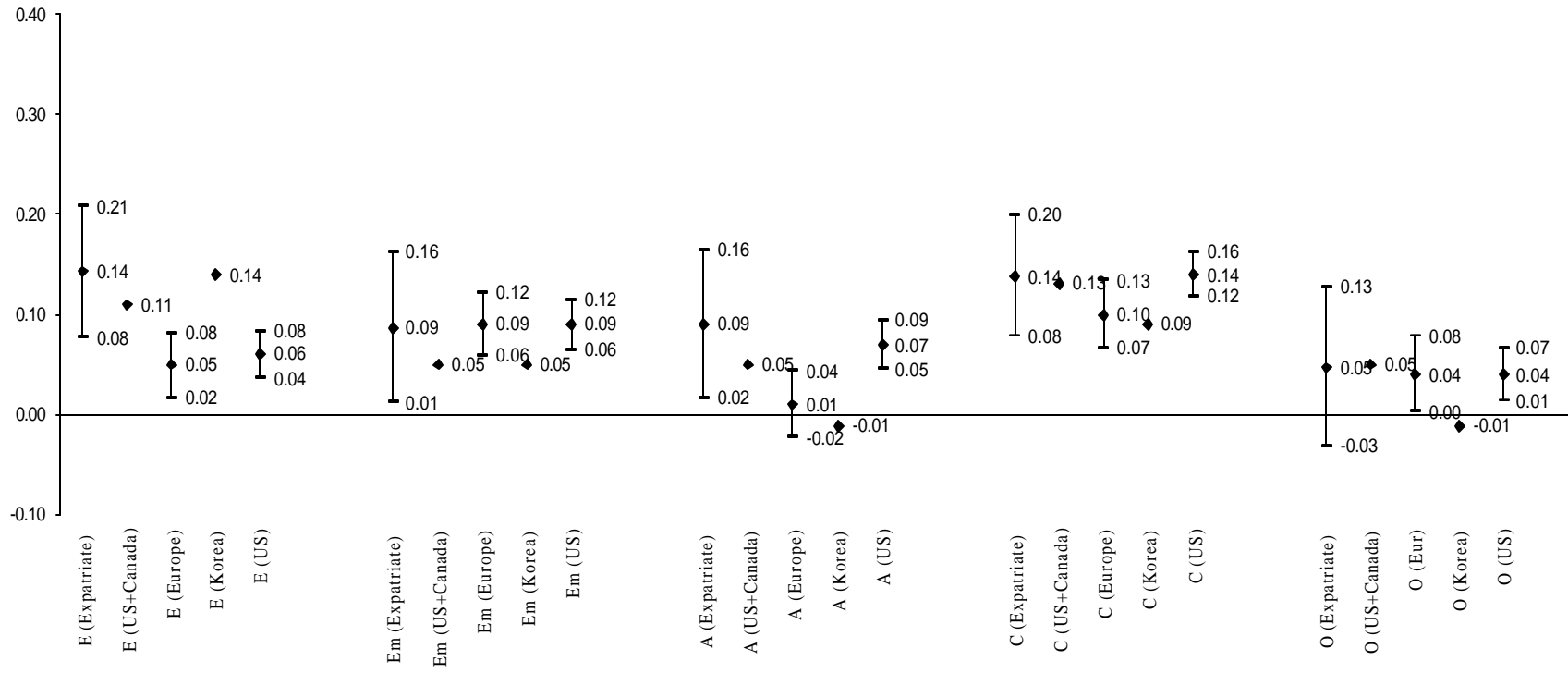


Table 4. Analyses concerning the equivalence of big five sample weighted mean correlations with job performance across meta-analyses

	Analyses on all sample weighted means				Pairwise analyses with expatriate sample weighted means							
	<i>df</i>	<i>r</i>	<i>N</i>	<i>p</i>	Barrick and Mount (1990)		Hurtz and Donovan (2000)		Salgado (1997)		Tae and Byung (2002)	
					<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>	<i>Z</i>	<i>p</i>
Big Five Dimensions												
Extraversion	4	34.26**	29362	.00	1.06	.15	2.57**	.01	2.74**	.00	.08	.47
Emotional Stability	4	10.46*	27715	.03	1.22	.11	-.09	.46	-.09	.46	1.18	.12
Agreeableness	4	28.61**	26185	.00	1.21	.11	.60	.27	2.25**	.01	2.98**	.00
Conscientiousness	4	12.18*	29113	.02	.25	.40	-.06	.47	1.07	.14	1.44	.07
Openness	4	14.81**	23535	.01	-.08	.47	.21	.42	.20	.42	1.70*	.04

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