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# Factors Influencing Perceptions of Psychic Distance

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## **Factors Influencing Perceptions of Psychic Distance**

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### **ABSTRACT**

This paper bridges the gap between two previously distinct streams of psychic distance literature by exploring the relationship between a broad range of ‘national level’ psychic distance stimuli and managerial perceptions of psychic distance. The results confirm a direct linkage between five of the psychic distance stimuli dimensions put forward by Dow & Karunaratna (2006) and perceived psychic distance. A variety of individual respondent level characteristics are also included in the model and found to have significant direct and/or moderating effects on the perceptions of psychic distance.

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Keywords: psychic distance, cultural distance, best worst scaling, international experience

## INTRODUCTION

Psychic distance is arguable one of the most fundamental constructs within the field of international business. Across the past four decades, it has been cited as an important predictor variable for:

- the decision to export (Fletcher & Bohn, 1998, Holzmuller & Kasper, 1990, Wiedersheim-Paul, Olson, & Welch, 1978),
- market selection decisions - for both exporting (Dow, 2000, Johanson & Vahlne, 1977) and foreign direct investment (Davidson, 1980, Green & Cunningham, 1975, Grosse & Goldberg, 1991, Grosse & Trevino, 1996, Habib & Zurawicki, 2002),
- entry mode choices – concerning both the degree of control (Brouthers & Brouthers, 2001, Chang & Rosenzweig, 2001, Kogut & Singh, 1988, Tihanyi, Griffith, & Russell, 2005), and the use of acquisitions versus greenfield entries (Brouthers & Brouthers, 2000, Harzing, 2002, Padmanabhan & Cho, 1999, Shaver, 1998),
- international performance (Brouthers, 2002, Evans & Mavondo, 2002, Evans, Mavondo, & Bridson, 2008, O'Grady & Lane, 1996, Tihanyi, Griffith, & Russell, 2005),
- the degree of adaptation in foreign markets (Dow, 2001, Mueller, 1991, Sousa & Bradley, 2005), and
- a variety of other international phenomena (Boyacigiller, 1990, Gong, Shenkar, Luo, & Nyaw, 2005, Manev & Stevenson, 2001).

Within the last five years alone, 37 articles referring to psychic distance, or the closely associated concept - cultural distance<sup>1</sup>, were published in the *Journal of International Business Studies*. Indeed, Cho and Padmanabhan (1995, p.309) have gone so far as to claim that “no international business study can be considered complete unless there is an explicit variable controlling for cultural distance”.

Yet, despite this notoriety, the various empirical studies incorporating these two forms of distance show them to be empirically weak and sporadic predictor variables. In a meta-analysis of international entry mode studies, Zhao et al (2004, p.530) find the impact of cultural distance to be statistically significant, but it is “the least influential factor among the six determinants [of entry mode choice]”. In another meta-analysis focusing specifically on cultural distance, Tihanyi, et al (2005, p.277-278) find that “the relationship between cultural distance and the three key variables [entry mode choice, performance and international diversification] was near zero across the 66 independent samples” and that “cultural distance ... failed to contribute to prediction”. In a third meta-analysis, Magnusson et al (2006) find slightly stronger effects, with cultural distance proving to be a statistically significant

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<sup>1</sup> Some researchers, such as Gomes and Ramaswamy (1999) and Lee (1998) treat psychic distance and cultural distance as isomorphic; however, we favour the interpretation which views them as related but distinct constructs, with cultural distance being a component of, or antecedent of psychic distance. Nevertheless, we do need to be cognisant that the former interpretation is quite common.

predictor of entry mode, performance and FDI market selection; but in each case the effect size remains small in absolute terms – between 0.03 and 0.07.

These weak and mixed empirical results have provoked a wide range of reactions, including Stottinger and Schlegelmilch (2000) suggesting psychic distance is ‘a concept past its due date’. However, other commentators, most notably Shenkar (2001), have laid much of the blame on the tendency of researchers to employ a single surrogate measure to represent distance – Kogut and Singh’s (1988) composite index of Hofstede’s (1980) dimensions of national culture. Indeed, in the three meta-analyses mentioned earlier, the proportion of studies which use the Kogut & Singh index as their sole indicator of distance range from 71% to 94% of the respective samples. In his seminal article, Shenkar (2001) notes that the Kogut and Singh index, as a surrogate for psychic distance, only represents a narrow portion of a much broader construct. In their meta-analysis, Zhao, et al (2004, p.534) concur with Shenkar, and state that “the use of Hofstede’s cultural index as a measure of uncertainty seems ineffective to capture the diversity and subtlety of cultural influences”.

In more recent times, a wider range of scales which are intended to represent the various underlying drivers of psychic distance have been put forward and tested (Brewer, 2007, Dow & Karunaratna, 2006). However, while these are important contributions and have begun to address the breadth of the psychic distance construct, it is also important to remember that managerial decisions are made on the basis of the decision-maker’s perceptions (Evans & Mavondo, 2002, Harzing, 2003, Stottinger & Schlegelmilch, 1998). Scales, such as those put forward by Dow & Karunaratna (2006) are not direct measures of those perceptions, but rather, measures of the exogenous factors which may shape the decision-maker’s perceptions. That is precisely why Dow & Karunaratna refer to their scales as psychic distance stimuli (as opposed to claiming that they are direct measures of psychic distance). That distinction forms the crux of this paper.

The primary aim of this article is to take the next step and directly investigate the linkages between the psychic distance stimuli, as measured by Dow & Karunaratna (2006), and the actual perceptions of psychic distance of managers; and to introduce a range of decision-maker characteristics which may directly influence managerial perceptions, or moderate the aforementioned relationships. Thus, our overall research question can best be summarized as:

### *What are the factors influencing perceptions of psychic distance?*

An important additional aspect to this research agenda is an investigation into how to most effectively and parsimoniously measure perceived psychic distance. To this end, the technique known as ‘best-worst’ scaling is introduced as both a highly reliable and parsimonious approach for measuring perceived psychic distance. This new approach to measuring perceived psychic distance is tested and validated against more traditional instruments.

## **LITERATURE REVIEW & HYPOTHESES**

One of the earliest cited definitions of psychic distance was put forward by Johanson & Wiedersheim-Paul (1975, p 308):

*“factors preventing or disturbing the flow of information between firm and market. Examples of such factors are differences in language, culture, political systems, level of education, level of industrial development, etc.”*

This ‘Uppsala’ definition of psychic distance, or minor variations of it, has wide spread recognition and has been cited by numerous scholars (Child, Ng, & Wong, 2002, Dow &

Karunaratna, 2006, Evans & Mavondo, 2002, Kogut & Singh, 1988, Shenkar, 2001, Stottinger & Schlegelmilch, 1998). However, there have also been a variety of ‘revised definitions’ put forward by scholars such as Evans & Mavondo’s (2002). Most of these ‘revisions’ have focused on the perceptual aspects of psychic distance, arguing “it is the manager’s *perception* of the level of [psychic distance] between specific countries that influences [their decisions]” (Harzing, 2003, p.23). These two diverging definitions of psychic distance reflect an important bifurcation in the manner in which psychic distance has been operationalized over the past decade.

### ***The Measurement of Psychic Distance and Our Hypotheses***

Roughly three quarters of the empirical research concerning psychic distance has, at least implicitly, adopted the ‘Uppsala’ definition of psychic distance by employing **secondary data** in order to measure ‘psychic distance stimuli’. As mentioned earlier, far and away the most popular of these ‘secondary data’ scales is the Kogut & Singh index<sup>2</sup>. This scale, an unweighted index of the four original dimensions of Hofstede’s (1980) national culture dimensions, has virtually become the default instrument with which to measure psychic and cultural distance, despite a remarkable number of studies showing that it has little or no predictive power with respect to entry mode choice (Magnusson, Baack, Zdravkovic, & Staub, 2006, Tihanyi, Griffith, & Russell, 2005, Zhao, Luo, & Suh, 2004), market selection (Dow, 2006, Dow, 2000, Dow & Karunaratna, 2006, Habib & Zurawicki, 2002) and performance (Tihanyi, Griffith, & Russell, 2005). In contrast, the few studies which have adopted a wider range of secondary indicators have produced fairly consistent, statistically significant results (Brewer, 2007, Dow & Karunaratna, 2006, Dow & Larimo, 2007, Dow & Larimo, 2008, Drogendijk & Martin, 2008). Thus, at both the theoretical level and the empirical level, there are strong arguments for researchers to use a wider range of psychic distance stimuli than just the Kogut & Singh index.

Now, we turn to the less commonly employed approaches to measuring psychic distance. A modest number of researchers have attempted to directly measure **perceptions** of psychic distance (e.g. Stottinger & Schlegelmilch, 1998). This stream of research can be further divided into two branches. Some researchers have used multiple item scales to capture the relevant manager’s perceptions of the various dimensions of psychic distance (Evans & Mavondo, 2002, Kim & Hwang, 1992, Klein & Roth, 1990, Sousa & Bradley, 2006). A larger, though still modest number of researchers have attempted to directly measure the ‘summary construct’ using single item scales (Boyacigiller, 1990, Dow, 2000, Gripsrud, 1990, Pedersen & Petersen, 2004) or the principals of cognitive mapping (Dichtl, Koeglmayr, & Mueller, 1990, Dichtl, Leibold, Koeglmayr, & Mueller, 1984, Stottinger & Schlegelmilch, 1998).

These ‘perceptual’ approaches to measuring psychic distance have tended to yield more statistically significant results (Zhao, Luo, & Suh, 2004); however, they are not without their limitations. Virtually all of the published studies linking a decision-maker’s perceptions of psychic distance to actual decisions, measured the perceptions *post-hoc*; and thus, there are legitimate concerns about the direction of causality of the observed correlations.

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<sup>2</sup> Given the plethora of such articles, we have not attempted to cite them here, but rather refer you to several excellent reviews (Harzing, 2003; Tihanyi et al., 2005; Zhao et al., 2004).

In summary, each of these streams of psychic distance research has its strengths and weaknesses. The secondary data approach has the benefit of exogenous and unbiased estimates, but completely ignores the perceptual aspects of psychic distance. Conversely, the cognitive approach addresses the perceptual aspects, and provides greater predictive power, but is chronically hindered by the fact that *a priori* estimates of psychic distance are notoriously difficult to collect. Furthermore, the cognitive approach begs the obvious question: ‘what is driving those perceptions’?

Not surprisingly, these comments lead us back to the main research agenda of this paper. We are proposing to take the next step in the measurement of psychic distance, and investigate the factors which drive a manager’s actual perceptions of psychic distance. In particular, we want to confirm the linkage between perceptions of psychic distance and the exogenous ‘psychic distance stimuli’; as well as identify specific characteristics of the decision-makers which may cause their perceptions to occasionally diverge from the ‘exogenous’ and ‘objective’ measures of differences. We are, in effect, trying to bridge the gap between the legions of researchers who prefer to employ ‘secondary source’ indicators of psychic distance stimuli and researchers who advocate ‘perceptual’ measures of psychic distance. To date, only two previous papers have attempted to bridge this gap (Hakanson & Ambos, 2007, Sousa & Bradley, 2006); however in both of these analyses, the Kogut and Singh index was the only psychic distance stimuli considered. It is our intention to go much further by including a broad range of psychic distance stimuli, and by including a wide range of respondent characteristics which may have direct and/or moderating effects on perceived psychic distance.

### *Psychic Distance Stimuli*

The starting point for developing our hypotheses is the manager’s perception of psychic distance. As argued by researchers such as Boyacigiller (1990) and Harzing (2003), managers make decisions based on their perceptions of the environment; and thus, it is the manager’s perception of psychic distance that is critical when investigating issues such as market selection and choice of entry mode. However, when we turn our attention to what drives those perceptions, the exogenous national-level psychic distance stimuli, such as large differences in culture, language, religion, education, industrial development and political systems amongst countries, are almost certainly going to play a major role. While there are undeniably variations within countries (Shenkar, 2001), large variations amongst countries are similarly undeniable. Thus, our first set of hypotheses are essentially taken directly from the early work of the Uppsala School (Johanson & Vahlne, 1977, Johanson & Wiedersheim-Paul, 1975), and reflect the secondary data approach to measuring psychic distance (e.g. Dow & Karunaratna, 2006, Kogut & Singh, 1988). Foremost amongst these factors are differences in dominant languages and religions amongst countries. These two factors have been frequently cited within the psychic distance literature for over thirty years (Johanson & Wiedersheim-Paul, 1975); and for individuals who have not traveled abroad, they are arguably the most visible of the psychic distance stimuli. In addition to these, national level differences in industrial development, education, and political systems have all been frequently cited as possible factors contributing to high levels of psychic distance (Boyacigiller, 1990, Carlson, 1974, Evans & Mavondo, 2002, Johanson & Vahlne, 1977, Johanson & Wiedersheim-Paul, 1975).

**H1. Perceptions of psychic distance amongst countries will be positively associated with national level differences in a) languages, b) religion, c) education levels, d) industrial development, and e) political systems.**

### *Country-Specific Respondent Characteristics*

As acknowledged by Shenkar (2001) and others, there are substantial intra-country differences in many of the aforementioned psychic distance stimuli. In particular, there are substantial variations in linguistic abilities and religious affiliations within many countries. Similarly, high levels of international migration and international travel have created subsets of people in each country for whom national-level averages do not accurately reflect their international experiences. As a result, while national level averages will almost certainly influence perceptions of psychic distance, they do not necessarily capture all of the potential variance. For this reason, we have introduced a set of three hypotheses which reflect instances where an individual's experiences and background may deviate from national average.

Fluency in a foreign language, defined here as fluency in a language other than one of the dominant languages of the person's home country, is the first of these factors. While the linguistic distance between Canada and Japan may be quite large, for a Canadian who is fluent in Japanese, the perceived distance between the two countries is likely to be substantially lower. Similarly, for a Chinese citizen who speaks fluent English, the perceived distance of the USA, UK, Canada and New Zealand will tend to be lower than for a Chinese citizen who does not have such linguistic capabilities. In many respects, this hypothesis is simply a repetition of **H1a** taking into account instances where an individual's experiences deviate from the national average.

**H2a. An individual's fluency in 'another' language (i.e. a language other than the dominant language of their home country) will reduce their 'perception of the psychic distance' of countries in which that language is commonly spoken.**

A similar argument can be made with respect to a person's knowledge and/or affiliation with a religion other than the dominant religion of their home country. If an individual has an affiliation with, or a high degree of knowledge of a religion other than the dominant religion of their home country, then 'national level differences in religion' (i.e. hypothesis **H1b**) will not fully capture their situation. This 'extra knowledge' of a particular religion is very likely to affect that individual's perception of countries where that religion is dominant. For example, a German citizen who is Muslim will perceive predominantly Muslim countries, such as Egypt or Qatar, to be psychically closer than a German citizen who has minimal knowledge or affiliation with Islam.

**H2b. An individual's knowledge of, or affiliation with 'another' religion (i.e. a religion other than the dominant religion of their home country) will reduce their 'perception of the psychic distance' of countries in which that religion is dominant.**

For the third hypothesis in this set, we move away from specific dimensions of psychic distance stimuli, and focus on the issue of a person's international experiences. A cornerstone of the Uppsala internationalisation model (Johanson & Vahlne, 1977, Johanson & Wiedersheim-Paul, 1975) is that tacit knowledge plays a critical role as a firm internationalizes, and this knowledge can only effectively be acquired by direct experience. As a result, a firm will initially enter a psychically distant market in a low commitment mode. However, as the firm gains experience, its store of knowledge which is relevant to that market will increase; thus decreasing its perception of the psychic distance of that market. In turn, the firm gradually moves to higher commitment modes within that country. For our purposes, we simply want to move this chain of logic down from the level of the firm to the level of the individual. As an individual gains experience with a specific foreign country,

their perception of the psychic distance of that market will decrease. For example, a Danish citizen who travels frequently to Argentina and Chile for business purposes, and possibly even lives there for a short while, will perceive Argentina and Chile to be psychologically closer than a Danish citizen who has had no direct contact with those countries. Similarly, a Turkish citizen who travels to the USA, whether it be on a holiday or to study, will tend to view the USA as psychologically closer than a Turkish citizen who has never travelled to the USA. Thus, we predict that international travel to a specific country will reduce a person's perception of the psychic distance of that country.

**H2c. The degree to which an individual has travelled to, or lived in a foreign country will reduce their 'perception of the psychic distance' of that country.**

### *Moderating Hypotheses*

In addition to the national level psychic distance stimuli, and the country-specific respondent characteristics, there is a third set of factors which may influence a person's perceptions of psychic distance. These are factors which potentially moderate an individual's response to the various psychic distance stimuli. In contrast to the second set of hypotheses, we are talking here about factors which are NOT country specific, and which have a moderating impact rather than a direct effect on perceived psychic distance. In particular, we believe factors such as the decision-maker's age, education and overall international experience may moderate their perceptions of psychic distance. These hypotheses can claim their origins in the early work of the Uppsala School. One of the fundamental elements of the Uppsala internationalization process model is the contention that an organization learns as it gains experience, and thus its perceptions of foreign markets change over time. This was an explicit acknowledgement that characteristics of the decision-makers play an important role in moderating their perceptions of psychic distance. Thus, this set of hypotheses concerns the moderating impact of decision-maker characteristics on their perceptions of psychic distance.

### *Age*

Borrowing from the top-management-team (TMT) literature (Hambrick & Mason, 1984), the age of an individual is one characteristic which has been frequently linked to potential biases in a person's perceptions, attitudes and beliefs. Wiersema & Bantel (1992, p.93) argue that relative youth amongst senior managers is related to their "receptivity to change" and their "willingness to take risks". They found a significant relationship between the age of senior managers and the degree of diversification of their organisation. Buchholtz & Ribbens (1994), and Herrmann & Datta (2006) investigated similar hypotheses with respect to the resistance to takeovers and the choice of foreign entry modes respectively. Within the context of perceptions of psychic distance, this hypothesized 'resistance to change' and 'stronger aversion to risk taking' would be manifested in an older manager having a stronger negative reaction to any 'objective differences' between countries (e.g. a difference languages), than a younger manager. In effect, we are predicting that the age of the manager will magnify the relationship between the exogenous psychic distance stimuli and the overall perception of psychic distance.

**H3a. The relationship between the various types of 'psychic distance stimuli' and a person's 'perceptions of psychic distance' will be positively moderated by the age of the individual.**



### *Level of Education*

A second characteristic which has been frequently cited in the TMT literature and has been linked to ‘open-mindedness’ (Herrmann & Datta, 2002), ‘receptivity to change’ (Wiersema & Bantel, 1992) and ‘receptivity to innovation’ (Hambrick & Mason, 1984) is the level of formal education. Extending these propositions to perceptions of psychic distance, one might expect a manager with a higher level of formal education to have a more muted response to any differences between countries, than a manager with a lower level of formal education. I.e. the degree of formal education will reduce the strength of the relationship between the exogenous psychic distance stimuli and the overall perception of psychic distance.

**H3b. The relationship between the various types of ‘psychic distance stimuli’ and a person’s ‘perceptions of psychic distance’ will be negatively moderated by the level of education of the individual.**

### *Linguistic Abilities*

In addition to the arguments we presented in developing hypothesis **H2a**, we believe there may be an even more subtle language effect. In many instances, an individual may be fluent in multiple languages, even though none of those languages happen to be dominant in the country in question. Nevertheless, this linguistic knowledge may still have an impact on the person’s perceptions of the psychic distance of the country. First of all, as an individual learns a language, or languages, beyond their mother tongue, they may come to realise that learning a new language is not as difficult as they had feared. This knowledge in turn may reduce their fear of all foreign languages. Similarly, their knowledge of other languages may be an indicator of a superior proficiency in learning other languages. This higher proficiency may be innate, or it may be the result of a ‘learning curve effect’. Thirdly, a person’s fluency in a second or third language may be an indicator of a general ‘openness’ and ‘interest’ in different languages, culture, etc. The net effect is that we believe that individuals with a greater general knowledge of multiple languages may have a more muted response to the various distance stimuli, than people with a more limited knowledge of foreign languages. I.e. a greater general knowledge of foreign languages will be associated with a reduction in the strength of the relationship between the actual differences between countries and the person’s overall perceptions of psychic distance.

**H3c. The relationship between the various types of ‘psychic distance stimuli’ and a person’s ‘perception of psychic distance’ will be negatively moderated by the individual’s general fluency in multiple languages.**

### *General International Experience*

Our final moderating hypothesis parallels hypothesis **H2c**, and focuses on a key mechanism for acquiring new knowledge – international experience; however there is a subtle difference in the underlying logic. When developing the Uppsala internationalisation model, Johanson and Vahlne (1977) made the distinction between ‘general knowledge’ and ‘market-specific knowledge’ (p28). Whereas, our first ‘experience’ hypothesis (**H2c**) built on the concept of market-specific knowledge, hypothesis **H3d** builds on the concept of ‘general international knowledge’. Within the Uppsala model, it is the general international knowledge which a firm acquires while operating in a psychically close market which allows the firm to then move into psychically more distant markets.

At the empirical level, general international experience has a long history in the international business research. In their meta-analysis, Zhao et al (2004) reported that 30 of

the 38 empirical studies included in their review included international experience. Further more, international experience had the largest and most significant effect size of the six variables examined. However, at the level of the individual, general international experience has received more limited attention (Herrmann & Datta, 2006, Herrmann & Datta, 2002, Sousa & Bradley, 2006). Nevertheless, we think there are sound reasons to believe that as a person gains international experience, either through living or travelling abroad, these experiences will tend to moderate the individual's perception of distant countries.

**H3d. The relationship between the various types of 'psychic distance stimuli' and a person's 'perceptions of psychic distance' will be positively moderated by their overall exposure to foreign countries through living and/or travelling abroad.**

## METHODOLOGY

The preceding hypotheses are tested using a web-based survey of Australians conducted in late 2008. The respondents were surveyed concerning their perceptions of psychic distance for a selection of countries, and on aspects of their international experiences. This data was matched with secondary source data concerning the specific countries (i.e. the psychic distance stimuli) and subjected to a series of moderated regression analyses. Each moderating variable was created by re-centring the component variables in order to reduce multicollinearity.

### ***Sample Population***

The survey instrument was initially tested on a preliminary sample of Australian managers selected from a list people who had received some form of management education from the local university in the last 20 years. From this population of approximately 13,000 alumni, a random sample of 1,500 people were contacted via email and asked to participate via a web-based survey. A total of 179 useable responses were collected, yielding a response rate of 12%. This preliminary sample was used to both refine the survey instrument and to cross-check the reliability and validity of the 'best-worst' approach to measuring perceptions of psychic distance.

Our main data set was then gathered from a stratified random sample of Australians between the ages of 20 and 70, selected from a panel of respondents administered by a commercial market research firm. Out of a total of 682 people approached, 471 individuals responded to the survey, and 451 useable responses were obtained. This represents an effective response rate of 66%. This later sample population is the one we have utilised to formally test our hypotheses.

### ***Measuring Perceived Psychic Distance***

Perceptions of psychic distance are measured using two different instruments. Our first, and primary instrument for measuring perceptions of psychic distance uses a technique known as Best-Worst Scaling (BWS), also referred to as Max-Diff (Marley & Louviere, 2005). We have chosen this newly emerging technique as it is particularly effective and parsimonious when it is necessary for respondents to assess a relatively large number of alternatives. The second instrument, included to cross-check the BWS estimates, is a classic multi-item semantic scale for measuring perceptions of psychic distance.

For the BWS instrument, we chose to investigate the perceived psychic distance of 104 countries; although some analyses are restricted to 80 countries due to the availability of predictor variables. In order to cover the full range of 104 countries, our sample survey

population was randomly divided into nine groups. Each group of respondents was asked to rank 16 countries – 5 benchmark countries which are standard across all groups and 11 countries which are unique to each of the 9 groups (i.e.  $5 + 9 \times 11 = 104$ ). The benchmark countries are the same for all respondents to allow us to test for differences across groups and standardize the responses if necessary. The BWS instrument uses a 20 panel, four items per panel ‘balanced’ design. I.e. each respondent is presented with a panel of four countries and asked to select the nearest and the furthest country, in terms of psychic distance. This task is repeated 20 times such that each country and country pair is presented an equal number of times. The definition of psychic distance supplied to each respondent immediately before completing the task is based on Johanson & Wiedersheim-Paul (1975) and is included in Appendix I. Each time a country is selected in a panel of four as the furthest, it has one point added to its score, and each time a respondent ranks a country as the nearest, it has one deducted from its score. This would normally produce a scale centred around zero; however, the scores have been adjusted to produce a scale that varies from 1 to 15 (**Psy Dist<sub>BWS</sub>**), with a high score indicating a psychically distant country.

The second instrument used to measure perceived psychic distance is based on a combination of scales from Klein & Roth (1990), Kim & Hwang (1992) and Boyacigiller (1990). This instrument is included in order to cross-check the validity of the BWS estimates of psychic distance. As discussed in the literature review, the Klein & Roth scale is one of the few publicly available, multi-item rating scales with which to measure perceived psychic distance<sup>3</sup>. We subsequently augmented Klein & Roth’s five item 5 point scales with two items from Kim & Hwang (1992): ‘culture’, and ‘political systems’, and Boyacigillier’s (1999) summary construct. These eight items are then subjected to confirmatory factor analysis in order to produce a single summary construct (**Psy Dist<sub>8</sub>**). This more traditional form of measuring perceptions of psychic distance was only implemented on a limited basis (four countries per respondent and only for the ‘preliminary’ sample of 179 respondents) as it is substantially more time consuming for the respondent. Thus, only 490 estimates, covering 48 countries, are available for this second measure of psychic distance.

### ***Measuring Psychic Distance Stimuli***

In order to measure the main predictor variables: the various types of psychic distance stimuli, we have adopted six scales put forward by Dow & Karunaratna (2006).

- Differences in language and religion between countries are each measured using three items. The first item is a 5 point scale indicating the ‘distance’ between the major languages and religions of each country using a hierarchy of languages and religions (Dow & Karunaratna, 2006). The second and third items are 5 point scales indicating the proportion of the population who speak (or are adherents of) one of the other country’s major languages (or religions). E.g. the proportion of Americans who speak Japanese and the proportion of Japanese who speak English.
- Differences in levels of education and degree of industrialization are measured using three and nine item scales respectively. For these two instruments, Dow & Karunaratna (2006) utilised data from the United Nations (UN, 1995, UN, 1995).

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<sup>3</sup> One of the other highly cited potential scales (Evans & Mavondo, 2002) contains a substantially larger number of items (> 24 in the reduced form) and thus was not adopted.

- In order to measure differences in the degree of democracy, a four item instrument is employed, combining scales from Henisz (2000), Gleditsch (2003) and Freedom House (2000). For the remaining aspect of differences in political systems, Beck et al's (2001) scale of political ideology is employed (**Social**) to measure the extent to which the government in power has a bias towards socialist policies.

For the first five of the aforementioned sets of scales, confirmatory factor analysis is used to reduce each of them into a single factor (**Lang<sup>F</sup>**, **Relig<sup>F</sup>**, **Edu<sup>F</sup>**, **Ind Dev<sup>F</sup>**, and **Dem<sup>F</sup>**). Based on Dow & Karunaratna's expanded data set of 120 countries, the Cronbach Alpha's for these factors are 0.909, 0.844, 0.872, 0.953 and 0.967 respectively<sup>4</sup>. Thus they are all highly reliable indicators. For the measures of differences in education, industrial development, degree of democracy and political ideology, the absolute value of these factors is employed in keeping with comments and analyses by Shenkar (2001) and Dow & Karunaratna (2006).

Descriptive statistics for all of the psychic distance stimuli factors are included in Table 1. Table 2 provides a correlation matrix for these same factors, the country-specific respondent characteristics, plus the two measures of perceived psychic distance. Details on the specific items in the psychic distance stimuli factors are not presented here as they are extensively discussed in Dow & Karunaratna (2006).

## ***Measuring Respondent Characteristics***

### *Age & Level of education*

The first two moderating variables, the age and highest level of formal education of the respondent, are relatively simple to measure. Each respondent's age has been recorded on an 11 point scale with each point representing a 5 year age band (**Age**). The highest level of education achieved (**Education**) has been recorded on a 7 point scale ranging from completion of primary school to completion of a postgraduate degree.

### *Languages spoken*

In order to assess the language capabilities of each respondent, they are asked to indicate the languages they speak, and to provide a rating of their level of fluency in those languages. Fluency in any given language is assessed on a self-reported 5 point scale, ranging from 'unfamiliar with this language' to 'fluent'. This information has then been used to create two 'languages spoken' variables. The first of these (**Lang Count**) is a simple count of the number of languages the respondent claims to be at least partially fluent in (i.e. a score of 2 or higher on the fluency scale).

The second language familiarity variable (**Lang Fluency<sub>Local</sub>**) is a weighted average of the respondent's fluency in the main languages spoken for the country in question<sup>5</sup>. The weighting scheme is based on the proportion of the country's population which speaks each of 33 commonly spoken languages (Grimes & Grimes, 1996). As a result, this later scale will range from 1 to 5.

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<sup>4</sup> Factor loadings for specific items are available from the corresponding author on request.

<sup>5</sup> - For this variable we exclude the languages which are dominant in the respondent's home country. This aspect of language differences is already captured in the national-level language variable.

### *Familiarity and affiliation with major religions*

One issue which is relatively unique to religion is the distinction between knowledge and/or familiarity with a religion, and affiliation with a religion. The two concepts are almost certainly correlated, but they are distinct. If a person is affiliated with a particular religion, then it is very likely that their familiarity and knowledge of the religion will be generally high. Conversely, a person can be knowledgeable about a religion, yet not be formally affiliated with the religion; however, formal affiliation with a religion (i.e. claiming to be a member or a follower of that religion) will very likely provoke more favourable attitudes towards a foreign country which shares the same religion, than simple knowledge of the religion. For this reason we have included measures of both familiarity and affiliation, but have kept them separate in order to assess their relative impact.

With respect to the issue of familiarity, each respondent is asked to indicate their familiarity with each of seven major religions (Buddhism, Chinese-folk religion, Christianity, Hinduism, Islam, Judaism and Sikhism) on a 5 point Likert-type scale. This religion familiarity information is then matched with each country nominated in the survey to calculate a weighted average of each respondent's familiarity with that nation's major religions (**Relig Familiar<sub>Local</sub>**). As with the **Lang Fluency<sub>Local</sub>** variable, the weighting scheme is based on the proportion of the country's population claiming affiliation with each of the seven religions. The national affiliation data is sourced from Barrett (1982).

For the second religion scale, each respondent is given the opportunity to indicate the religion they are '*most strongly affiliated with*'. This information is matched with each country nominated in the survey to calculate a weighted average of each respondent's affiliation with that nation's major religions (**Relig Affiliation<sub>Local</sub>**).

### *International experience*

For the final category of respondent characteristics, 'international experience', there are three distinct dimensions – living abroad (Carpenter, Sanders, & Gregersen, 2001, Herrmann & Datta, 2006, Reuber & Fischer, 1997), travelling abroad for business purposes, and travelling abroad for personal reasons (Athanassiou & Nigh, 2000, Carpenter & Frederickson, 2001). Within each of these dimensions, we have two measures of general experience and a single measure of country-specific experience.

General 'living overseas' experience is measured by the number of countries the respondent has lived in (**Live OS<sub>Ctries</sub>**), and the number of years the respondent has lived overseas (**Live OS<sub>Yrs</sub>**). In terms of country specific experience, living overseas is measured in terms of the number of years the respondent has lived in that country (**Live<sub>Local</sub>**).

For work-related overseas travel, such general experience is measured in terms of the number of countries visited (**Travel Bus<sub>Ctries</sub>**) and the number of trips taken (**Travel Bus<sub>Trips</sub>**). Business related travel to specific countries is measured in terms of the number of trips to that country (**Travel Bus<sub>Local</sub>**). Travel for personal reasons is measured in the same manner (**Travel Per<sub>Ctries</sub>**, **Travel Per<sub>Trips</sub>** and **Travel Per<sub>Local</sub>**).

For each dimension of general international experience, the two indicators (e.g. years and number of countries) have been subjected to confirmatory factor analysis and collapsed into a single construct (Table 3). However, with respect to combining the three dimensions of international experience (living overseas, business trips and personal trips), it is important to note that, while they are moderately correlated, they represent distinct methods of acquiring international experience. For that reason, for both general and local international experience, we have combined the three dimensions into formative indices rather than reflective indices (Diamantopoulos & Winklhofer, 2001), summing them arithmetically after standardizing the variables. The variable **Experience<sub>General</sub>** represents the formative index for general

international experience and the variable **Experience**<sub>Local</sub> represents the formative index for international experience in a specific local country.

The descriptive statistics for the all variables are provided in Table 1. Correlation matrices are provided in Tables 2a and 2b. Table 3 provides the factor loadings and Cronbach alphas for each confirmatory factor analysis.

## RESULTS

Our first set of analyses is based on the ‘preliminary’ data set, and relates to confirming the criterion-related validity of the BWS approach to measuring psychic distance. The top half of Table 3 confirms the reliability of our 8 item ‘more traditional’ measure of perceived psychic distance (**Psy Dist**<sub>8</sub>). All eight items have loadings in excess of 0.700 and the overall Cronbach Alpha is 0.951. This scale is then compared with our best-worst approach to measuring psychic distance (**Psy Dist**<sub>BWS</sub>). While we eventually use the BWS scale alone (due to its ease of use, and thus substantially greater coverage of countries), a confirmatory factor analysis demonstrates the very high level of correspondence between the two scales. The factor loadings are 0.933 and the Cronbach alpha is 0.850. Thus, we can confidently conclude that the best-worst scaling approach produces an estimate of perceived psychic distance similar to the more traditional multi-item instruments. With that issue resolved, all of the remaining analyses utilize our substantially large ‘main’ sample population.

The middle portion of Table 3 concerns a confirmatory factor analyse involving four of the main psychic distance stimuli – differences in religion, education, industrialization and degree of democracy. Within our sample, these four variables are strongly correlated, and as such, regressions involving them suffer substantial collinearity problems. As a result we have chosen to collapse these four variables into a single factor (referred to as the ‘RIED’ factor). As shown in the middle of Table 3, the four variables all load strongly onto one factor and the overall construct has a Cronbach Alpha of 0.834.

The lower portion of Table 3 includes three 2 item confirmatory factor analyses concerning the three forms of international experience. As discussed earlier, the resulting three factors are then combined into a single formative index – **Experience**<sub>General</sub>. We can now proceed on to the formal testing of the hypotheses

Model 1 presented in Table 4 is effectively a test of the first hypothesis. This model is highly significant ( $F = 132.47$ ,  $df = 3$ ,  $p < 0.001$ ), as are all but one of the predictor variables – differences in the degree of socialism. Due to the multicollinearity problems mention earlier, only the composite factor of religion, industrial development, education and democracy is utilized in Model 1, but subsidiary analyses available on request have been conducted for each of those four dimensions individually. In summary, five of the six psychic distance stimuli variables are significant predictors of perceived psychic distance confirming hypotheses **H1a** through to **H1d**. Hypothesis **H1e** is only partially confirmed as on one of the two aspects of ‘political systems’ is a significant predictor variable. The non-significance of the socialism variable is consistent with earlier findings (Dow & Karunaratna, 2006, Dow & Larimo, 2008, Dow & Larimo, 2007) where this variable was frequently the weakest predictor variable.

Model 2 in Table 4 tests the second set of hypotheses. Fluency in a local language (**H2a**), both measures of familiarity/affiliation with local religions (**H2b**), and international experience with the local market (**H2c**) all have statistically significant coefficients, confirming their respective hypotheses. As evidenced by the  $\Delta F$  statistic in Table 4, country specific respondent characteristics and experiences have a significant influence on perceptions of psychic distance. We did not have any a priori hypotheses concerning the direct effects of general respondent characteristics, it was our view that these factors would more logically have a moderating impact; and thus, Model 3 was only run in preparation for

our moderating regressions. However, one coefficient in Model 3 does warrant comment. Much to our surprise, general international experience has a positive direct impact on perceptions of psychic distance. This result is directly in conflict with the findings of Sousa and Bradley (2006) and implies that people may in general be initially under-estimating the psychic distance of all countries. This curious result is discussed more in the next section.

Models 4 through to 12 in Tables 5, 6, 7 and 8 represent tests of the four moderating hypotheses. Note here that since the socialism variable was non-significant in the first three models, it has been excluded from all subsequent analysis. This decision allows us to utilise our entire dataset and include the full complement of 104 countries. It could be argued that the socialism variable may become a significant predictor once moderating relationships are taken into account; however, this scenario was tested in supplementary analyses and found not to be the case. It should also be noted that despite 1) the increase in sample size, 2) the deletion of the socialism variable, and 3) the addition of various moderating relationships, the direct effects found in Models 4 through 12 are effectively the same as found in Model 3.

As shown in Models 5 and 6 in Table 5, the coefficient for respondent age moderating the 'RIED' factor is statistically significant in the predicted direction, but only to a two tailed  $p < 0.10$ . With respect to age moderating the impact of differences in language, the coefficient is in the predicted direction but is not statistically significant. Thus, given the large size of the data set, there is only very modest evidence that respondent age (**H3a**) moderates a person's perceived psychic distance.

In contrast, the results in Table 6 show a strong moderating effect for the level of the respondent's education, but the effect is in a surprising direction. The coefficient for level of education moderating the impact of the 'RIED' factor is negative and highly significant ( $p < 0.001$ ). This effect is in the opposite direction to hypothesis **H3b**. With respect to level of respondent education moderating the impact of differences in language, there is no significant effect. What appears to be happening is that respondents with higher levels of education seem to put more emphasis on the differences in education.

The results for Table 7 are substantially more straightforward. A general proficiency in multiple languages (**Lang Count**) appears to have a strong moderating effect, as predicted, on both of the major forms of psychic distance stimuli. Thus hypothesis **H3c** is strongly supported.

Table 8 indicates some support for overall international experience as a moderating variable (**H3d**), but with a strong caveat. The moderating effect only appears to influence the differences in language factor ( $p < .001$ ). This situation may arise due to the slightly different nature of our fourth moderator. The fourth moderator essentially concerns the respondent actually experiencing foreign countries; and thus, their perceptions of psychic distance may be considered more 'informed'. This is in stark contrast to the first two moderators (age and education) which were selected as indicators of a person's 'resistance to change'. The third moderator could be considered a combination of the two (both actual experience in learning languages and an indicator of resistance to change) but the fact that language proficiency seems to be moderating all forms of psychic distance stimuli equally indicates that its role may be primarily as an indicator of resistance to change. In light of these arguments, the results in Table 8 may indicate that as people gain experience in foreign countries, they realise that differences in language are not as insurmountable as they first feared; thus a negative moderating effect is evident. In contrast, they may also discover that the other more subtle differences (e.g. religion, industrial development, education and democracy) are in fact real and substantial barriers; and thus, their perceptions with respect to those factors are do not change.

## DISCUSSION & CONCLUSIONS

The most important finding of this research is the confirmation that five of the six psychic distance stimuli dimensions put forward by Dow and Karunaratna (2006) are significant and important predictors of an individual manager's perception of psychic distance. We should mention that in our preliminary analyses, the classic Kogut and Singh index (1988) of national cultural distance was included in our model; however, while it was a statistically significant predictor of perceptions of psychic distance, it was heavily collinear with other variables and actually resulted in a lower overall explained variance. For this reason it was omitted from our analyses; however, these facts are noteworthy when compared to Sousa and Bradley (2006) who used the Kogut and Singh index as their sole predictor of perceived psychic distance. While our overall models still only cover a modest proportion of the total variance, the models presented here still represent the most comprehensive set of predictor variable to date. The substantial portion of unexplained variance merely emphasizes how much work is still left to be done in understanding what drives perceptions of psychic distance. It is also interesting to note that these national level psychic distance stimuli variables explained roughly 50% more of the variance than all of the individual level factors combined (7.0% versus 4.7%).

Notwithstanding the preceding comments, our results also show that there are significant instances where an individual's personal experiences cause them to deviate from the 'national average' in terms of perceived psychic distance. In particular, all four of our country-specific respondent characteristics (direct travel experience to a given country, fluency in the local language, and a strong knowledge of, or affiliation with the country's dominant religion) all appear to significantly influence the individual's perceptions of the country.

As discussed in the results section, our moderating analyses also raise some interesting issues. A general proficiency in foreign languages does appear to moderate perceptions of psychic distance as expected; however, youth and higher levels of education do not. Instead, higher levels of education appear to make respondents more sensitive to differences in education levels between countries. However, the results for international experience are the most curious. They appear to imply that international experience reduces a person's sensitivity to differences in languages, but not to other factors. As explained earlier, we believe this may be an indication that differences in language are the easiest barriers to overcome; and thus, as the person gains experience, they put less emphasis on language. In contrast, international experience may only reaffirm in a person's mind the difficulties of dealing with differences in religion, industrial development, education, and democracy; and thus their perceptions are not altered.

The research presented here has a number of limitations which readers should be aware of. The most significant of these limitations is omitted variables. As evidenced by the low levels of explained variance, there is obviously a substantial set of factors influencing perceptions which we have not yet managed to capture. This emphasizes both the paucity of research on the antecedents of psychic distance and the need for further work in this area.

A second limitation concerns the sample population. The sample population employed in this paper is heavily biased in terms of the nationality (exclusively Australian). This is of concern when one considers the generalizability of the results. Australians are not representative of all people worldwide, and we most certainly suspect that for issues such as 'second languages spoken', they deviate substantially from Europeans.

These limitations of course lead us to the next steps in our research agenda. While our selection of explanatory variables is more comprehensive than any previous efforts we are aware of, we do need to seriously explore other factors both in terms of national level psychic distance stimuli and in terms of individual level factors. In particular we are aware that different explanatory models may exist of different subsets of the population. Similarly,



individuals with lower levels of education and international experience may be forming their perceptions based on more erroneous or missing information. This may inflate the random variance.

In closing, we want to reiterate that this research is significant in that it builds a bridge between two often 'opposing views', or approaches, to measuring psychic distance. Specifically, we are bringing together in one model:

1. measures of exogenous psychic distance stimuli,
2. decision-maker characteristics which may cause them to 'deviate' from the 'national average',
3. decision-maker characteristics which may have a moderating impact on a manager's perceptions of psychic distance, and of course
4. decision-maker's perceptions of psychic distance.

In doing so, we are attempting to both theoretically and empirically reconcile two main approaches to measuring psychic distance, and hopefully provide a greater understanding of an important, but often misrepresented construct.

**Table 1 Descriptive Statistics**

Variable	n	Mean	Std Dev	Min	Max
<b><u>Measured at the country level</u></b>					
Lang <sup>F</sup>	104	-0.57	1.30	-3.87	0.53
Relig <sup>F</sup>	104	-0.41	0.97	-1.29	1.53
Edu <sup>F</sup> (abs)	104	0.95	0.65	0.00	2.22
Ind Dev <sup>F</sup> (abs)	104	1.14	0.67	0.01	2.17
Dem <sup>F</sup> (abs)	104	0.80	0.69	0.00	2.16
Social	80	0.39	0.20	0.08	0.67
<b><u>Measured at the respondent level</u></b>					
Age	451	3.97	2.06	1	10
Education	451	4.07	1.67	1	7
Lang Count	451	1.10	0.32	1	3
Live OS <sub>Ctries</sub>	451	0.71	1.07	0	5
Live OS <sub>Yrs</sub>	451	2.12	3.08	0	8
Travel Bus <sub>Ctries</sub>	451	1.47	3.70	0	15
Travel Bus <sub>Trips</sub>	451	1.31	3.28	0	15
Travel Per <sub>Ctries</sub>	451	3.84	4.41	0	15
Travel Per <sub>Trips</sub>	451	4.45	4.80	0	15
<b><u>Measured at the respondent-country level</u></b>					
Lang Fluency <sub>Local</sub>	7216	0.02	0.22	0	4.89
Relig Familiar <sub>Local</sub>	7216	0.53	0.83	0	4.91
Relig Affiliation <sub>Local</sub>	7216	0.006	0.055	0	0.98
Live <sub>Local</sub>	7216	0.01	0.15	0	2
Travel Bus <sub>Local</sub>	7216	0.02	0.20	0	2
Travel Per <sub>Local</sub>	7216	0.08	0.34	0	2
Psy Dist <sub>BWS</sub>	7216	8.00	2.76	1	14
Psy Dist <sub>8</sub>	490	-0.13	1.01	-1.73	1.63

**Table 2a Correlation Matrix for Psychic Distance Stimuli and Respondent Familiarity with Target Market  
(n=7,216, except for variable 6 for which n = 5,215)**

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Lang <sup>F</sup>	1.00												
2 Relig <sup>F</sup>	0.26	1.00											
3 Edu <sup>F</sup> (abs)	-0.09	0.41	1.00										
4 Ind Dev <sup>F</sup> (abs)	0.12	0.39	0.70	1.00									
5 Dem <sup>F</sup> (abs)	0.34	0.67	0.57	0.61	1.00								
6 Social	0.24	-0.10	-0.02	0.04	0.12	1.00							
7 Lang Fluency <sub>Local</sub>	0.03	-0.03	-0.02	-0.00	-0.01	0.02	1.00						
8 Relig Familiar <sub>Local</sub>	0.15	0.76	0.44	0.32	0.55	-0.07	-0.01	1.00					
9 Relig Affiliation <sub>Local</sub>	0.04	0.13	-0.00	0.03	0.05	0.05	0.06	0.19	1.00				
10 Live <sub>Local</sub>	-0.10	-0.01	-0.05	-0.07	-0.04	-0.00	0.25	0.01	0.04	1.00			
11 Travel Bus <sub>Local</sub>	-0.09	-0.02	-0.07	-0.11	-0.06	0.00	0.05	-0.01	0.02	0.30	1.00		
12 Travel Per <sub>Local</sub>	-0.09	-0.05	-0.12	-0.13	-0.10	0.02	0.17	-0.02	0.02	0.34	0.31	1.00	
13 Psy Dist <sub>BWS</sub>	0.17	0.08	0.27	0.22	0.25	0.04	-0.08	0.10	-0.04	-0.11	-0.10	-0.22	1.00

**Table 2b Correlation Matrix for Respondent Familiarity with Target Market and General Respondent Characteristics (n = 7,216)\***

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Lang Fluency <sub>Local</sub>	1.00		0.04	0.03	0.01	0.08	0.17	0.21	0.13	0.32	0.10	0.44	0.50	0.39	0.37
2 Relig Familiar <sub>Local</sub>	-0.01	1.00													
3 Relig Affiliation <sub>Local</sub>	0.06	0.19	1.00												
4 Live <sub>Local</sub>	0.25	0.01	0.04	1.00											
5 Travel Bus <sub>Local</sub>	0.05	-0.01	0.02	0.30	1.00										
6 Travel Per <sub>Local</sub>	0.17	-0.02	0.02	0.34	0.31	1.00									
7 Age	-0.00	-0.04	-0.05	0.02	0.06	0.08	1.00								
8 Education	0.06	0.09	0.03	0.05	0.13	0.09	-0.14	1.00							
9 Lang Count	0.14	0.06	0.02	0.04	0.01	0.02	-0.07	0.19	1.00						
10 Live OS <sub>Ctries</sub>	0.08	0.06	0.05	0.09	0.10	0.12	-0.04	0.27	0.25	1.00					
11 Live OS <sub>Yrs</sub>	0.07	0.02	0.03	0.10	0.15	0.12	0.10	0.31	0.33	0.58	1.00				
12 Travel Bus <sub>Ctries</sub>	0.04	0.03	0.01	0.08	0.32	0.13	0.14	0.27	0.00	0.26	0.33	1.00			
13 Travel Bus <sub>Trips</sub>	0.02	0.03	0.01	0.08	0.33	0.12	0.17	0.30	0.04	0.29	0.36	0.85	1.00		
14 Travel Per <sub>Ctries</sub>	0.02	0.03	0.00	0.04	0.09	0.25	0.09	0.26	-0.02	0.27	0.26	0.21	0.18	1.00	
15 Travel Per <sub>Trips</sub>	0.04	0.03	0.01	0.08	0.17	0.21	0.13	0.32	0.10	0.44	0.50	0.37	0.39	0.69	1.00
16 Psy Dist <sub>BWS</sub>	-0.08	0.10	-0.04	-0.11	-0.09	-0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

\* The correlations amongst the psychic distance stimuli variables and the general respondent characteristics are not shown, but are available on request from the lead author. None of the omitted correlations are statistically significant and are all less than 0.05.

**Table 3 Factor Loadings and Construct Reliabilities**

	Factor Loadings	Cronbach Alpha
(conducted on the 'preliminary' sample – 490 country- respondent pairs)		
<b>Psychic Distance – PsyDist<sub>8</sub></b>		
“Differences in Language ... Culture”	0.716	0.951
... Business Practices”	0.882	
... Economic environment”	0.928	
... Legal system”	0.881	
... Communications infrastructure”	0.910	
... Political system”	0.838	
“Difficult to do business ...”	0.873	
“Difficult to do business ...”	0.894	
<b>PsyDist<sub>8</sub></b>	0.933	0.850
<b>PsyDist<sub>BWS</sub></b>	0.933	
(conducted on our 'main' sample - 7,216 country-respondent pairs)		
<b>Relig, Ind, Edu &amp; Dem Factor</b>		
Relig <sup>F</sup>	0.737	0.834
Edu <sup>F</sup> (abs)	0.824	
Ind Dev <sup>F</sup> (abs)	0.832	
Dem <sup>F</sup> (abs)	0.875	
<b>Experience<sup>General</sup></b>		
Live OS <sub>Ctries</sub>	0.887	0.730
Live OS <sub>Yrs</sub>	0.887	
Travel Bus <sub>Ctries</sub>	0.961	0.918
Travel Bus <sub>Trips</sub>	0.961	
Travel Per <sub>Ctries</sub>	0.918	0.813
Travel Per <sub>Trips</sub>	0.918	

**Table 4 Regressions Predicting Perceived Psychic Distance (direct effects only)**

	Model 1			Model 2			Model 3		
	b	Sig.	t	b	Sig.	t	b	Sig.	t
Lang <sup>F</sup>	0.331 ***		12.45	0.294 ***		11.17	0.286 ***		10.88
Relig, Ind, Edu & Dem Factor	0.476 ***		12.15	0.620 ***		12.96	0.630 ***		13.15
Social	-0.052		-0.27	-0.042		-0.22	-0.048		-0.26
Experience <sub>Local</sub>				-0.783 ***		-11.51	-0.877 ***		-12.34
Lang Fluency <sub>Local</sub>				-0.598 ***		-4.01	-0.618 ***		-4.11
Relig Familiar <sub>Local</sub>				-0.427 ***		-6.46	-0.447 ***		-6.72
Relig Affiliation <sub>Local</sub>				-1.592 *		-2.43	-1.659 *		-2.54
Age							-0.002		-0.09
Education							0.019		0.78
Lang Count							0.071		0.59
Experience <sub>General</sub>							0.211 ***		3.87
n	5215			5215			5215		
Adj R <sup>2</sup>	.070			.113			.117		
F (df)	132.47 (3)			96.28 (7)			63.67 (11)		
P	< .001			< .001			< .001		
Δ F (df)				64.31 (4)			5.97 (4)		
P of the change				< .001			< .001		

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, † p < 0.10 (two-tailed).

**Table 5 Regressions Predicting Perceived Psychic Distance with Respondent's Age as a Moderator**

	Model 4			Model 5			Model 6		
	b	Sig.	t	b	Sig.	t	b	Sig.	t
Lang <sup>F</sup>	0.240	***	10.25	0.240	***	10.25	0.240	***	10.23
Relig, Ind, Edu & Dem Factor	0.733	***	18.40	0.733	***	18.40	0.731	***	18.36
Experience <sub>Local</sub>	-0.899	***	-14.09	-0.896	***	-14.00	-0.892	***	-13.95
Lang Fluency <sub>Local</sub>	-0.613	***	-4.33	-0.615	***	-4.34	-0.611	***	-4.31
Relig Familiar <sub>Local</sub>	-0.278	***	-5.72	-0.278	***	-5.72	-0.275	***	-5.65
Relig Affiliation <sub>Local</sub>	-1.946	**	-3.41	-1.940	**	-3.40	-1.911	**	-3.35
Age	0.004		0.24	0.004		0.24	0.004		0.24
Education	0.013		0.64	0.013		0.65	0.013		0.63
Lang Count	0.074		0.73	0.073		0.73	0.073		0.73
Experience <sub>General</sub>	0.202	***	4.35	0.202	***	4.34	0.202	***	4.35
Lang <sup>F</sup> x Age				0.020		0.64			
'RIED' Factor x Age							0.052	<sup>t</sup>	1.71
n	7216			7216			7216		
Adj R <sup>2</sup>	.119			.119			.120		
F (df)	98.78	(10)		89.83	(11)		90.09	(11)	

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, <sup>t</sup> p < 0.10 (two-tailed).

**Table 6 Regressions Predicting Perceived Psychic Distance with Respondent's Education as a Moderator**

	Model 4			Model 7			Model 8		
	b	Sig.	t	b	Sig.	t	b	Sig.	t
Lang <sup>F</sup>	0.240	***	10.25	0.240	***	10.27	0.242	***	10.36
Relig, Ind, Edu & Dem Factor	0.733	***	18.40	0.733	***	18.40	0.756	***	18.95
Experience <sub>Local</sub>	-0.899	***	-14.09	-0.895	***	-13.98	-0.864	***	-13.52
Lang Fluency <sub>Local</sub>	-0.613	***	-4.33	-0.616	***	-4.35	-0.608	***	-4.31
Relig Familiar <sub>Local</sub>	-0.278	***	-5.72	-0.278	***	-5.72	-0.317	***	-6.49
Relig Affiliation <sub>Local</sub>	-1.946	**	-3.41	-1.950	**	-3.42	-1.957	**	-3.44
Age	0.004		0.24	0.004		0.26	0.004		0.23
Education	0.013		0.64	0.013		0.64	0.013		0.63
Lang Count	0.074		0.73	0.074		0.73	0.087		0.87
Experience <sub>General</sub>	0.202	***	4.35	0.202	***	4.35	0.202	***	4.36
Lang <sup>F</sup> x Education				0.025		0.83			
'RIED' Factor x Education							0.196	***	6.38
n	7216			7219			7219		
Adj R <sup>2</sup>	.119			.119			.124		
F (df)	98.78	(10)		89.86	(11)		94.00	(11)	

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, <sup>t</sup> p < 0.10 (two-tailed).



**Table 7 Regressions Predicting Perceived Psychic Distance with Respondent's Language Abilities as a Moderator**

	Model 4			Model 9			Model 10		
	b	Sig.	t	b	Sig.	t	b	Sig.	t
Lang <sup>F</sup>	0.240	***	10.25	0.240	***	10.24	0.241	***	10.28
Relig, Ind, Edu & Dem Factor	0.733	***	18.40	0.735	***	18.47	0.728	***	18.28
Experience <sub>Local</sub>	-0.899	***	-14.09	-0.896	***	-14.05	-0.899	***	-14.08
Lang Fluency <sub>Local</sub>	-0.613	***	-4.33	-0.591	***	-4.17	-0.619	***	-4.38
Relig Familiar <sub>Local</sub>	-0.278	***	-5.72	-0.280	***	-5.76	-0.269	***	-5.53
Relig Affiliation <sub>Local</sub>	-1.946	**	-3.41	-1.977	**	-3.47	-1.934	**	-3.39
Age	0.004		0.24	0.004		0.26	0.004		0.24
Education	0.013		0.64	0.013		0.64	0.012		0.59
Lang Count	0.074		0.73	0.079		0.79	0.073		0.73
Experience <sub>General</sub>	0.202	***	4.35	0.201	***	4.33	0.202	***	4.35
Lang <sup>F</sup> x Lang Count				-0.083	**	-2.67			
'RIED' Factor x Lang Count							-0.075	*	-2.47
Adj R <sup>2</sup>	.7216			.7216			.7216		
F (df)	98.78	(10)		90.53	(11)		90.42	(11)	

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, † p < 0.10 (two-tailed).

**Table 8 Regressions Predicting Perceived Psychic Distance with Respondent's International Travel Experience as a Moderator**

	Model 4			Model 11			Model 12		
	b	Sig.	t	b	Sig.	t	b	Sig.	t
Lang <sup>F</sup>	0.240	***	10.25	0.237	***	10.15	0.240	***	10.27
Relig, Ind, Edu & Dem Factor	0.733	***	18.40	0.732	***	18.39	0.737	***	18.46
Experience <sub>Local</sub>	-0.899	***	-14.09	-0.948	***	-14.55	-0.881	***	-13.55
Lang Fluency <sub>Local</sub>	-0.613	***	-4.33	-0.593	***	-4.19	-0.616	***	-4.35
Relig Familiar <sub>Local</sub>	-0.278	***	-5.72	-0.278	***	-5.74	-0.284	***	-5.83
Relig Affiliation <sub>Local</sub>	-1.946	**	-3.41	-1.901	**	-3.33	-1.966	**	-3.44
Age	0.004		0.24	0.004		0.25	0.004		0.25
Education	0.013		0.64	0.013		0.61	0.014		0.66
Lang Count	0.074		0.73	0.071		0.71	0.075		0.75
Experience <sub>General</sub>	0.202	***	4.35	0.209	***	4.50	0.201	***	4.32
Lang <sup>F</sup> x Experience <sub>General</sub>				-0.113	***	-3.66			
'RIED' Factor x Experience <sub>General</sub>							0.046		1.47
Adj R <sup>2</sup>	.7216			.7216			.7216		
F	98.78	(10)		91.18	(11)		90.01	(11)	

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, <sup>t</sup> p < 0.10 (two-tailed).

## Appendix I – Survey Questions

<p>Best Worst Scaling instructions</p>	<p>In this portion of the survey, we are asking you to make judgements about the relative '<b>psychic distance</b>' of a variety of countries (see below for the definition of psychic distance). For each of the 20 panels of four countries, select:</p> <p>The country which you feel is the <b>nearest to you in terms of psychic distance</b> (by electing a button in the first column), and</p> <p>The country which you feel is the <b>furthest from you in terms of psychic distance</b> (by selecting a button in the third column)</p> <p>Please note that while this is a survey of Australian managers, we are asking for your perceptions of that country, based on your experiences. We do not expect you to be knowledgeable about each and every country, but we do request that you select a 'nearest' and 'furthest' country for each panel of four, based on your current perceptions.</p> <p><b>Definition of Psychic Distance:</b> Psychic distance is typically described as ...</p> <p><i>"the sum of factors preventing or disturbing the flow of information between firm and market. Examples of such factors are differences in language, culture, political systems, level of education, level of industrial development, etc."</i> Johanson &amp; Wiedersheim-Paul, 1975</p> <p>In essence, psychic distance reflects the degree of difficulty people have in communicating with, and understanding, another person (or market as a whole) when conducting business in a foreign market. As such, psychic distance has the potential to influence which foreign countries Australian firms choose to compete in, the mode by which they might enter such markets, and the likelihood of their success.</p> <p>For the purpose of this research, we define the aforementioned term 'conduct business in' to include the full range of possible foreign market entry modes, ranging from indirect exporting to managing direct foreign investments.</p>				
<p><i>The panel on the right is one of 20 that each respondent was asked to complete</i></p>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>The 'NEAREST' country to you is:</p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> </td> <td style="width: 50%; vertical-align: top;"> <p>The 'FURTHEST' country to you is:</p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> </td> </tr> <tr> <td style="text-align: center; vertical-align: top;"> <p>Lithuania</p> <p>Sweden</p> <p>Pakistan</p> <p>Croatia</p> </td> <td style="text-align: center; vertical-align: top;"> <p><input type="radio"/></p> <p><input type="radio"/></p> <p><input type="radio"/></p> <p><input type="radio"/></p> </td> </tr> </table>	<p>The 'NEAREST' country to you is:</p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p>	<p>The 'FURTHEST' country to you is:</p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p>	<p>Lithuania</p> <p>Sweden</p> <p>Pakistan</p> <p>Croatia</p>	<p><input type="radio"/></p> <p><input type="radio"/></p> <p><input type="radio"/></p> <p><input type="radio"/></p>
<p>The 'NEAREST' country to you is:</p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p>	<p>The 'FURTHEST' country to you is:</p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p> <p style="text-align: center;"><input type="radio"/></p>				
<p>Lithuania</p> <p>Sweden</p> <p>Pakistan</p> <p>Croatia</p>	<p><input type="radio"/></p> <p><input type="radio"/></p> <p><input type="radio"/></p> <p><input type="radio"/></p>				

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